# GULF STREAM '60* 

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## INTRODUCTION

In the Spring of 1960 a comprehensive study of a large portion of the Gulf Stream System was undertaken by the Woods Hole Oceanographic Institution. This work, which was given the code name of "Gulf Stream '60", was planned and directed by the author and sponsored by the U.S. Navy, Office of Naval Research.
"Gulf Stream '60" extended over a period of $2 \frac{1}{2}$ months, from 2 April to 15 June. The W.H.O.I. research vessels Atlantis, Crawford and Chain participated during the entire period and the International Ice Patrol oceanographic vessel U.S.C.G.C. Evergreen took part in the first phase. At regular intervals throughout the year, moreover, the Institution's DC-3 and a longrange Navy patrol plane tracked transponding drift-buoys which were set out during the cruise.

The area studied (Fig. 1) encompasses approximately $\frac{1}{2}$ million square miles, extending from the continental shelf south to the latitude of Bermuda and from the Grand Banks of Newfoundland west to Georges Bank, off Cape Cod. The ocean depth over most of the region is between 5000 and 5500 m ; on the continental shelf at the northern boundary, however, the depth is generally less than 200 m ; furthermore, a range of seamounts crosses the area, some of whose peaks reach to within 1500 m of the sea surface.
"Gulf Stream ' 60 " was divided into three phases each lasting 3 weeks. The general plan was to obtain during the first phase a grid of oceanographic stations covering the entire area and then, in the next two phases, to trace out the current pattern in detail and make direct deep current observations in the Gulf Stream. The specific plans for the latter two periods were to be drawn up at Bermuda when the ships met there between periods.
In the first phase the Atlantis occupied stations on sections I-III consecutively (Fig. 2), making measurements of temperature, salinity, dissolved oxygen and pH at 25 levels from the sea surface to very near the bottom.

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Fig. 1. The area studied in "Gulf Stream '60".

Fig. 2. Station locations "Gulf Stream '60".

Concurrently, the Crawford made sections IV-VI; the Chain, sections VII-IX; and the Evergreen, sections XI and X. pH was not measured on these three ships nor was dissolved oxygen determined on the Evergreen. Because of its commitments to the regular work of the International Ice Patrol, the Evergreen could not spare the time to extend its sections to the latitude of Bermuda. On three occasions during this period the naval patrol plane made radiation measurements and obtained visual observations of various portions of the area. At the end of 3 weeks the W.H.O.I. ships met in Bermuda.

The second phase of "Gulf Stream ' 60 " was confined to the western half of the region surveyed during the first period. After a 3-day stop in Bermuda, the ships began this phase by making bathythermograph sections north from Bermuda to the Gulf Stream along meridians $63^{\circ} 30^{\prime}, 64^{\circ} 30^{\prime}$, and $65^{\circ} 30^{\prime}$; the Chain also obtained continuous records of temperature to a depth of 450 ft with towed thermistors. For the remainder of the period the Atlantis followed neutrally buoyant Swallow floats set out directly in the Gulf Stream at depths between 2000 and 4000 m , and made deep stations to bracket the float tracks. In addition she set out several transponding surface buoys which were then located at periodic intervals by airplane. The Crawford also set out neutrally buoyant floats in the Stream, but at depths of 400 and 700 m ; she followed these for over a hundred miles and ended by making a series of latitudinal bathythermograph sections crossing a cold trough which extended south near the 60 th meridian. The Chain studied the thermal structure of the surface layer along the northern edge of the current and then mapped the pattern of intense current by using the geomagnetic electrokinetograph (GEK). At the end of 3 weeks the ships again returned to Bermuda for a 3-day rest and conference.

The third phase started with a series of deep stations to relocate certain major features of the current pattern. Then the Atlantis and Crawford both made deep current observations, while the Chain, using the GEK technique developed earlier, followed the surface currents to the eastern end of the region. On 15 June the three ships arrived in Woods Hole, ending the cruise. The transponding surface buoys, however, continued to be located periodically by airplane for several more months, the last observation being made in December 1960.

All of the station data obtained during this study, with the exception of the Evergreen data, are presented here in the appendix. The Evergreen data are published in the U.S. Treasury Department-Coast Guard Bulletin No. 46 Report of the International Ice Patrol Service in the North Atlantic Ocean -Season of 1960 -U.S. Government Printing Office, Washington 1961. Profiles showing the distribution of temperature, salinity and oxygen along the sections made during the first phase are also included in the appendix.

Before discussing the results of "Gulf Stream ' 60 ", we shall consider some of the background to the present study and the general objectives of the work.

## BACKGROUND

The Gulf Stream System is a complex of currents in the western and northern North Atlantic Ocean. The System can be likened to a mountain range, in that the location of the whole seems obvious on a map of sufficiently large scale but the boundaries of the feature become indefinite when viewed in more detail. Just as no particular height contour can be used to show satisfactorily the boundaries of an extensive mountain range, so it is not possible to outline the Gulf Stream System with any particular contour. The System occupies an extensive area on the western and northern edges of the relatively warm, saline, central Atlantic water mass where the main thermocline layer rises toward the sea surface. In some places this rise is abrupt, but in others, it occurs through a series of steps or waves. The principal part of the System lies off the east coast of North America between Florida and Newfoundland. To the east of Newfoundland the System is separated from the continental shelf by the cold, southward flowing Labrador Current. The extent of the whole is only vaguely known. The currents of the Gulf Stream System generally contain a core of water at the surface which is warmer than the surroundings, suggesting a transport from lower latitudes; consequently, the westward flow of relatively warm water south of Iceland (the Irminger Current) and the northward flow off Norway (the Norwegian Current) are considered to be parts of the System. Some of the currents in the central Atlantic flow southward toward the Bay of Biscay and the Azores; these are harder to identify with the System since they may not have the characteristic warm core at the surface. In what follows we shall be concerned only with that portion of the Gulf Stream System that lies to the west of $50^{\circ} \mathrm{W}$. longitude, that is, west of the southern tip of the Grand Banks of Newfoundland.
South of Cape Hatteras the System presses against the western boundary of the ocean basin. This boundary is not a vertical wall (cf. Fig. 1), but consists, at the surface, of the shore line, then a shelf roughly 60 miles wide out to the 200 m depth contour, then a broad plateau averaging 800 m in depth (the Blake Plateau), and, finally, a relatively steep slope down to the floor of the basin below 5000 m . Flowing northward on the plateau, close to the shelf, is the strong current sometimes referred to as the Florida Current, but more generally called the Gulf Stream. This current meanders, the amplitude of the meanders being about equal to the width of the Stream (Webster, 1961), and it reaches to the bottom as evidenced by ripple marks and current observations made by Pratt (1962). Little is known of the deep
currents off the edge of the plateau. Stommel (1957) hypothesized a deep southward current along this boundary and Swallow and Worthington (1961) observed a southward flow at depths near 2800 m off Charleston, South Carolina (the position of these observations is marked by a short arrow in Fig. 1). This flow has been referred to as a deep countercurrent to the Gulf Stream, although it is not actually beneath the Stream in this area. Its relation to the Gulf Stream and its extent and permanence are matters that remain to be investigated.

Just south of Cape Hatteras, near $34^{\circ}$ N. latitude, the Blake Plateau ends and the Gulf Stream flows into deep water. The current continues in essentially a straight (great circle) path; the shelf, approximately denoted by the 200 m contour, turns north at the Cape and the Stream is no longer constrained by this boundary.

North of Cape Hatteras the System is much more complex and in several ways radically different. Over most of the area the ocean basin is bounded on the north rather than the west and there is no shallow plateau between the edge of the shelf and the deep floor of the ocean. In this area the most pronounced current, found where the main thermocline rises most abruptly, is not pressed against the shelf but is located anywhere from 100 to 400 miles away from the 200 m depth contour in water at least 4000 m deep. This current is also called the Gulf Stream but it differs from the one on the Blake Plateau; it is not restricted to a depth of 800 m , it is not constrained by the continental shelf, and its general heading is more nearly east than north. There has been much speculation concerning the depth of this current. Whereas the Stream south of Hatteras is known to extend to the ocean bottom, i.e. to about 800 m , the current to the north has been thought to extend at least twice as deep but by no means to the bottom. Profiles across this current showed horizontal density gradients at great depths, even near the bottom in 5000 m of water, but since it was generally believed that a "level of no motion" existed at relatively shallow depths, 1500 to 2000 m , the deeper water was assumed to be flowing in the opposite direction to the surface current. This idea gained support from Stommel's (1957) model of the thermohaline circulation and from the deep current observations of Swallow and Worthington (1961).

North of the principal current of the System the main thermocline again rises abruptly toward the surface. This latter horizontal temperature gradient, or current, is not always present just north of Cape Hatteras but is a permanent and quite pronounced feature to the eastward, south of the Laurentian Channel. It is the author's view that this is the current observed each year by the International Ice Patrol near $41^{\circ} \mathrm{N}$., $50^{\circ} \mathrm{W}$., south of the Grand Banks.

During a period of 17 days in June 1950, six ships surveyed the area
between Cape Hatteras and the Grand Banks concentrating on the principal current, the Gulf Stream (Fuglister and Worthington, 1951). This current was shown to meander over a wide area and, during the course of the study a large cyclonic eddy was observed to break off to the south of the current. This survey showed the Gulf Stream crossing the 50th meridian just south of the 39th parallel, with a countercurrent separating it from the secondary current at $41^{\circ} 30^{\prime} \mathrm{N}$.

More recent studies made with single ships failed to trace out the path of the Gulf Stream for very great distances and the author has suggested (Fuglister, 1955) that the Gulf Stream may not be a single continuous current between Cape Hatteras and the Grand Banks. Furthermore, since all of these studies were concentrated on the near surface aspects of the Stream, the relationship between the observed current filaments and the environment-especially the deep water movements-was left to conjecture.
"Gulf Stream '60" was planned in order to investigate some of these problems. The grid of deep stations over such a wide area would show the Gulf Stream in relation to all of the surrounding water structure. The area to be studied covers a region where comparatively few deep oceanographic stations have been made: between the Woods Hole-Bermuda line, which has been studied for many years, and the 50th meridian where the annual Ice Patrol surveys take place. The spacing between the planned sections (two degrees of longitude) was determined by the number of ships available and their sea-keeping capabilities. The stations were planned 20 miles apart in the north, over the continental slope, 30 miles apart south to the expected position of the Gulf Stream and then 60 miles apart for the remaining distance to $33^{\circ} \mathrm{N}$. This permitted a large coverage with a concentration of observations in the more complicated areas. The study was to continue on after the initial survey for three reasons; deep, direct current observations require considerable ships' time in relatively small areas; some ambiguity in the interpretations of the first set of data might require further observations, especially in the area between sections; and finally a measure of the time rate of change was desired.

## THE PATH OF THE GULF STREAM

It would seem that the first and most obvious result of a study such as this would be a chart showing the location of the Gulf Stream. In fact, since the study extended over a period of $2 \frac{1}{2}$ months, one might expect to see a chart showing the varying positions of the Stream during that time. Actually it is not possible to prepare such charts unambiguously from the data obtained; the 100 mile spacing between sections in the first phase, the concentration of effort in the west during the second phase, and the scattered character of the
observations in the third phase would require extensive interpolations and extrapolations in drawing these charts, and hence would impose considerable indefiniteness on the results. One very important and unexpected finding, however, simplifies the problem of time variation: every observed change in the position of the current can be accounted for by lateral shifts of the Stream with speeds less than 2.5 miles per day. In fact, there is no evidence that the large meanders changed position by more than the width of the current during the entire $2 \frac{1}{2}$ months. Consequently, data obtained at different times have been combined to give a quasi-synoptic picture of the current pattern.

During two different periods the Chain attempted to trace the course of the Gulf Stream by using the GEK (von Arx, 1960). After first crossing the current to determine the position of maximum velocity the ship returned to that point and headed downstream on a course such that the GEK registered no component of velocity normal to the ship's path. During the second period of the study, the current was followed in this manner from the western end of the area-where it had been observed during the first period-to $41^{\circ} 46^{\prime} \mathrm{N}$., $61^{\circ} 09^{\prime} \mathrm{W}$. , then south to $36^{\circ} 07^{\prime} \mathrm{N} ., 60^{\circ} 56^{\prime} \mathrm{W}$.; during the third phase it was followed from $40^{\circ} \mathrm{N} ., 60^{\circ} \mathrm{W}$. to $39^{\circ} 15^{\prime} \mathrm{N} ., 49^{\circ} 31^{\prime} \mathrm{W}$. On various occasions the current velocities diminished to such an extent that the ship had to be maneuvered to relocate the maximum current; therefore the path of the Stream was not obtained as a simple smooth curve. A summary of all the surface current vectors obtained with the GEK during the second and third phases is given in Fig. 3. Also shown are the observed positions and probable paths of four of the transponding surface buoys.

To illustrate the gross features of the current pattern that prevailed during "Gulf Stream ' 60 ", two other charts are presented: the depth of the $10^{\circ}$ isotherm (which represents the mean depth of the thermocline) is shown in Fig. 4, and the temperature at a depth of 200 m in Fig. 5. The 200 m temperature chart is plotted from data obtained on the first phase of the study only, although, as will be discussed below, data obtained later were considered in interpolating between sections. The chart showing the depth of the $10^{\circ}$ isotherm, on the other hand, is based on all station data taken during the study. The current in the figures is indicated by the close spacing of the isopleths, although the maximum surface current is located on the warm side of the abrupt temperature gradient at 200 m .

The pattern of the major current is fairly obvious from these illustrations: a very slightly meandering current extends about 300 miles from the western boundary of the area in a direction a little north of east; then the current turns abruptly northward and forms a large loop, centred around $61^{\circ} 30^{\prime} \mathrm{W}$. longitude; subsequently, the current heads due south for a distance of over 200 miles, at approximately $60^{\circ} 30^{\prime} \mathrm{W}$., to form, what the participants in the


Fic. 3. Surface current observations "Gulf Stream '60".

Frg. 4. $10^{\circ}$ isotherm depth, meters $\times 100$ "Gulf Stream ' 60 ".
study familiarly called, the "sock". Up to this point there can be little doubt concerning the interpretation of the data. Besides the GEK observations already mentioned, the Chain made detailed temperature measurements in the western area to a depth of approximately 450 ft with towed thermistors (Richardson, 1958). They showed a banded structure parallel to the Stream which is undoubtedly associated with the streaky, "discontinuous edge" of the Stream as observed from the air (von Arx et al., 1955). Nevertheless, the positional changes of the Stream, observed time and again over the $2 \frac{1}{2}$ months, were much too small-little more than the width of the current-to affect the general picture.

Some question arises, however, concerning the southern portion of the "sock". There is no question but that a cyclonic eddy formed at its "toe" and moved in a northerly direction, but it is not apparent at what point the eddy separated from the main current. Furthermore, since the thermocline observations, the near surface temperatures, and the surface velocities give different impressions of the "sock", we might ask to what extent we should expect them to do so. When an eddy forms to the south of the Stream, as observed in 1950 on the multiple ship survey, and, no doubt, again in 1960, the separation must first occur in the surface layer; hence what may appear at the surface to be a discrete eddy could correspond at depth to part of a continuous trough, as illustrated by the different current paths in Figs. 4 and 5.

At the beginning of the second phase of "Gulf Stream ' 60 " the three W.H.O.I. ships made temperature measurements to a depth of 250 m north from Bermuda along meridians $63^{\circ} 30^{\prime} \mathrm{W}$., $64^{\circ} 30^{\prime} \mathrm{W}$. and $65^{\circ} 30^{\prime} \mathrm{W}$. in order to examine in more detail the southwestern extension of the "sock". Only the Atlantis, on $63^{\circ} 30^{\prime} \mathrm{W}$., observed the cold water associated with the "sock"; it found the coldest water, of temperature $12.6^{\circ} \mathrm{C}$ at 200 m , at $36^{\circ} \mathrm{N}$. latitude. Although the Chain traversed the same meridian ( $64^{\circ} 30^{\prime}$ W.) that the Atlantis had occupied a week earlier (see section III) it found no indication of relatively cold water at any point between Bermuda and the Stream near $39^{\circ}$ N. Similarly, the Crawford found no cold water in the surface layer along $65^{\circ} 30^{\prime} \mathrm{W}$.

Thus the striking "cold water eddy", which appeared around station 5922 of the Atlantis on 24 April (see section III), had either moved or become filled in with warm water in the surface layer by 2 May. One month later, however, during the third phase, this eddy was observed with its center at $36^{\circ} 50^{\prime} \mathrm{N} ., 64^{\circ} 30^{\prime} \mathrm{W}$. On this third occasion numerous stations and bathythermograph observations were made in and around the eddy; the temperature of the water at 200 m was as low as $13.0^{\circ} \mathrm{C}$, and the $10^{\circ}$ isotherm was observed to lie only 445 m below the surface. Undoubtedly this eddy was moving slowly toward the north along an anticyclonic curve. Observations


Fig. 6. A linear interpretation, 200 m tex

mperature.


Fic. 5. A nonlinear interpretation, 200 m temperature.

made to the east give no indication that more than one eddy could have been involved.

The surface current observations made with the GEK during the second phase did not show a clear-cut end to the "sock". Four different filaments of the current were followed but each time that the southerly current curved toward the east it also diminished in strength so that the southwestern end end of the "sock" appeared to be made up of a series of overlapping semicircles. Another indication of the complexity of the surface currents in this area is given by the observed positions of one of the transponding buoys that was followed by aircraft. This buoy, designated by a circle in Fig. 3, was located at seven different times over a period of a month apparently circling in the area before it moved again downstream.

The positions at which this buoy was later observed are most suggestive. These locations show long north-south migrations similar to the path of the Stream as inferred from the GEK observations made during the third phase of "Gulf Stream ' 60 ". Of course, the dashed line connecting the various observed positions of the buoy is purely speculative, yet the similarity of the meander patterns could not be pure coincidence. If the line does in fact represent the path of the Gulf Stream, then it not only confirms the meander pattern as shown in Fig. 4 and 5, but shows as well that this pattern was relatively stationary over a considerable period of time.

Before leaving this description of the path of the Gulf Stream two more points must be made. First, if there were no data available other than those obtained during the first phase of the study, no significant meanders would have been shown in the region to the east of the "sock". All sections in this area crossed the principal current at approximately the same latitude, that is, near $39^{\circ} 30^{\prime} \mathrm{N}$. As an extreme example of a purely mechanical, linear interpretation of the data from the first phase of "Gulf Stream ' 60 ", the 200 m temperature field was contoured as shown in Fig. 6, by interpolating linearly along parallels of latitude. It is hardly necessary to point out that in the western area this interpretation imparts a false step-like structure to the current which was refuted by the subsequent, more detailed studies. In the east, however, this interpretation, which shows the current to flow almost due east, appears to be entirely reasonable. If such were actually true, then enormous changes would be required in the current pattern between the first and the last phases of the study. Thus, when a portion of the eighth section of stations, at $54^{\circ} 30^{\prime} \mathrm{W}$., was repeated during the last phase, the current was located approximately 100 miles south of its previous position. This change can be accounted for by a small west to east translation of a meander located near $55^{\circ}$ W., but the current pattern shown in Fig. 6 would require a major shift in the Stream and the displacement of improbably large amounts of water.

The second point to be mentioned is that the various measurements and interpretations do not quite fit together to give a clear picture of the current pattern at the eastern end of the area: the surface velocity vectors certainly do not show a well-defined current, and the temperatures are subject to a variety of interpretations. The transponding buoy, moreover, moved in a completely erratic fashion.


Fig. 7. Positions of the abrupt change in direction of the Gulf Stream.

From a review of various cruises on which the path of the Gulf Stream has been plotted, it appears that meanders do not suggest a series of waves gradually increasing in amplitude from west to east, but rather, a quasistationary pattern with an abrupt change, near $62^{\circ} \mathrm{W}$., from small amplitude to very large amplitude waves. From Cape Hatteras north and east to approximately the longitude of Bermuda, the meander pattern of the Stream is relatively gentle; then at this longitude the Stream turns abruptly to the north, forming a large loop. Some of these observed Stream paths are shown in Fig. 7 together with the position where the sharp gradient in the average

200 m temperature also takes an abrupt turn toward the north. It seems apparent that this sudden change in the pattern of meanders is a permanent feature of the Gulf Stream.

## DIRECT SUBSURFACE CURRENT MEASUREMENTS

The plans for the second phase of "Gulf Stream ' 60 " called for deep current observations with Swallow floats directly in the Gulf Stream. These floats (Swallow, 1955, 1957) are ballasted to float at a predetermined depth, and are equipped with sound transmitters in order that they can be tracked by ship. Loran A navigation was available for determining their positions. The Atlantis proceeded to a position due north of Bermuda near $39^{\circ} \mathrm{N}$. latitude, where the Gulf Stream had previously been observed, and set out floats for depths of 3000 and 4000 m , while the Crawford proceeded to the western extreme of the area and set floats at depths of 400 and 700 m . These positions were chosen because the currents at these points appeared well defined, and, if a deep countercurrent were found, the two ships would remain within the area and approach each other. It was not assumed, when the floats were set out, that the Stream was in exactly the same position as during the first phase; for each float new hydrographic stations were made and the float so placed as to lie in the zone of most pronounced horizontal temperature gradient at its intended depth.

The Crawford, after relocating the Stream at $37^{\circ} 49^{\prime}$ N., $68^{\circ} 22^{\prime}$ W., set a float at a depth of 700 m in the axis of the current. This first float was followed for 105 miles over 64 hr ; its average speed was $105 \mathrm{~cm} / \mathrm{sec}$ for the first 48 hr , but dropped rapidly to approximately $60 \mathrm{~cm} / \mathrm{sec}$ for the remaining time. Another float was set at a depth of 400 m and followed for 48 hr ; its speed remained nearly constant at $50 \mathrm{~cm} / \mathrm{sec}$. The positions of these floats relative to the thermal structure indicate that the shallower float was not in the axis of maximum current. Farther to the east, at $38^{\circ} 41^{\prime}$ N., $63^{\circ} 22^{\prime}$ W., a third float was set out at a depth of 700 m , and was followed for 92 hr over a distance of 95 miles. It started moving east at approximately $90 \mathrm{~cm} / \mathrm{sec}$, but then turned northward, with a gradual reduction in speed to about $45 \mathrm{~cm} / \mathrm{sec}$. The northward curvature in path was not so abrupt as that shown by the 200 m temperature gradient in Fig. 5, but corresponded instead more nearly with the 700 m contour of the $10^{\circ}$ isothermal surface as plotted in Fig. 4.

The results of the direct current measurements made by the Atlantis are shown in Fig. 8. These are the first deep (below 2000 m ) current measurements made by this method in the Gulf Stream north of Cape Hatteras. As noted above, the floats were ballasted to be neutrally buoyant at depths of 3000 and 4000 m . Their actual depths, however, were calculated by triangulation on the floats, as described by Swallow (op. cit.), although, since
no anchored buoys could be set in the current to aid in precise navigation, these depths could not be determined very accurately; the average calculated depth for each float is shown in the figure.
There can be no doubt of the importance of these measurements. In spite of the uncertainties of the depth calculations, there is no question but that


Fig. 8. Atlantis track of pinger-floats and station positions, May 1960.
the floats were at depths well below 2000 m , that they were in the Gulf Stream and that over a period of 11 days the deep flow was essentially in the same direction as the flow at the surface and at a depth of 700 m . The first float, at a calculated depth of 2650 m , was tracked for 116 hr at an average speed of $17 \mathrm{~cm} / \mathrm{sec}$. The second float, at 3500 m , moved at $11 \mathrm{~cm} / \mathrm{sec}$ for 42 hr . The third float, at a calculated depth of 2550 m , was the most interesting: it was followed for 83 hr at an average speed of $16 \mathrm{~cm} / \mathrm{sec}$; it headed toward Kelvin Sea Mount and then curved around to the north, obviously deflected by this obstacle. A segment of the 3000 m depth contour of this sea
mount is shown in Fig. 8 for comparison with the float track. All these direct current measurements of the Atlantis and Crawford (summarized in Table 1) showed the subsurface currents in the Gulf Stream to be essentially in the same direction as the surface flow.

Table 1. Direct Current Observations: "Gulf Stream '60"

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow{2}{*}{No.} \& \multirow[b]{2}{*}{Intended depth} \& \multirow[b]{2}{*}{Cal. depth} \& \multicolumn{2}{|c|}{Date} \& \multirow[b]{2}{*}{Elapsed hours} \& \multicolumn{2}{|c|}{Position} \& \multirow[b]{2}{*}{Dist. miles} \& \multirow[b]{2}{*}{Direction} \& \multirow[b]{2}{*}{Speed $\mathrm{cm} / \mathrm{sec}$} <br>
\hline \& \& \& 1st fix \& last fix \& \& 1 st fix \& last fix \& \& \& <br>
\hline \multicolumn{11}{|l|}{Atlantis} <br>
\hline 1 \& 3000 \& 2650 \& 0745
8 May \& 0400
13 May \& 116.2 \& $$
\begin{aligned}
& 38^{\circ} 21^{\prime} \mathrm{N} . \\
& 65^{\circ} 11^{\prime} \mathrm{W}
\end{aligned}
$$ \& $$
\begin{aligned}
& 38^{\circ} 21^{\prime}, \mathrm{N} \\
& 64^{\circ} 22^{\prime} \mathrm{W}
\end{aligned}
$$ \& 39 \& 090 ${ }^{\circ}$ \& 17.2 <br>
\hline 2* \& 4000 \& 3500 \& 8 May
1540 \& 13 May
1000 \& 42.3 \& $65^{\circ} 11$
$38^{\circ} 23^{\prime} \mathrm{N}$ \& $64^{\circ} 22^{\circ} \mathrm{W}$.
$38^{\circ} 30$

$64^{\circ} 2{ }^{\prime} \mathrm{W}$. \& 9 \& 058 ${ }^{\circ}$ \& 11.0 <br>
\hline \& \& \& 11 May
1615 \& 13 May
0330 \& \& $64^{\circ} 34^{\prime} \mathrm{W}$.
$38^{\circ} 41^{\prime} \mathrm{N}$. \& $64^{\circ} 25^{\prime} \mathrm{W}$.
$38^{\circ} 56^{\prime} \mathrm{N}$ \& \& \& <br>

\hline 3* \& 3000 \& 2550 \& $$
\begin{gathered}
1615 \\
15 \text { May }
\end{gathered}
$$ \& \[

$$
\begin{gathered}
0330 \\
19 \text { May }
\end{gathered}
$$

\] \& 83.2 \& \[

$$
\begin{aligned}
& 38^{\circ} 41^{\prime} \mathrm{N} . \\
& 64^{\circ} 20^{\prime} \mathrm{W}
\end{aligned}
$$

\] \& \[

$$
\begin{aligned}
& 38^{\circ} 56^{\prime} \mathrm{N} . \\
& 63^{\circ} 55^{\prime} \mathrm{W}
\end{aligned}
$$
\] \& 26 \& $053{ }^{\circ}$ \& 16.1 <br>

\hline 4 \& 4000 \& 3580 \& 0600 \& 0640 \& 72.0 \& $37^{\circ} 57^{\prime} \mathrm{N}$. \& $37^{\circ} 52^{\prime} \mathrm{N}$. \& 25 \& $102^{\circ}$ \& 17.7 <br>
\hline \& \& \& 3 June \& 6 June \& \& $61^{\circ} 03^{\prime} \mathrm{W}$. \& $60^{\circ} 32^{\prime} \mathrm{W}$. \& \& \& <br>
\hline 5* \& 3000 \& - \& 0950 \& 1300 \& 3.2 \& $37^{\circ} 42^{\prime} \mathrm{N}$. \& $37^{\circ} 39^{\prime} \mathrm{N}$. \& - \& - \& - <br>
\hline \& \& \& 7 June \& 7 June \& \& $60^{\circ} 29^{\prime} \mathrm{W}$. \& $60^{\circ} 26^{\prime} \mathrm{W}$. \& \& \& <br>
\hline 6 \& 3000 \& - \& 2045 \& 1530

11 June \& 42.8 \& $$
36^{\circ} 44^{\prime} \mathrm{N}
$$

$$
59^{\circ} 46^{\prime} \mathrm{W} .
$$ \& \[

$$
\begin{aligned}
& 36^{\circ} 42^{\prime} \mathrm{N} . \\
& 59^{\circ} 57^{\prime} \mathrm{W} .
\end{aligned}
$$
\] \& 10 \& $255^{\circ}$ \& 12.0 <br>

\hline
\end{tabular}

| Crawford |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 7* | 700 | - | 0920 | 0118 | 64.0 | $37^{\circ} 49^{\prime} \mathrm{N}$. | $38^{\circ} 14^{\prime} \mathrm{N}$. | 105 | $100^{\circ}$ | 105.0 |
|  |  |  | 5 May | 8 May |  | $68^{\circ} 22^{\prime} \mathrm{W}$. | $66^{\circ} 23^{\prime} \mathrm{W}$. |  | 035 ${ }^{\circ}$ | 60.051.0 |
| 8* | 400 | - | 0910 | 0911 | 48.0 | $38^{\circ} 05^{\prime} \mathrm{N}$. | $37^{\circ} 49^{\prime} \mathrm{N}$. | 47 | 090 ${ }^{\circ}$ |  |
|  |  |  | 10 May | 12 May |  | $68^{\circ} 24^{\prime} \mathrm{W}$. | $67^{\circ} 28^{\prime} \mathrm{W}$. |  | $115^{\circ}$ | 51.0 |
| 9* | 700 | - | 1300 | 1100 | 92.0 | $3^{38^{\circ}}{ }^{\circ} 1^{\prime} \mathrm{N}$ N. | $39^{\circ} 15^{\prime} \mathrm{N}$ | 95 | $085^{\circ}$ | 90.0 |
|  |  |  | 13 May | 17 May |  | $63^{\circ} 22^{\prime} \mathrm{W}$. | $61^{\circ} 30^{\prime} \mathrm{W}$. |  | $060^{\circ}$ | 45.0 |
| 10 | 3000 | 2480 | 1748 | 1025 | 184.5 | $37^{\circ} 15^{\prime} \mathrm{N}$. | $3^{36} 6^{\circ} 42^{\prime} \mathrm{N}$ | 35 | $160^{\circ}$ | 10.0 |
|  |  |  | 2 June | 10 June |  | $65^{\circ} 01$ <br> $36^{\circ} \mathrm{W}$ | $64^{\circ} 46^{\prime} \mathrm{W}$. |  |  |  |
| 11* | 3000 | 4530 | 1015 | $1400$ | 147.8 | $36^{\circ} 46^{\prime} \mathrm{N}$. $64^{\circ} 28^{\prime} \mathrm{W}$ | - |  | - | - |
| 12 | 3000 | 2160 | 4 June | 10 June | 10.7 | $64^{\circ} 28^{\prime} \mathrm{W}$. $36^{\circ} 44^{\prime} \mathrm{N}$. | $36^{\circ} \overline{42^{\prime}} \mathrm{N}$. | 3 | $120^{\circ}$ | 14.0 |
|  |  |  | 7 June | 7 June |  | $64^{\circ} 37^{\prime} \mathrm{W}$. | $64^{\circ} 35^{\prime} \mathrm{W}$. |  |  |  |
| 13 | 3000 | - | 0550 | 1740 | 35.8 | $36^{\circ} 32^{\prime} \mathrm{N}$. | $36^{\circ} 35^{\prime} \mathrm{N}$. | 3 | $360^{\circ}$ | 4.0 |
|  |  |  | 9 June | 10 June |  | $64^{\circ} 08^{\prime} \mathrm{W}$. | $64^{\circ} 08^{\prime} \mathrm{W}$. |  |  |  |
| 14 | 3000 | - | 1500 | 2015 | 29.2 | $36^{36} 03^{\prime} \mathrm{N}$. | $35^{\circ} 52^{\prime} \mathrm{N}$ | 11.5 | $175^{\circ}$ | 20.0 |
|  |  |  | 11 June | 12 June |  | $65^{\circ} 05^{\prime} \mathrm{W}$. | $65^{\circ} 04^{\prime} \mathrm{W}$ |  |  |  |

For the longer runs 7, 8 and 9 the mean direction and speed during both the first and last parts of the runs are shown.
Notes: $\quad 2^{*}$ Slight cyclonic curvature
3* Anticyclonic curvature (radius 10 miles) around northwest side of Kelvin Sea Mount. Velocity increased to about $20 \mathrm{~cm} / \mathrm{sec}$ while near sea mount.
5* Too short a time for estimate of current
7* Rapid speed decrease after $\mathbf{4 8} \mathrm{hr}$ cyclonic curvature.
8* Slight anticyclonic curvature
9* Gradual decreasing speed with cyclonic curvature
11* Slight random movements recorded but this float was probably grounded.
During the third phase of the study the Crawford located the "cold water eddy" now centered near $36^{\circ} \mathrm{N}$., $65^{\circ} \mathrm{W}$., and placed six floats in its neighborhood, while the Atlantis put three floats in the southwestern part of the "sock" (cf. Table 1). The results of these measurements were not so conclusive as those from the second phase, principally because in both cases the
thermohaline structure was not as clearly defined as in the earlier studies. Nevertheless the deep currents appeared to behave in the same manner as before in relation to the deep temperature structure, i.e. they moved in such a direction that the warmer water was to the right of the direction of flow. Bad weather and malfunctioning of some floats also hampered these programs.

Although no direct current measurements were obtained near the bottom in the Gulf Stream, the measurements actually made indicate that in this area, where the Gulf Stream flows in deep water with cross-stream density gradients at all depths, the current had essentially the same direction from surface to bottom, at least at the positions and times of the float observations. The dynamic computations, which will be discussed later, indicate that the velocity of the bottom water was of the order of $10 \mathrm{~cm} / \mathrm{sec}$.

## THE PROFILES OF TEMPERATURE, SALINITY AND OXYGEN

We shall now consider in some detail the unique series of profiles made during the first phase of "Gulf Stream ' 60 ". This is the first time that a series of such sections has been made crossing not only the Gulf Stream but also a considerable area on either side of the Stream. In general, samples were taken to within a few meters of the bottom, although there were several occasions when, because of strong currents, the deepest observations were several hundred meters above the bottom. Dots on the profiles show the positions where samples were obtained. At each station the value for the deepest sample is given, with, in addition, mid-depth values on the salinity and oxygen profiles to indicate positions of relative maxima and minima. Because of crowding, the extreme values that occured in the upper layers are not always noted. The profiles are constructed so that 250 m on the depth scale corresponds to 100 km on the horizontal scale: a vertical exaggeration of 400 to 1 . In the temperature profiles, bathythermograph data are included in the upper 250 m ; the positions of these observations are shown at the tops of the profiles.

All the sections have, of course, certain features in common. The main thermocline is centered at a depth of about 300 m north of the Gulf Stream and at 800 m in the Sargasso Sea; the halocline follows the same pattern but is centered approximately 100 m shallower; the oxygen minimum layer is centered at about the mean depth of the thermocline. Below the thermocline the temperature continues to decrease with depth except near the bottom where occasionally a slight increase occurs; the salinity also decreases gradually beneath the halocline, but at mid-depths there are numerous slight inversions; similarly there appear to be various maxima and minima in the mid-depth oxygen values, but in the southeast a consistent minimum appears
at the bottom. Some caution is required in interpreting the oxygen profiles. Although the three ships used the same method (Winkler titration) for measuring oxygen concentration, certain slight differences in results were noted that do not appear to be associated with the positions the ships occupied: the oxygen values obtained by the Crawford were generally slightly higher, and those by the Chain, slightly lower, than those obtained by the Atlantis (cf. Fig. 9). These differences, which average less than $0.1 \mathrm{ml} / \mathrm{l}$, are not evident in the profiles. A difficulty that occured on the Crawford, however, does affect the profiles for sections IV, V and VI. A number of titrations of samples taken in the upper 1500 m were performed by an inexperienced


Fig. 9. Average oxygen for $0.1^{\circ} \mathrm{C}$ increments of potential temperature, first phase of "Gulf Stream '60".
observer who did not take sufficient pains with his work; unfortunately, his carelessness was not discovered until too late to repeat the titrations. Since the suspect data could not easily be identified as erroneous, they were employed in constructing the profiles; some of the features in these three sections, e.g. the relatively low oxygen in the surface layer at stations 863 and 864 (section VI), must therefore be considered doubtful.

In spite of the scatter and slight persistent differences of the oxygen values from the three ships, the average oxygen values for the deep water shown in Fig. 9 indicate that two maxima exist, one at potential temperature $3.5^{\circ} \mathrm{C}$ and the other at about $2.2^{\circ} \mathrm{C}$. These maxima are too slight to show clearly on the oxygen profiles.

The southern parts of all sections show a relatively homogeneous surface layer. Considering that the observations were made a full month after the normal time of minimum temperature, they indicate surprisingly little "spring warming" in this layer. Although the water is not strictly isothermal down to the thermocline, the vertical decrease in temperature in many in-
stances is less than $0.5^{\circ} \mathrm{C}$ down to depths of 300 to 500 m . The temperature of the layer is close to $18^{\circ} \mathrm{C}$ and its salinity to 36.5 per mille; both quantities are slightly lower in the east than in the west. These data thus clearly delineate the area of formation of the " $18^{\circ}$ water" (SChroeder et al., 1959; Worthington, 1959) which spreads throughout the Sargasso Sea. Station 197 of the Chain made on 26 April at $37^{\circ} 28^{\prime}$ N., $52^{\circ} 25^{\prime}$ W., represents perhaps the most striking example of this "winter mixing", for the ocean there was essentially homogeneous to a depth of 500 m . The water, however, was cooler by about $0.3^{\circ} \mathrm{C}$, fresher by 0.02 per mille and had more dissolved oxygen, about $0.3 \mathrm{ml} / \mathrm{l}$., than that in the example presented by Worthington (op. cit.).

The northern parts of the profiles indicate a very different and more complicated structure of the surface layer. Here in the slope water (Iselin, 1936), the thermocline is relatively shallow, and its mean depth is better indicated by the $7^{\circ}$ isotherm than by the $10^{\circ}$. Two eastward gradations in water properties are readily apparent, despite the complexity of the structure: the water next to the continental shelf becomes cooler and fresher while the water next to the Sargasso Sea boundary zone becomes warmer and more saline; a new boundary zone is thus created within the slope water area. Because " Gulf Stream '60" represents the only comprehensive study of this large area, it is difficult to compare these observations with "normal conditions", but, on the basis of relatively scattered data, it appears that in April 1960 this secondary zone was comparatively weak: there was less warm, saline water north of the primary zone than noted in the past. We shall discuss this zone in further detail when considering the associated currents.

The Gulf Stream forms the boundary zone between the Sargasso Sea and the slope water, but unfortunately we are unable to define exactly the limits of the zone. At the surface it contains the warm core of the Stream, which is characteristically fresher than the water at the same level in the Sargasso Sea and has less dissolved oxygen than the water to either side. Furthermore the main thermocline in this zone and, indeed, the isotherms at all depths below the thermocline, slope abruptly up from the Sargasso Sea to the slope water. Although both these features can be used to define roughly the limits of the boundary zone, neither is a completely satisfactory indicator.

Section I is the simplest profile of this series, yet even here the Gulf Stream limits cannot be precisely drawn. Stations 5880,81 and 82 , for instance, are definitely in the boundary zone, which appears to reach from the surface to the bottom, but should the zone be extended to stations 5878 and 5883 on the basis of the continued slope of the isotherms in the water beneath the main thermocline? Also, should the relatively slight disturbance in the thermocline around station 5885 be considered part of the boundary zone?

The temperature profile shows clearly the surface warm core of the Gulf Stream but what is the significance of the smaller core of warm water north of this disturbance? If the warm core defines the width of the zone then the interpretation of section II must be quite different from that of section I. Here the warm core spreads over a much wider area and consequently the "disturbance" in the main thermocline, which again appears here, would be included in the boundary zone. On sections III and IV, the "disturbance" is more pronounced and located farther to the south; thus these sections would each cross the boundary zone, as defined by the sloping thermocline, in three places; on the other hand, only one well-defined warm core appears on the sections. It is unfortunate that the stations were spaced so far apart and that no bathythermograph observations were made around station 825 , on section IV, but nevertheless it would seem that no pronounced warm core existed here. Once again the question comes up whether this "disturbance" should be considered as part of the Sargasso Sea boundary zone and the Gulf Stream.

We must recall our previous discussion of the path of the Stream and look again at Fig. 4 in order to answer this question. It is evident from the figure that the "disturbances" on these sections are in fact part of the Gulf Stream but they are parts of a meander in the Stream that is in the process of breaking off to form a separate eddy. The chart also helps to explain the confusing profiles of section V ; this section follows roughly along the path of the current, and crosses in and out of it several times.

Section V appears to mark the end of a régime in the system. The pronounced warm core of the Gulf Stream is last seen here. It is as though the Gulf Stream, although continuing on as shown in Fig. 4 and 5, left an accumulation of warm surface water in the northern loop between sections IV and V. Also on this section, for the first time, the disturbances in the main thermocline are not clearly reflected in the deep water. As we shall see later, in the discussion of transports, this section is a unique one separating the western from the eastern sector; from here on to the east the sections show certain different characteristics.
To the east of section V, i.e. east of the "sock", the northern limit of the boundary zone of the Sargasso Sea may be roughly identified with the "outcropping" of the $15^{\circ}$ isotherm at the sea surface. There is very little indication of a surface warm core associated with this zone and the salinity and oxygen observations do not always show the characteristic low values. To the north of this zone in the eastern sections, as already noted, the upper layer of water is warmer and more saline than that upstream. In other words, the abrupt gradients of temperature and salinity associated with the Gulf Stream are smaller in this area than to the west of the "sock". The Stream, at least in the upper layer, appears to be "running down".

As mentioned previously, a second abrupt gradient exists to the north in the eastern area. It is roughly identified on these profiles as the zone where the 35 per mille isohaline comes to the surface, and does not appear to be as strongly developed during the time of the present study as it has previously. A more typical condition is depicted in the Atlantic Ocean Atlas (Fuglister, 1960) from data taken along $50^{\circ} \mathrm{W}$. longitude by the Atlantis in 1956. The area between the two zones was wider in 1956 than in 1960 and the relatively warm, saline water extended to much greater depths; consequently, the northernmost current, and the countercurrent separating it from the Gulf Stream were both considerably stronger at that time. In describing the current pattern south of the Grand Banks, Soule et al. (1961) do not use the term "Gulf Stream" at all but refer to both these eastward currents as components of the "Atlantic Current". This term, however, seems much too general to apply to them. Since the more southern current, which crosses the 50th meridian south of $40^{\circ} \mathrm{N}$. latitude, lies along the boundary to the Sargasso Sea it should be called the Gulf Stream. It was suggested by Fuglister (1951), Fuglister and Worthington (op. cit.) and McLellan (1957), and now confirmed by the observations of "Gulf Stream ' 60 ", that the more northern of the two currents originates in the slope water area; it seems desirable, therefore, to apply to it the name "Slope Water Current".

Worthington (1962) feels that it is perhaps dangerous to regard the Slope Water Current as a permanent and separate feature of the circulation because of its low transport in 1960. This suggestion seems surprising when we recall that, aside from the Labrador Current, this current has been observed more often than any other in the North Atlantic. Since 1922 the Ice Patrol has been making studies of the dynamic topography near the Grand Banks and has repeatedly found this eastward current at approximately $41^{\circ} \mathrm{N} ., 50^{\circ} \mathrm{W}$. These observations do not prove that it is a current separate from the Gulf Stream, but they certainly show that it is permanent. Although only a few studies have been made south of $41^{\circ} \mathrm{N}$. at this longitude, each one has shown the Gulf Stream as actually a separate current, located at approximately $39^{\circ} \mathrm{N}$. latitude.

The Slope Water Current and the Gulf Stream are both parts of the Gulf Stream System, according to our concept of the System, but the interrelationship between the two currents is not clear.

## VELOCITY AND TRANSPORT CALCULATIONS

Geostrophic volume transports and velocities have been computed for sections I through IX and for a short west-east section along $38^{\circ} \mathrm{N}$. latitude (Atlantis stations 5953-5957). The method described by Sverdrup et al. (1942) was used for the computations, under the assumption of zero velocity
at the ocean bottom. An example of the geostrophic velocity distribution is shown in Fig. 10. This profile crosses the area where the deep direct current measurements were made and the averages of the observed velocities are shown in the figure.

The assumption of zero velocity at the bottom leads to transport values for the Gulf Stream that are approximately 30 per cent higher than those calculated by Iselin (1940), who assumed no motion below 2000 m . On the other hand, if the calculated velocity distribution had been adjusted to the average of the measured deep velocities, then even higher transports would have been obtained, with flow extending to the bottom. Although the direct observations show that the Gulf Stream does probably extend to the bottom they do not give the mean velocity between station positions; therefore, shifting the calculated velocity-depth curve to agree with the observed velocities is not entirely justified. Nevertheless, since the observed velocities in the deep water were approximately $10 \mathrm{~cm} / \mathrm{sec}$ higher than the calculated values of Fig. 10 it must be obvious that there was a considerable transport of water that the calculations made by assuming zero velocity at the ocean bottom failed to reveal. On the other hand, it is quite possible that this assumption produces too high transport values over some of the area studied, even perhaps between a few of the stations that have been considered to be in the Gulf Stream.

Because of this serious lack of knowledge as to where to place a surface of no motion, no dynamic topography charts have been plotted for the "Gulf Stream ' 60 " data. The following transport values must be considered as relative magnitudes only; they are given here merely to show gross differences in the Gulf Stream System.
As might be expected from even a casual study of the profiles, the highest transport values were obtained on the westernmost section, section I. Here, between stations 5877 and 5883, the volume transport with zero velocity at the ocean bottom comes to $137 \times 10^{6} \mathrm{~m}^{3} / \mathrm{sec}$. Assuming no motion below 2000 m the calculated transport drops to $89 \times 10^{6}$, a value similar to those obtained by Iselin. Several disturbing points are raised by these computations, especially if it is supposed that the end-stations define the limits of the Gulf Stream. Although the calculations show transport to the east between all seven stations, 5877 to 5883 , the surface layer water, down to 800 m at least, at stations 5878 and 5879 is not Gulf Stream water at all, but slope water. Furthermore, a core of anomalously cold water hugs the bottom slope at approximately 4000 m on this and at least the next three sections, that could be a part of the deep westward-moving undercurrent suggested by Stommel. These two features, combined with direct deep current observations made in this area, just north of the Stream in 1959 and 1960 (Volkmann, 1962), and in the Stream itself during "Gulf Stream ' 60 ", make it very doubtful that

$64^{\circ} 30^{\prime}$ W. LONG. 20-26 APRIL 1960
FIG. 10. Velocity profile of section III.
these transport calculations are correct; these few current measurements suggest that there is flow at the bottom, probably directed toward the west between stations 5877 and 5879 and toward the east between stations 5879 and 5883.

A summary of the transport calculations is given in Table 2. All of these values are based on data from the first phase of the study and show the

Table 2. Volume Transports $\times 10^{6} \mathbf{m}$ /sec: "Gulf Stream ' 60 "

| Section | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | C.G.* |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Between | $33^{\circ} 20^{\prime}$ | $39^{\circ} 01^{\prime}$ | $39^{\circ} 02^{\prime}$ | $39^{\circ} 34^{\prime}$ | $42^{\circ} 20^{\prime}$ | $41^{\circ} 31^{\prime}$ | $41^{\circ} 01^{\prime}$ | $41^{\circ} 00^{\prime}$ | $40^{\circ} 00^{\prime}$ |  |
| latitudes | $37^{\circ} 00^{\prime}$ | $37^{\circ} 00^{\prime}$ | $37^{\circ} 30^{\prime}$ | $38^{\circ} 00^{\prime}$ | $39^{\circ} 28^{\prime}$ | $38^{\circ} 30^{\prime}$ | $38^{\circ} 32^{\prime}$ | $39^{\circ} 02^{\prime}$ | $37^{\circ} 28^{\prime}$ |  |
| to bottom | 137 | 106 | 88 | 76 | 50 | 80 | 77 | 52 | 82 |  |
| to 2000 m | 89 | 66 | 64 | 57 | 33 | 53 | 55 | 37 | 58 | 51 |
| total to bottom | 69 | 70 | 70 | 69 | 48 | 62 | 62 | 60 | 60 |  |
| Slope Water <br> Current latitudes |  |  |  |  |  | $43^{\circ} 19^{\prime}$ | $42^{\circ} 59^{\prime}$ | $44^{\circ} 00^{\prime}$ | $42^{\circ} 20^{\prime}$ |  |
| to 2000 m |  |  |  |  |  | $42^{\circ} 00^{\prime}$ | $41^{\circ} 29^{\prime}$ | $42^{\circ} 55^{\prime}$ | $41^{\circ} 30^{\prime}$ |  |

* C.G. values from Soule et al., 1961
transport toward the east. Given in the table for each section are the latitudes of the stations which are considered to bracket the Stream; the transport between them with the bottom as a surface of no horizontal motion; the transport assuming no motion below 2000 m ; and the total volume transport for the entire section, from the continental shelf south to $33^{\circ} \mathrm{N}$. latitude, again under the assumption of zero velocity at the ocean bottom. For sections VI through IX the transports of the Slope Water Current, based on the 2000 m reference level, are also shown. The two values in the column marked C.G. (section X) are taken from Soule et al., 1961.

Table 2 does not contain all the calculated Gulf Stream transports. Since the Stream doubled back on itself in going around the "sock", sections III and IV crossed the current more than once. On section III between $36^{\circ} \mathrm{N}$. and $37^{\circ} 30^{\prime} \mathrm{N}$. the transport was $79 \mathrm{million} \mathrm{m}^{3} / \mathrm{sec}$. toward the west and, between $34^{\circ} \mathrm{N}$. and $36^{\circ} \mathrm{N}$., 83 million toward the east. On section IV, the transport was 76 million toward the west between $35^{\circ} \mathrm{N}$. and $38^{\circ} \mathrm{N}$. and 46 million toward the east between $33^{\circ} \mathrm{N}$. and $35^{\circ} \mathrm{N}$. These last values suggest that some of the transport of the Stream actually passed to the south of the area and hence possibly explain the low transport obtained for section V. As pointed out earlier the Gulf Stream was flowing almost due south along section V. During phase three the Atlantis made a west-east section at $38^{\circ} 30^{\prime} \mathrm{N}$. crossing this part of the current; the transport toward
the suuth, between $60^{\circ} \mathrm{W}$. and $62^{\circ} \mathrm{W}$. (stations 5953 and 5957) was $87 \times 10^{6}$ $\mathrm{m}^{3} / \mathrm{sec}$. All the above values are based on the assumption of zero velocity at the bottom.

Despite the uncertain configuration of the surface of no motion, the arbitrary station spacing and the elapsed time between observations, these transport computations are still informative. The Gulf Stream transports in the western part of the area are normal as compared to Iselin's values (1940) and in the east are close to the values obtained by the Coast Guard in 1950 ( 60 million) and in 1958 ( 49 million). The net transports across each section suggest a division of the area into two parts, with section V constituting the dividing line; the total transport in the west is consistently about 70 million $\mathrm{m}^{3} / \mathrm{sec}$, but to the east of this section it is consistently about 10 million less, suggesting that the "sock" formed a partial barrier in the system.

As stated earlier, the Slope Water Current appeared to be below normal strength during this period. According to Soule et al. (op. cit.) the transport of this current was 29 million in 1950, 13 million in 1958, and only 4 million $\mathrm{m}^{3} / \mathrm{sec}$ in 1960 . It is important to note, however, that whereas the low 1960 figure is based on observations made in April, the Ice Patrol work done between 18 June and 1 July 1960, $2 \frac{1}{2}$ months later, shows a much more pronounced current at $50^{\circ} \mathrm{W}$. longitude.

A crude measure of the increase in transport that would be obtained if the observed deep current velocities were used in the computations indicates that the transport of the Gulf Stream on section III would change from 88 to $147 \times 10^{6} \mathrm{~m}^{3} / \mathrm{sec}$. If the Gulf Stream does in fact extend to the bottom in this area and transports these huge amounts of water, which are not included by the present method of dynamic computations, then, in order to satisfy continuity, there must also exist deep water movements of considerable magnitude elsewhere in the System.

## SUMMARY AND CONCLUSIONS

The evidence from "Gulf Stream ' 60 " indicates that the Gulf Stream reaches to the bottom of the ocean. The meander pattern of the current appears to have a sharp line of demarcation near $65^{\circ} \mathrm{W}$. longitude, the longitude of Bermuda, separating the area of relatively small amplitude meanders in the west from the eastern area of much larger north-south meanders. Since a direct deep current measurement showed flow deflected by Kelvin Sea mount, it seems probable that the shapes of these large meanders may be influenced by the various sea mounts in this area. The path of the Gulf Stream changed very little over a period of 10 weeks: all observed changes in position could be accounted for by lateral movements of less than 2.5 miles per day. The large meanders observed thus formed a nearly stationary
wave front along the northern border of the Sargasso Sea. The Slope Water Current was observed but appeared to be a weaker flow than in the past.
Profiles across the Gulf Stream spaced 100 miles apart do not give an unambiguous picture of the pattern of currents. Following the maximum surface currents downstream with the GEK is a rapid method of delineating the current position, although streakiness occurs in the velocity distribution to such an extent that the current is occasionally lost. Where a cyclonic eddy is being formed to the south of the Stream this method of tracing the current may also produce ambiguous results. The possibility exists that the surface currents at these points are quite complicated, and perhaps separated from the deeper flow. A transponding surface float, for instance, was observed to take a month to pass such a location.

The results of "Gulf Stream ' 60 " do not contradict the author's multiple current hypothesis (Fuglister, 1951), but the relation of the Slope Water Current to the Gulf Stream and the manner in which it is formed, matters fundamental to the hypothesis, were not clearly determined. These results do show that the extremely complicated Gulf Stream picture shown by the author, Chart 3 (1955), is certainly not a correct interpretation of the data.

It is evident from this study that the volume transport of the Gulf Stream in the area between Cape Hatteras and the Grand Banks is still unknown. The deep current measurements indicate that the transport may be as great as twice the generally accepted values of around $70 \times 10^{6} \mathrm{~m}^{3} / \mathrm{sec}$, although many more deep, direct current observations in the Gulf Stream are needed before the actual transport values can be determined.

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SIATION 136












## TABLES OF OCEANOGRAPHIC DATA

ATLANTIS CRUISE 255-1960

| Depth, <br> meters | Tempera- <br> ture, ${ }^{\circ} \mathrm{C}$ | Salinity, <br> $\%$ | $\mathrm{O}_{2}$ <br> ml/l. | pH |
| :--- | :---: | :---: | :---: | :---: |

Station 5873; 9 April; $40^{\circ} 14^{\prime}$ N. $68^{\circ} 30^{\prime} \mathrm{W}$.; Depth 185 m .

| 1 | 4.78 | 32.864 | 7.23 | 7.54 |
| ---: | ---: | ---: | ---: | ---: |
| 50 | 4.57 | 32.895 | 7.11 | 8.27 |
| 100 | 7.49 | 34.067 | 5.79 | 7.65 |
| 150 | 9.02 | 34.766 | 4.87 | 7.62 |
| 175 | 9.08 | 34.833 | 4.78 | 7.82 |

Station 5874; 9 April; $40^{\circ} 00^{\prime}$ N. $68^{\circ} 30^{\circ} \mathrm{W}$; Depth 1880 m .

| 1 | 5.02 | 35.3337 | 7.17 | 8.00 |
| :---: | ---: | :---: | :---: | :---: |
| 50 | 6.25 | $35.934 ?$ | 6.93 | 7.75 |
| 100 | 9.37 | $34.66{ }^{2}$ | 5.92 | 7.76 |
| 200 | 10.31 | 35.204 | 3.88 | 7.49 |
| $300^{*}$ | 7.93 | 35.034 | 3.79 | 7.22 |
| 400 | -.98 | 34.908 | 4.88 | 7.09 |
| $500^{*}$ | 4.98 | 34.934 | 5.30 | 7.20 |
| 600 | 4.67 | 34.965 | 5.84 | 7.56 |
| $700^{*}$ | 4.48 | 34.961 | 5.82 | 7.45 |
| $800^{*}$ | 4.34 | 34.973 | 5.93 | 7.21 |
| $900^{*}$ | 4.19 | 34.957 | 6.16 | 7.49 |
| $995^{*}$ | 4.12 | 34.957 | 6.17 | 7.38 |
| 1095 | 3.99 | 34.959 | 6.16 | 7.40 |
| 1190 | 3.96 | 34.962 | 6.11 | 7.31 |
| 1390 | 3.81 | 34.959 | 6.18 | 7.11 |
| $1585^{*}$ | 3.73 | 34.959 | 6.24 | 7.35 |
| 400 | 5.73 | 34.933 | 4.67 | 7.20 |
| 1545 | 3.69 | 34.954 | 6.23 | 7.67 |
| $1695^{*}$ | 3.67 | 34.955 | 6.27 | 7.35 |

Station 5875; 9 April; $39^{\circ} 41^{\prime}$ N. $68^{\circ} 33^{\prime}$ W.; Depth' 2699 m.

| 1 |  | 3.93 | 32.317 | 7.94 |
| :---: | ---: | ---: | ---: | ---: |
| 45 | 3.73 | 32.531 | 7.45 | 7.06 |
| 90 | 6.84 | 34.044 | 5.30 | 7.45 |
| 185 | 10.19 | 35.142 | 4.52 | 7.06 |
| $275^{*}$ | 7.75 | 34.917 | 4.06 | 7.46 |
| 370 | 6.30 | 34.894 | 4.49 | 7.25 |
| $460^{*}$ | 5.30 | 34.887 | 4.96 | 7.49 |
| 555 | 5.27 | 35.008 | 5.15 | 7.32 |
| $645^{*}$ | 4.85 | 35.002 | 5.52 | 7.13 |
| 745 | 4.40 | 34.980 | 5.85 | 7.82 |
| $840^{*}$ | 4.34 | 34.989 | 5.86 | 7.40 |
| $900^{*}$ | 4.28 | 34.988 | 5.97 | 7.16 |
| 995 | 4.17 | 34.980 | 5.99 | 7.19 |
| $1185^{*}$ | 3.89 | 34.963 | 6.18 | 7.20 |
| 1370 | 3.75 | 34.965 | 6.21 | 7.01 |
| $1560^{*}$ | 3.68 | 34.962 | 6.39 | 6.90 |
| 1750 | 3.77 | 34.960 | 6.24 | 7.35 |
| $1940^{*}$ | 3.51 | 34.958 | 6.27 | 7.43 |
| 2135 | 3.37 | 34.960 | 6.21 | 7.10 |
| $2325^{*}$ | 3.26 | 34.963 | 6.21 | 7.00 |
| 2525 | 3.08 | 34.954 | 6.25 | 6.81 |
| $2630^{*}$ | 2.83 | 34.947 | 6.25 | 7.16 |
|  |  |  |  |  |


| $\begin{array}{l}\text { Depth, } \\ \text { meters }\end{array}$ | $\begin{array}{c}\text { Tempera- } \\ \text { ture, }\end{array}{ }^{\circ} \mathrm{C}$ | $\begin{array}{c}\text { Salinity, } \\ \%\end{array}$ | $\mathrm{O}_{2}$ | pH |
| :--- | :--- | :--- | :---: | :---: |
| $\mathrm{ml} / \mathrm{l}$. |  |  |  |  |

Station 5876; 9 April; $39^{\circ} 20^{\prime}$ N. $68^{\circ} 30^{\prime}$ W.; Depth 2965 m .

| 1 | 8.64 | 34.146 | 6.73 | 7.16 |
| :---: | ---: | ---: | ---: | ---: |
| 30 | 9.33 | 34.467 | 6.31 | 7.29 |
| 55 | 10.52 | 34.511 | 6.48 | 7.30 |
| 115 | 11.92 | 35.329 | 5.13 | 7.20 |
| $175^{*}$ | 10.42 | 35.288 | 4.22 | 7.23 |
| 235 | 9.22 | 35.177 | 3.30 | 7.16 |
| $305^{*}$ | 7.56 | 35.079 | 3.82 | 7.16 |
| $595^{*}$ | 4.79 | 35.025 | 5.63 | - |
| 890 | 4.20 | 34.995 | 6.00 | - |
| $1190^{*}$ | 3.87 | 34.977 | 6.16 | - |
| 1485 | 3.68 | 34.970 | 6.23 | - |
| $1785^{*}$ | 3.51 | 34.968 | 6.32 | - |
| 2080 | 3.28 | 34.962 | 6.33 | - |
| $2380^{*}$ | 3.04 | 34.970 | 6.31 | - |
| 2670 | 2.80 | 34.945 | 6.36 | - |
| $2965^{*}$ | 2.43 | 34.929 | 6.40 | - |
| $295^{*}$ | 7.80 | 35.107 | 3.81 | - |
| 390 | 6.17 | 35.025 | 4.58 | - |
|  |  |  |  |  |

Station 5877; 10 April; $38^{\circ} 59^{\prime}$ N. $68^{\circ} 30^{\prime}$ W.: Depth 3329 m .

| 1 | 8.83 | 34.105 | 6.66 |  |
| :---: | ---: | ---: | ---: | ---: |
| 45 | 10.84 | 35.137 | 5.42 |  |
| 95 | 11.06 | 35.304 | 4.97 |  |
| 190 | 9.42 | 35.161 | 3.47 |  |
| $285^{*}$ | 7.57 | 35.070 | 3.79 |  |
| 380 | 5.95 | 35.022 | 4.73 |  |
| $480^{*}$ | 5.13 | 35.005 | 5.35 |  |
| 575 | 4.72 | 35.003 | 5.70 |  |
| $675^{*}$ | 4.58 | 35.000 | 5.74 |  |
| 770 | 4.39 | 34.997 | 5.87 |  |
| $870^{*}$ | 4.17 | 34.987 | 6.00 |  |
| 970 | 4.02 | 34.978 | 6.12 |  |
| $1165^{*}$ | 3.82 | 34.971 | 6.19 |  |
| $1320^{*}$ | 3.70 | 34.968 | 6.23 |  |
| 1520 | 3.58 | 34.969 | 6.21 |  |
| $1720^{*}$ | 3.46 | 34.963 | 6.26 |  |
| 1920 | 3.31 | 34.965 | 6.27 |  |
| $2120^{*}$ | 3.12 | 34.9807 | 6.20 |  |
| 2315 | 2.97 | 34.952 | 6.25 |  |
| $2515^{*}$ | 2.85 | 34.944 | 6.29 |  |
| 2715 | 2.69 | 34.937 | 6.32 |  |
| $2915{ }^{*}$ | 2.555 | 34.941 | 6.33 |  |
| 3120 | 2.425 | 34.924 | 6.50 |  |
| $3325^{*}$ | 2.370 | 34.923 | 6.34 |  |
|  |  |  |  |  |


| Depth, meters | Temperature, ${ }^{\circ} \mathrm{C}$ | $\begin{gathered} \text { Salinity, } \\ \% \end{gathered}$ |  | pH | Depth, meters | Temperature, ${ }^{\circ} \mathrm{C}$ | Salinity, \% | $\underset{\mathrm{ml} / \mathrm{l}}{ }$ | pH |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} \text { Station 5878; } 10 \text { April; } 38^{\circ} 40^{\prime} \text { N. } 68^{\circ} 30^{\prime} \text { W.; } \\ \text { Depth } 3695 \mathrm{~m} . \end{gathered}$ |  |  |  |  | $\text { Station 5880; } \underset{\substack{10 \\ \text { Depth } \\ \text { April; } \\ 4308 \\ 37^{\circ} \\ \mathrm{m}}}{ } 58^{\prime} \text { N. } 68^{\circ} 28^{\prime} \text { W.; }$ |  |  |  |  |
| 1 | 6.84 | 32.278 | 7.17 | 7.60 | 1 | 23.22 | 36.432 | 4.98 | 7.56 |
| 50 | 10.52 | 35.034 | 5.67 | 7.23 | 45 | 22.96 | 36.443 | 4.88 | 8.04 |
| 100 | 11.02 | 35.269 | 5.29 | 7.54 | 90 | 21.80 | 36.718 | 3.74 | 7.97 |
| 200 | 9.13 | 35.149 | 3.28 | 7.43 | 175 | 17.80 | 36.246 | 4.07 | 8.01 |
| 295* | 7.69 | 35.049 | 3.66 | 7.33 | 260* | 11.83 | 35.149 | 5.50 | 7.53 |
| 395 | 6.08 | 35.009 | 4.62 | 7.21 | 335 | 11.63 | 35.405 | 4.05 | 7.75 |
| 495* | 5.13 | 35.012 | 5.24 | 7.43 | 405* | 9.73 | 35.275 | 3.53 | 7.49 |
| 595 | 4.79 | 35.000 | 5.52 | 7.32 | 475 | 7.34 | 35.047 | 3.93 | 7.67 |
| $695{ }^{\text {6 }}$ | 4.52 | 35.014 | 5.72 | 7.66 | $545^{*}$ | 6.09 | 34.948 | 4.60 5 | 7.56 |
| 795 | 4.31 | 34.991 | 5.87 | 7.49 | 610 | 5.24 | 34.943 | 5.07 | 7.53 |
| 895* | 4.14 | 34.981 | 5.99 | 7.16 | 745* | 4.65 | 34.976 ? | 5.70 | 7.48 |
| 995 | 4.04 | 34.976 | 6.04 | 7.47 | 900 | 4.48 | 35.168? | 5.76 | 7.51 |
| 1195** | 3.81 | 34.968 | 6.18 | 7.78 | 1070** | 4.18 | 35.229 ? | 5.99 | 7.46 |
| 1390** | 3.70 | 34.970 | 6.19 | 7.36 | 1075* | 4.23 | 35.203? | 5.93 | 7.38 |
| 1590 | 3.58 | 34.965 | 6.21 | 7.48 | 1220 | 4.07 | 35.073? | 6.02 | 7.47 |
| 1790** | 3.47 | 34.968 | 6.19 | 7.15 | 1365* | 3.93 | 34.977 | 6.13 | 7.33 |
| 1990 | 3.36 | 34.966 | 6.18 | 7.62 | 1505 | 3.82 | 34.967 | 6.16 | 7.23 |
| 2185* | 3.22 | 34.965 | 6.13 | 7.34 | 1725 | 3.66 | 34.970 | 6.20 | 7.44 |
| 2385 | 3.05 | 34.960 | 6.16 | 7.57 | 1940 | 3.51 | 34.963 | 6.18 | 7.42 |
| 2585* | 2.89 | 34.947 | 6.19 | 7.54 | 2160** | 3.37 | 34.959 | 6.26 | 7.51 |
| 2785 | 2.74 | 34.942 | 6.27 | 7.29 | 2385 | 3.19 | 34.960 | 6.21 | 7.41 |
| 3085* | 2.525 | 34.929 | 6.29 | 7.51 | 2615** | 3.00 | 34.962 | 6.16 | 7.39 |
| 3385 | 2.330 | 34.919 | 6.28 | 7.27 | 2840 | 2.745 | 34.941 | 6.31 | 7.49 |
| 3690* | 2.19 | 34.913 | 6.15 | 7.39 | 3150* | 2.505 | 34.926 | 6.21 | 7.48 |
| Station 5879; 10 April; $38^{\circ} 20^{\prime}$ N. $68^{\circ} 30^{\circ} \mathrm{W} . ;$ Depth 4063 m. |  |  |  |  | Station 5881; $\underset{\substack{11 \\ \text { Depth } \\ \text { April; } \\ 4510 \\ 37^{\circ} \\ \mathbf{m} \\ \hline \\ \hline}}{ }$ N. $68^{\circ} 29^{\prime}$ W.; |  |  |  |  |
| 1 | 8.21 | 33.913 | 6.82 | 7.73 | 1 | 22.66 | 36.415 | 4.79 | 7.94 |
| 45 | 8.36 | 34.065 | 6.61 | 7.87 | 50 | 22.63 | 36.413 | 4.77 | 7.92 |
| 90 | 10.74 | 35.081 |  | 7.55 | 95 | 19.89 | 36.594 | 4.80 | 7.95 |
| 185 | 10.28 | 35.208 | 3.91 | 7.64 | 190 | 18.77 | 36.568 | 4.98 | 7.95 |
| 275* | 8.50 | 35.100 | 3.41 | 7.20 | 285* | 18.17 | 36.521 | 5.26 | 7.99 |
| 370 | 6.74 | 35.012 | 4.22 | 7.24 | 380 | 17.60 | 36.427 | 4.58 | 7.82 |
| 470* | 5.60 | 35.016 | 4.91 | 7.48 | 470* | 16.95 | 36.310 | 4.21 | 7.76 |
| 565 | 4.99 | 34.987 | 5.36 | 7.45 | 560 | 15.58 | 36.081 | 3.84 | 7.71 |
| 665* | 4.68 | 34.985 | 5.63 | 7.45 | 650* | 13.61 | 35.775 | 3.71 | 7.70 |
| 760 855 | 4.38 | 34.971 | 5.91 | 7.55 | 735 | 11.29 | 35.491 | 3.55 | 7.60 |
| 895** | 4.25 | 34.972 | 5.99 | 7.49 | 910** | 6.02 | 35.055 | 4.63 | 7.38 |
| 955 | 4.12 | 34.970 | 6.04 | 7.55 | 1085 | 4.55 | 34.964 | 5.75 | 7.43 |
| 1155* | 3.95 | 34.968 | 6.15 | 7.62 | 1265* | 4.38 | 35.001 | 5.87 | 7.46 |
| 1470* | 3.72 | 34.966 | 6.32 | 7.34 | 1490* | 4.04 | 34.979 | 6.10 | 7.72 |
| 1665 | 3.60 | 34.964 | 6.37 | 7.44 | 1655 | 3.87 | 34.969 | 6.33 | 7.67 |
| 1860** | 3.48 | 34.962 | 6.25 | 7.24 |  | 3.76 | 34.968 | 6.18 | 7.60 |
| 2055 | 3.33 | 34.963 | 6.20 | 7.44 | 1985 | 3.66 | 34.975 | 6.17 | 7.61 |
| 2250** | 3.18 | 34.955 | 6.20 | 7.64 | 2235** | 3.49 3.30 | 34.967 | 6.18 | 7.63 |
| ${ }_{2845} 254$ | 2.90 2.68 | 34.947 $\mathbf{3 4 . 9 3 7}$ | 6.39 | 7.28 | 2485 $2735 *$ | 3.30 3 | 34.963 34.956 | 6.15 | 7.65 |
| ${ }_{3135}{ }^{\text {a }}$ | 2.68 | 34.937 | 6.30 | 7.31 | 2735** | 3.08 | 34.956 | 6.15 | 7.27 |
| ${ }_{\text {3435* }}$ | ${ }_{2} 2.46$ | 34.924 <br> 34.909 | 6.27 | 7.51 |  |  | 34.946 34925 | 6.21 | 7.48 |
| 3435** | 2.290 2.215 | 34.909 <br> 34.902 | 6.21 6.18 | 7.32 7.36 | $3420{ }^{+}$ 3755 | 2.445 2.315 | 34.925 34.913 34.9 | 6.23 6.20 | 7.44 |
| 4035* | 2.195 | 34.896 | 6.06 | 7.55 | 4090* | 2.265 | 34.907 | 6.16 | 7.67 |


| Depth, <br> meters | Tempera- <br> ture, ${ }^{\circ} \mathrm{C}$ | Salinity, <br> $\%$ | $\mathrm{O}_{2}$ <br> $\mathrm{ml} / \mathrm{l}$. | pH |
| :---: | :---: | :---: | :---: | :---: |

Station 5882; 11 April; $37^{\circ} 22^{\prime}$ N. $68^{\circ} 32^{\prime}$ W.; Depth 4654 m.

| 1 | 20.84 | 36.489 | 5.05 | 8.11 | 1 | 18.10 | 36.544 | 5.21 | 8.00 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 40 | 18.84 | 36.543 | 5.19 | 8.23 | 50 | 18.12 | 36.544 | 5.19 | 8.31 |
| 80 | 18.42 | 36.556 | 5.14 | 8.24 | 100 | 18.10 | 36.539 | 5.21 | 8.03 |
| 160 | 18.21 | 36.550 | 5.06 | 8.21 | 200 | 18.15 | 36.542 | 5.20 |  |
| 235* | 18.05 | 36.529 | 5.02 | 8.32 | 295* | 18.08 | 36.530 | 5.01 | 7.85 |
| 310 | 17.98 | 36.539 | 5.12 | 8.29 | 395 | 17.98 | 36.521 | 4.95 |  |
| 380* | 17.89 | 36.514 | 4.79 | 8.17 | 495* | 17.80 | 36.487 | 4.88 | 7.92 |
| 455 | 17.86 | 36.502 | 4.98 | 8.28 | 595 | 16.91 | 36.304 | 5.47 |  |
| 530 |  | 36.398 | 4.59 | 8.24 | 690* | 15.67 | 36.115 | 3.98 | 7.92 |
| 610 |  | 36.183 | 4.16 | 8.20 | 790 | 13.86 | 35.810 | 3.69 |  |
| 765* | 13.67 | 35.792 | 3.71 | 8.06 | 990* | 9.46 | 35.237 | 3.36 | 7.70 |
| 925 | 9.89 | 35.284 | 3.34 | 8.00 | 1185 | 5.76 | 35.025 | 4.81 |  |
| 1100* | 6.31 | 35.056 | 4.54 | 7.91 | 1385* | 4.82 | 35.019 | 5.54 | 7.67 |
| 1375** | 4.58 | 35.032 | 5.66 | 8.01 | 1670** | 4.13 | 34.982 | 6.00 |  |
| 1535 | 4.28 | 35.000 | 5.88 | 7.98 | 1860 | 3.94 | 34.975 | 6.12 | 7.71 |
| 1785* | 3.96 | 34.976 | 6.10 | 8.05 | 2055* | 3.80 | 34.975 | 6.18 |  |
| 2025 | 3.77 | 34.968 | 6.15 | 8.01 | 2245 | 3.70 | 34.966 | 6.21 | 7.75 |
| 2270* | 3.61 | 34.968 | 6.20 | 8.02 | 2535* | 3.50 | 34.965 | 6.17 |  |
| 2520 | 3.43 | 34.966 | 6.15 | 8.05 | 2820 | 3.275 | 34.961 | 6.19 | 7.74 |
| 2775* | 3.23 | 34.958 | 6.16 | 8.09 | 3105* | 3.01 | 34.953 | 6.23 |  |
| 3120 | 2.96 | 34.957 | 6.16 | 7.95 | 3395 | 2.745 | 34.940 | 6.25 | 7.98 |
| 3470* | 2.670 | 34.939 | 6.23 | 8.04 | 3790* | 2.450 | 34.921 | 6.27 |  |
| 3830 | 2.420 | 34.935 ? | 6.25 | 8.05 | 4185 | 2.325 | 34.912 | 6.23 | 8.11 |
| 4290* | 2.290 | 34.909 | 6.13 | 8.05 | 4680* | 2.285 | 34.903 | 6.09 | 8.04 |

Station 5883; 11 April; $37^{\circ} 00^{\prime}$ N. $68^{\circ} 29^{\prime}$ W.; Depth 4766 m.

| 1 | 19.58 | 36.536 | 5.07 |  |
| :---: | :---: | :---: | :---: | :---: |
| 40 | 19.59 | 36.533 | 5.07 | 8.34 |
| 85 | 18.79 | 36.549 | 5.07 |  |
| 170 | 18.23 | 36.542 | 5.06 | 8.26 |
| 255* | 18.09 | 36.538 | 5.05 |  |
| 345 | 18.02 | 36.533 | 5.03 | 8.30 |
| 430** | 18.00 | 36.531 | 5.30 |  |
| 520 | 17.98 | 36.524 | 4.85 | 8.34 |
| 610 |  | 36.512 | 5.13 |  |
| 700 |  | 36.377 | 4.48 | 8.36 |
| $880^{4}$ | 12.86 | 35.655 | 3.61 |  |
| 1065 | 8.47 | 35.134 | 3.45 | 8.06 |
| 1255* | 5.92 | 35.040 | 4.75 | 8.09 |
| 1635* | 4.37 | 35.001 | 5.87 | 7.97 |
| 1830 | 4.04 | 34.973 | 6.05 |  |
| 2030* | 3.86 | 34.969 | 6.17 | 8.07 |
| 2230 | 3.75 | 34.965 | 6.19 |  |
| 2525* | 3.56 | 34.970 | 6.11 | 8.06 |
| 2785* | 3.35 | 34.965 | 6.49 |  |
| 3075 | 3.12 | 34.956 | 6.43 | 8.05 |
| 3365* | 2.86 | 34.944 | 6.34 |  |
| 3655 | 2.63 | 34.930 | 6.24 | 8.07 |
| 3945* | 2.435 | 34.919 | 6.21 |  |
| 4345 | 2.320 | 34.907 | 6.17 | 8.05 |
| 4750* | 2.305 | 34.903 | 6.23 |  |

Station 5885; 12 April; $36^{\circ} 01^{\prime}$ N. $68^{\circ} 29^{\prime}$ W.; Depth 4765 m.

| 1 | 18.05 | 36.530 | 5.29 | 8.21 |
| :---: | :---: | :---: | :---: | :---: |
| 100 | 18.06 | 36.527 | 5.23 |  |
| 200 | 18.04 | 36.530 | 5.10 | 8.33 |
| 295 | 18.00 | 36.524 | 5.02 |  |
| 395* | 17.74 | 36.465 | 4.83 | 8.42 |
| 495 | 17.16 | 36.353 | 4.45 |  |
| 595* | 15.93 | 36.139 | 4.05 | 8.20 |
| 695 | 14.39 | 35.880 | 3.88 |  |
| 785* | 12.54 | 35.615 | 3.59 | 8.33 |
| 980 | 8.05 | 35.112 | 3.66 |  |
| 1180** | 5.44 | 35.032 | 5.12 | 8.17 |
| 1380 | 4.62 | 35.031 | 5.63 |  |
| 1575** | 4.15 | 34.983 | 6.02 | 8.20 |
| 1765* | 3.95 | 34.976 | 6.10 |  |
| 1965 | 3.79 | 34.967 | 6.19 | 8.14 |
| 2165* | 3.66 | 34.966 | 6.19 |  |
| 2360 | 3.53 | 34.966 | 6.21 | 8.19 |
| 2560 | 3.35 | 34.965 | 6.17 |  |
| 2855 | 3.14 | 34.971 | 6.10 | 8.22 |
| 3155** | 2.87 | 34.948 | 6.21 |  |
| 3550 | 2.55 | 34.931 | 6.22 | 8.24 |
| 3950* | 2.360 | 34.915 | 6.22 |  |
| 4355 | 2.290 | 34.920 ? | 6.22 | 8.24 |
| 4765 | 2.240 | 34.891 | 5.98 | 8.24 |


| Depth, <br> meters | Tempera- <br> ture, | Salinity, <br> $\%_{0}$ | $\mathbf{O}_{\boldsymbol{\circ}}$ <br> ml/ | pH |
| :---: | :---: | :---: | :---: | :---: |

Station 5886; 12 April; $35^{\circ} 30^{\prime}$ N. $68^{\circ} 28^{\prime}$ W.; Depth 5097 m .

| 1 | 18.23 | 36.549 | 5.25 | 8.14 |
| :---: | :---: | :---: | :---: | :---: |
| 95 | 18.09 | 36.536 | 5.16 |  |
| 190 | 18.06 | 36.536 | 5.13 | 8.21 |
| 285 | 18.02 | 36.521 | 4.99 |  |
| $380^{*}$ | 17.96 | 36.519 | 4.97 | 8.40 |
| 480 | 17.40 | 36.393 | 4.55 |  |
| 575* | 16.59 | 36.244 | 4.21 | 8.20 |
| 670 | 15.07 | 35.987 | 3.95 |  |
| 765* | 13.76 | 35.805 | 3.73 | 7.63 |
| 950 | 9.31 | 35.215 | 3.37 |  |
| 1140* | 6.05 | 35.043 | 4.62 | 7.5 |
| 1335 | 4.95 | 35.036 | 5.45 |  |
| $1530^{*}$ | 4.43 | 35.022 | 5.84 | 7.52 |
| 1685* | 4.21 | 35.000 | 5.72 | 7.52 |
| 1980 | 3.90 | 34.983 | 6.08 |  |
| 2270* | 3.64 | 34.975 | 6.15 | 7.6 |
| 2570 | 3.46 | 34.982 | 6.07 |  |
| 2865 | 3.24 | 34.974 | 6.15 | 7.5 |
| 3155 | 2.96 | 34.975? | 6.12 |  |
| 3450* | 2.71 | 34.947 | 6.19 | 7.4 |
| 3845 | 2.47 | 34.923 | 6.15 |  |
| 4235** | 2.36 | 34.909 | 6.13 | 7.59 |
| 4625 | 2.31 | 34.903 | 6.10 |  |

Station 5887; 13 April; $34^{\circ} 59^{\prime}$ N. $68^{\circ} 29^{\prime}$ W.; Depth 5285 m .

| 1 | 18.27 | 36.550 | 5.33 | 8.08 |
| :---: | :---: | :---: | :---: | :---: |
| 90 | 18.29 | 36.545 | 5.26 | - |
| 180 | 18.19 | 36.537 | 5.05 | 8.13 |
| 270 | 18.17 | 36.540 | 5.01 |  |
| 360* | 18.13 | 36.542 | 5.03 | 8.25 |
| 450 | 18.08 | 36.549 | 5.03 |  |
| $540 *$ | 17.84 | 36.503 | 5.03 | 8.30 |
| 635 | 16.57 | 36.240 | 4.25 |  |
| 725** | 15.20 | 36.001 | 3.99 | 8.11 |
| 910 | 10.91 | 33.398 | 3.42 |  |
| 1100** | 6.93 | 35.092 | 4.20 | 7.98 |
| 1295 | 5.35 | 35.050 | 5.19 |  |
| 1490** | 4.51 | 35.016 | 6.05 | 8.05 |
| 1690** | 4.08 | 34.993 | 6.04 | 7.83 |
| 1980 | 3.81 | 34.983 | 6.08 |  |
| 2265* | 3.60 | 34.980 | 6.14 | 7.81 |
| 2555 | 3.34 | 34.970 | 6.05 |  |
| 2840 | 3.09 | 34.958 | 6.05 | 7.70 |
| 3125 | 2.87 | 34.945 | 6.11 |  |
| 3415* | 2.69 | 34.934 | 6.15 | 7.63 |
| 3810 |  | 34.924 | 6.15 |  |
| 4210* | 2.355 | 34,917 | 6.11 | 7.89 |
| 4720 | 2.325 | 34.904 | 6.07 |  |
| 5235* | 2.240 | 34.880 | 5.84 | 7.99 |


| Depth, <br> meters | Tempera- <br> ture, |
| :---: | :---: | :---: | :---: | :---: |

Station 5888; 13 April; $34^{\circ} 00^{\prime}$ N. $68^{\circ} 29^{\prime}$ W.; Depth 5275 m .

| 1 | 18.47 | 36.574 | 5.44 | 8.31 |
| :---: | :---: | :---: | :---: | :---: |
| 95 | 18.37 | 36.557 | 5.11 |  |
| 190 | 18.25 | 36.570 | 5.10 | 8.39 |
| 285 | 18.21 | 36.547 | 5.12 |  |
| 380* | 17.96 | 36.494 | 4.89 | 8.39 |
| 475 | 17.06 | 36.332 | 4.49 |  |
| 570 | 15.79 | 36.102 | 4.05 | 8.33 |
| 665* | 14.46 | 35.892 | 3.98 |  |
| 760* | 12.51 | 35.618 | 3.77 | 8.19 |
| 955 | 8.28 | 35.161 | 3.77 |  |
| 1150** | 5.89 | 35.072 | 4.81 | 8.09 |
| 1345 | 4.88 | 35.037 | 5.56 |  |
| 1540** | 4.39 | 35.010 | 5.84 | 8.16 |
| 1745* | 3.98 | 34.981 | 6.60 | 8.17 |
| 2020 | 3.76 | 34.978 | 6.60 |  |
| 2295* | 3.58 | 34.981 | 6.35 | 8.18 |
| 2575 | 3.32 | 34.967 | 6.10 |  |
| 2855 | 3.08 | 34.954 | 6.12 | 8.14 |
| 3140 | 2.81 | 34.941 | 6.15 |  |
| 3430** | 2.59 | 34.927 | 6.21 | 8.16 |
| 3815 | 2.420 | 34.917 | 6.18 |  |
| 4205* | 2.335 | 34.905 | 6.18 | 8.15 |
| 4695 | 2.300 | 34.897 | 6.18 |  |
| 5195* | 2.260 | 34.884 | 5.90 | 8.15 |

Station 5889; 14 April; $33^{\circ} 00^{\prime}$ N. $68^{\circ} 30^{\circ}$ W.; Depth 5170 m .

| 1 | 19.07 | 36.627 | 5.35 | 8.42 |
| :---: | :---: | :---: | :---: | :---: |
| 100 | 18.52 | 36.564 | 5.21 |  |
| 200 | 18.24 | 36.541 | 5.01 | 8.39 |
| 300 | 18.08 | 36.511 | 4.84 |  |
| 395* | 17.61 | 36.436 | 4.63 | 8.41 |
| 495 | 16.98 | 36.316 | 4.40 |  |
| 595* | 15.53 | 36.069 | 4.23 | 8.32 |
| 695 | 13.65 | 35.768 | 3.82 |  |
| 795* | 11.27 | 35.446 | 3.51 | 8.18 |
| 995 | 7.02 | 35.112 | 4.23 |  |
| 1195* | 5.19 | 35.056 | 5.31 | 8.13 |
| 1395 | 4.54 | 35.022 | 5.72 |  |
| 1595* | 4.15 | 34.997 | 6.03 | 8.13 |
| 1865* | 3.79 | 34.980 | 6.20 | 8.15 |
| 2065 | 3.63 | 34.977 | 6.21 |  |
| 2265* | 3.54 | 34.992 ? | 6.11 | 8.17 |
| 2565 | 3.27 | 34.969 | 6.12 |  |
| 2860** | 3.00 |  | 6.04 |  |
| 3155 | 2.71 | 34.937 | 6.21 |  |
| 3455* | 2.52 | 34.925 | 6.24 | 8.15 |
| 3850 | 2.38 | 34.919 | 6.15 |  |
| 4245* | 2.325 | 34.908 | 6.12 | 8.15 |
| 4650 | 2.280 | 34.896 | 6.12 | 8.14 |
| 5155* | 2.160 | 34.877 | 5.84 | 8.16 |



Station 5891 ; 15 April; $34^{\circ} 02^{\prime}$ N. $66^{\circ} 28^{\prime}$ W.; Depth 5210 m .

| 1 | 18.38 | 36.549 | 5.54 | 8.19 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 100 | 18.28 | 36.540 | 5.25 |  | 1 | 20.36 | 36.556 | 5.52 | 8.24 |
| 200 | 18.24 | 36.541 | 5.24 | 8.22 | 95 | 18.56 | 36.546 | 5.27 | $\cdots$ |
| 300 | 18.16 |  | 5.12 |  | 195 | 18.34 | 36.544 | 5.12 | 8.21 |
| 400* | 18.04 | 36.512 | 4.92 | 8.16 | 290 | 18.16 | 36.522 | 5.00 |  |
| 500 | 17.91 | 36.494 | 4.89 | 8.16 | 385******* | 18.05 | 36.507 | 4.94 | 8.31 |
| 600* | 16.78 | 36.280 | 4.38 | 8.10 | 585* | 17.24 | 36.360 | 4.51 | 8.26 |
| 700 | 15.46 | 36.048 | 4.01 | - | 680 | 15.83 | 36.112 | 4.06 |  |
| 800* | 12.98 | 35.704 | 3.59 | 7.93 | 780* | 13.58 | 35.757 | 3.76 | 8.06 |
| 995 | 8.28 | 35.141 | 3.64 | - | 975 | 8.97 | 35.146 | 3.25 | 7.85 |
| 1195** | 5.73 | 35.074 | 5.07 | 7.88 | 1170* | 5.64 | 35.018 | 4.95 | 7.86 |
| 1395 | 4.78 | 35.038 | 5.70 |  | 1370 | 4.77 | 35.019 | 5.62 | 7.76 |
| 1595* | 4.32 | 35.013 | 5.84 | 7.93 | 1570* | 4.32 | 34.994 | 5.91 | 7.89 |
| 1810* | 3.96 | 34.983 | 6.08 | 7.93 | 1565* | 4.30 | 34.993 | 5.87 | 7.87 |
| 2010 | 3.79 | 34.988 | 6.12 |  | 1755 | 4.03 | 34.977 | 6.07 | 7.80 |
| $2310^{*}$ | 3.55 | 34.972 | 6.15 | 7.88 | 2040* | 3.77 | 34.968 | 6.19 | 7.81 |
| 2605 | 3.35 | 34.979 | 6.06 | . 8 | 2325 | 3.57 | 34.967 | 6.15 | 7.81 |
| 2905* | 3.08 | 34.963 | 6.18 | 7.99 | 2610** | 3.33 | 34.964 | 6.19 | 7.83 |
| 3205 | 2.80 | 34.944 | 6.14 | - | 2895 | 3.09 | 34.960 | 6.15 | 7.77 |
| 3500* | 2.60 | 34.928 | 6.19 | 7.95 | 3180** | 2.87 | 34.944 | 6.20 | 7.77 |
| 3900 | 2.43 | 34.917 | 6.16 |  | 3565 |  | 34.927 | 6.18 |  |
| 4300* | 2.36 | 34.908 | 6.18 | 7.93 | 3945 | 2.38 | 34.912 | 6.19 | 7.81 |
| 4695 | 2.32 | 34.901 | 6.08 |  | 4330 | 2.305 | 34.905 | 6.29 | 7.81 |
| 5095 | 2.300 | 34.892 | 6.04 | 7.89 | 4715 | 2.30 | 34.899 | 6.10 | 7.80 |
| 5195* | 2.27 | 34.888 | 6.05 | 7.91 | 4815* | 2.325 ? | 34.899 | 6.14 | 7.76 |


| Depth, meters | Temperature, ${ }^{\circ} \mathrm{C}$ | $\begin{aligned} & \text { Salinity, } \\ & \% \% \end{aligned}$ | $\begin{gathered} \mathbf{O}_{2} \\ \mathrm{ml} / \mathrm{l} \end{gathered}$ | pH | Depth, meters | Temperature, ${ }^{\circ} \mathrm{C}$ | Salinity, | $\underset{\mathrm{ml} / \mathrm{l}}{\text { m }}$ | pH |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Station 5894; 16 April; $35^{\circ} 58^{\prime}$ N. $66^{\circ} 26^{\prime}$ W.; Depth 5028 m . |  |  |  |  | Station 5896; 17 April; $37^{\circ} 00^{\prime} \mathrm{N} .66^{\circ} 30^{\prime} \mathrm{W}$. Depth 5000 m . |  |  |  |  |
| $\begin{aligned} & 1 \\ & 95 \\ & 195 \\ & 290 \\ & 385^{*} \end{aligned}$ | 19.94 | 36.539 | 5.27 | 8.20 | 1 | 22.01 | 36.48336.567 | 4.99 | 8.28 |
|  | 18.69 | 36.537 | 5.12 |  | 95 |  |  |  |  |
|  | 17.95 | 36.482 | 4.69 | 8.07 | 185 | 18.42 | 36.523 | 4.73 | 8.22 |
|  | 17.84 | 36.491 | 4.86 |  | 275 | 18.12 | 36.488 | 4.58 |  |
|  | 17.85 | 36.505 | 5.07 | 8.10 | 370* | 17.74 | 36.439 | 4.54 | 8.05 |
| ${ }^{480}{ }^{\text {580* }}$ | 17.68 | 36.467 | 4.79 |  | 460 | 17.32 | 36.380 | 4.49 |  |
|  | 16.84 | 36.289 | 4.34 | 8.06 | $5500^{*}$ | 16.57 | 36.258 | 4.39 | 8.18 |
| $\begin{aligned} & 580^{4} \\ & 675 \end{aligned}$ | 15.64 13.62 | 36.080 35.774 | 4.04 3.71 |  | ${ }_{734} 78$ | 15.24 13.33 | 36.030 35.718 | 4.01 <br> 3.58 |  |
| 770* | 13.62 8.11 | 35.774 <br> 35.114 | 3.71 3.59 | 7.94 7.84 | $730^{*}$ 910 | 13.33 8.54 | 35.718 35.119 | 3.58 3.46 | 8.09 7.95 |
| 1145* | 5.31 | 35.004 | 5.14 | 7.88 | 1095* | 5.62 | 35.011 | 4.95 | 7.97 |
| 11350 | 4.64 | 35.000 | 5.67 | 7.89 | 1290 | 4.75 | 35.007 | 5.52 | 7.96 |
| 1520** | 4.25 | 34.985 | 5.95 | 7.89 | 1485* | 4.32 | 34.990 | 6.02 | 8.00 |
| $\begin{aligned} & 1665^{*} \\ & 1855 \end{aligned}$ | 4.01 | 34.975 | 6.15 | 7.94 | 1790* | 3.89 | 34.967 34 | 6.18 | 8.01 |
|  | 3.84 | 34.965 | 6.26 | 7.95 | 1975 | 3.74 | 34.964 | 6.20 | 8.00 |
| $\begin{aligned} & 1855 \\ & 2140^{*} \end{aligned}$ | 3.66 | 34.972 | 6.27 | 7.94 | 2260* | 3.59 | 34.967 | 6.32 | 8.01 |
| $2440^{-}$ | 3.43 | 34.960 | 6.20 | 7.94 | 2545 | 3.36 | 34.963 | 6.14 | 8.01 |
|  | 3.21 | 34.958 | 6.14 | 7.93 | 2835* | 3.15 | 34.957 | 6.18 |  |
| $\begin{aligned} & 2715^{\circ} \\ & \hline \end{aligned}$ | 2.96 | 34.959 | 6.19 | 7.93 | 3120 | 2.92 | 34.947 | 6.19 | 8.03 |
| $3290{ }^{*}$ | 2.71 | 34.936 | 6.26 | - | 3405* | 2.71 | 34.934 | 6.25 |  |
| 3675 | 2.46 | 34.920 | 6.21 | 7.90 | 3695 |  | 34.923 | 6.19 | 8.00 |
| $\begin{aligned} & 4060^{*} \\ & 4445 \end{aligned}$ | 2.31 2.30 | 34.916 34.899 | 6.20 6.19 | 7.89 | 4090 | 2.350 2.305 | 34.902 | 6.14 |  |
| 4830 | 2.30 | 34.897 | 6.14 | 7.90 | 4875 | 2.300 | 34.989 34.899 | 6.14 6.14 | ${ }_{8.01}^{8.00}$ |
| 4925* | 2.33 ? | 34.892 | 6.08 | 7.91 | 4975* | 2.340 | 34.894 | 6.08 | 8.02 |
|  |  |  |  |  |  |  |  |  |  |
| 100 | 21.95 | 36.473 | 5.05 | 8.16 |  | 22.24 | 36.480 | 5.02 | 8.28 |
| 195 | 18.43 | 36.512 | 5.15 |  | 100 | 18.92 | 36.455 36519 | 5.09 |  |
|  | 18.16 | 36.493 3689 | 5.14 | 8.09 | 200 | 18.12 | 36.519 | 4.86 4.99 | 8.24 |
| $\stackrel{295}{390 *}$ | 17.36 17.21 | 36.289 36.286 | 5.08 4.91 | 8.06 | 395** | 17.91 17.89 | 36.520 36.531 | 4.99 5.05 | 9.25 |
| $390^{*}$ 480 | 16.50 | 36.229 | 4.08 |  | 495 | 17.82 | 36.502 | 4.93 |  |
| 575* | 15.09 | 35.994 | 3.79 | 7.95 | 595* | 16.71 | 36.264 | 4.26 | 8.19 |
| 665 | 13.28 | 35.708 | 3.55 |  | 695 | 14.60 | 35.917 | 3.88 |  |
|  | 10.51 | 35.322 | 3.28 | 7.81 | 795* | 12.46 | 35.635 | 3.61 | 7.99 |
| 755** | 7.15 | 35.054 | 4.05 | 7.76 | 990 | 7.49 | 35.096 | 3.89 | 7.88 |
| 1095** | 5.18 | 35.008 | 5.27 | 7.78 | ${ }^{1185}{ }^{\text {c }}$ | 5.03 | 35.021 | 5.39 | 7.90 |
| ${ }_{1} 1280$ | 4.55 | 34.999 | 5.76 | 7.80 | 1380 | 4.36 | 35.000 | 5.85 | 7.93 |
| 1470** | 4.19 | 34.984 | 6.06 | 7.86 | 1575* | 4.02 | 34.985 | 6.08 | 7.99 |
| ${ }_{1880}^{1700^{*}}$ | 3.91 | 34.974 | 6.09 | 7.85 | 1680* | 3.99 | 34.983 | 6.08 | 7.96 |
|  | 3.80 | 34.976 | 6.20 | 7.86 | 1870 | 3.82 | 34.970 | 6.14 | 7.98 |
| 2060* | 3.68 | 34.970 | 6.20 | 7.88 | 2065* | 3.66 | 34.983 | 6.20 | 7.96 |
| 2330 | 3.54 | 34.966 | 6.01 | 7.94 | 2350 | 3.46 | 34.968 | 6.13 | 7.99 |
| $\begin{aligned} & 2600^{*} \\ & 2875 \end{aligned}$ | 3.33 3 | 34.963 34 | 6.16 | 7.94 | ${ }_{2640}$ | 3.23 29 | 34.962 <br> 34958 | 6.29 |  |
| 3150** | 3.08 2.84 | 34.954 $\mathbf{3 4 . 9 4 0}$ | 6.15 6.26 | $\overline{7.91}$ | 2930 3220 | 2.99 2.76 | 34.958 34.941 | 6.12 6.18 | 7.98 |
| 3525 | 2.55 | 34.923 | 6.22 |  | 3610 | 2.47 | 34.926 | 6.15 | 7.98 |
| 3900** | 2.375 | 34.912 | 6.25 | 7.91 | 4000** | 2.330 | 34.914 | 6.14 |  |
| $\begin{aligned} & 4275 \\ & 4655 \end{aligned}$ | 2.315 | 34.904 | 6.18 | 7.89 | 4385 | 2.305 | 34.901 | 6.12 | 7.99 |
|  | 2.305 235 | 34.899 | ${ }_{6}^{6.13}$ | 7.92 |  | 2.30 | 34.901 34.905 | 6.12 | 7.99 |
| 4750* | 2.335 ? | 34.909 ? | 6.13 | 7.94 | 4875* | 2.35 ? | 34.905 | 6.02 | 7.99 |


| Depth, meters | Temperature, ${ }^{\circ} \mathrm{C}$ | Salinity, $\%$ | $\begin{gathered} \mathrm{O}_{2} \\ \mathrm{mi} / \mathrm{l} \end{gathered}$ | pH | Depth, meters | Temperature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | $\begin{gathered} \mathrm{O}_{8} \\ \mathrm{ml} / \mathrm{t} \end{gathered}$ | pH |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Station 5898; 17 April; $38^{\circ} 02^{\prime}$ N. $66^{\circ} 25^{\prime}$ W.; Depth 4800 m . |  |  |  |  | Station 5900; 18 April; $39^{\circ} 01^{\prime}$ N. $66^{\circ} 29^{\prime}$ W.; Depth 4565 m . |  |  |  |  |
| 1 | 22.66 | 36.368 | 4.99 | 8.35 | 1 | 14.28 | 35.398 | 6.46 | 8.16 |
| 90 | 21.01 | 36.654 | 3.56 | - | 95 | 11.97 | 35.362 | 5.28 |  |
| 175 | 17.96 | 36.394 | 3.54 | 8.11 | 195 | 11.07 | 35.340 | 4.20 | 7.99 |
| 260 | 11.71 | 35.113 | 4.98 | - | 290 | 8.60 | 35.110 | 3.35 | - |
| $340 *$ | 10.87 | 35.132 | 4.82 | 8.05 | 385 ${ }^{\text {* }}$ | 7.01 | 35.056 | 4.08 | - |
| 420 | 10.94 | 35.362 | 3.61 | - | 485 | 5.40 | 35.010 | 4.98 |  |
| 485* | 8.76 | 35.131 | 3.53 | 7.91 | 580* | 4.90 | 35.002 | 5.55 | 7.92 |
| 550 | 7.08 | 35.030 | 4.02 | - | 675 | 4.66 | 35.000 | 5.61 | . |
| 615* | 6.44 | 35.055 | 4.44 | 7.90 | 775* | 4.46 | 35.000 | 5.78 | 7.96 |
| 735 | 4.81 | 34.937 | 5.47 | 7.94 | 970 | 4.10 | 34.981 | 6.02 | 7.94 |
| 865* | 4.49 | 34.955 | 5.81 | 7.95 | 1170* | 3.89 | 34.975 | 6.14 | 7.96 |
| 995 | 4.32 | 34.973 | 5.88 | 7.95 | 1365 | 3.74 | 34.968 | 6.25 | 8.11 |
| 1135* | 4.17 | 34.981 | 6.01 | 7.97 | 1565* | 3.64 | 34.964 | 6.20 | 7.96 |
| 1185* | 4.14 | 34.984 | 6.05 | 7.96 | 1770* | 3.53 | 34.981 | 6.20 | 8.00 |
| 1315 | 4.04 | 34.979 | 6.14 | 7.99 | 1960 | 3.44 | 34.970 | 6.21 | 8.00 |
| 1445* | 3.88 | 34.970 | 6.20 | 7.99 | 2155** | 3.27 | 34.964 | 6.24 | 8.00 |
| 1650 | 3.72 | 34.963 | 6.24 | 8.00 | 2350 | 3.11 | 34.957 | 6.20 | 8.00 |
| 1850* | 3.60 | 34.961 | 6.31 | - | 2635* | 2.82 | 34.944 | 6.21 | 8.08 |
| 2055 | 3.48 | 34.965 | 6.18 | 8.01 | 2925 | 2.57 | 34.936 | 6.24 | - |
| 2265* | 3.35 | 34.965 | 6.19 | 8.01 | 3215* | 2.43 | 34.925 | 6.22 | 7.99 |
| 2490 | 3.180 | 34.953 | 6.18 | 8.01 | 3505 | 2.30 | 34.912 | 6.20 |  |
| 2800* | 2.94 | 34.954 | 6.22 | - | 3895 | 2.25 | 34.907 | 6.18 | 7.98 |
| 3115 | 2.67 | 34.934 | 6.26 | 8.00 | 4295 | 2.255 | 34.914 ? | 6.22 | 7.97 |
| 3480 $3560 *$ | 2.43 2.405 | 34.922 34.915 | 6.24 6.20 | 8.00 7.99 | 4490* | 2.26 | 34.906 | 6.18 | 7.70 ? |
| 3560* | 2.405 | 34.915 | 6.20 | 7.99 |  |  |  |  |  |

Station 5899; 18 April; $38^{\circ} 30^{\prime}$ N. $66^{\circ} 32^{\prime}$ W.; Depth 4621 m .

|  |  |  |  |  |  | 13.17 | 34.820 | 7.04 | 8.24 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 15.27 | 34.837 | 6.14 | 8.23 | 50 | 12.35 | 35.356 | 5.73 |  |
| 95 | 11.92 | 35.296 | 4.64 | - | 95 | 12.62 | 35.483 | 5.52 |  |
| 185 | 10.66 | 35.291 | 3.85 | 8.01 | 195 | 11.27 | 35.328 | 4.40 | 8.01 |
| 280 | 8.11 | 35.082 | 3.49 | - | 290* | 9.00 | 35.136 | 3.38 |  |
| 375* | 6.61 | 35.055 | 4.26 | 7.96 | 385 | - | 35.040 | 4.12 | 7.86 |
| 470 | 5.36 | 35.026 | 5.14 | - | 480 | 5.82 | 35.011 | 4.80 |  |
| 565* | 4.82 | 34.997 | 5.38 | 7.95 | 575* | 5.09 | 35.018 | 5.29 | 7.94 |
| 660 | 4.57 | 35.001 | 5.73 | -7 | 670* | 4.75 | 35.002 | 5.58 | 7.92 |
| 755* | 4.42 | 35.002 | 5.79 | 7.97 | 765 | 4.54 | 35.004 | 5.80 | 7.92 |
| 950 | 4.15 | 34.990 | 6.04 | 7.96 | 960* | 4.18 | 34.988 | 5.92 |  |
| 1140* | 3.91 | 34.975 | 6.14 | 8.00 | 1155 | 3.93 | 34.975 | 6.14 | 7.94 |
| 1335 | 3.78 | 34.972 | 6.20 | 8.00 | 1355* | 3.76 | 34.970 | 6.19 | 7.96 |
| 1530 | 3.66 | 34.965 | 6.22 | 8.03 | 370* | 7.28 | 35.030 | 3.96 | 7.91 |
| 1730* | 3.60 | 34.973 | 6.19 | $7.65 ?$ | 1515* | 3.71 | 34.969 | 6.26 | 7.92 |
| 1925 | 3.46 | 34.968 | 6.19 | 7.91 | 1710 | 3.60 | 34.970 | 6.25 | 7.95 |
| 2120* | 3.34 | 34.970 | 6.16 | 7.94 | 1900* | 3.47 | 34.967 | 6.25 | 7.95 |
| 2310 | 3.19 | 34.966 | 6.21 | 7.95 | 2190 | 3.26 | 34.965 | 6.15 | 7.95 |
| 2605* | 2.96 | 34.949 | 6.20 | 7.94 | 2480* | 3.04 | 34.956 | 6.33 | 7.96 |
| 2895 | 2.70 | 34.940 | 6.24 | $\bigcirc$ | 2775 | 2.81 | 34.944 | 6.20 | 7.96 |
| 3185* | 2.49 | 34.925 | 6.27 | 7.97 | 3065** | 2.61 | 34.946 | 6.24 |  |
| 3580 | 2.310 | 34.921 | 6.25 | 7.9 | 3360 | 2.43 | 34.926 | 6.25 | 7.96 |
| 3970 | 2.260 | 34.904 | 6.18 | 7.95 | 3655* | 2.290 | 34.914 | 6.28 | - |
| 4365 | 2.235 | 34.897 | 6.16 | 8.17 | 3945 | 2.240 | 34.907 | 6.20 | 7.96 |
| 4565* | 2.235 | 34.896 | - | 8.17 | 4240 | 2.220 | 34.903 | 6.16 | 7.95 |


| Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | $\underset{\mathrm{ml} / \mathrm{I}}{\mathrm{O}}$ | Depth, meters | Temperature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | $\begin{gathered} \mathrm{O} \\ \mathrm{ml} / \mathrm{l} . \end{gathered}$ | pH |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Station 5902; 18 April; $39^{\circ} 4 I^{\prime} \mathrm{N}$. $66^{\circ} 29^{\prime}$ W.; Depth 4012 m . |  |  |  | Station 5903; 19 April; $40^{\circ} 00^{\prime}$ N. $66^{\circ} 29^{\prime}$ W.; Depth 3495 m. |  |  |  |  |
| 1 | 13.19 | 35.414 | 6.97 | 1 | 7.82 | 33.217 | 7.39 | 7.95 |
| 45 | 12.81 | 35.448 | 6.24 | 45 | 12.91 | 35.520 | 5.68 | 8.05 |
| 90 | 11.76 | 35.279 | 5.00 ? | 90 | 12.86 | 35.530 | 5.40 | 8.02 |
| 180 | 11.97 | 35.440 | 5.35? | 185 | 11.87 | 35.410 | 4.95 | 7.87 |
| 270* | 10.41 | 35.310 | 3.21 | 275* | 10.91 | 35.405 | 3.24 | - |
| 360 | 8.13 | 35.128 | 3.75 | 370 | 8.74 | 35.132 | 3.29 | 7.81 |
| 455* | 6.66 | 35.030 | 4.22 | 465* | 6.74 | 35.042 | 4.20 |  |
| 545 | 5.39 | 35.011 | 5.22 | 560 | 5.66 | 35.030 | 4.86 | 7.80 |
| 640* | 4.93 | 35.003 | 5.39 | 655* | 4.98 | 35.037 | 5.40 | - |
| 735 | 4.61 | 34.996 | 5.65 | 755 | 4.66 | 35.010 | 5.67 | 7.87 |
| 920* | 4.22 | 34.983 | 5.94 | 945* | 4.26 | 34.992 | 5.91 | 7.82 |
| 1115 | 3.99 | 34.978 | 6.13 | 1145 | 4.05 | 34.986 | 6.08 | 7.78 |
| 1310* | 3.81 | 34.969 | 6.20 | 1340* | 3.82 | 34.985 | 6.20 | 8.04 |
| 1520 | 3.72 | 34.968 | 6.26 | 1485* | 3.76 | 34.970 | 6.20 | 7.78 |
| 1695 | 3.59 | 34.968 | 6.20 | 1685 | 3.65 | 34.978 | 6.24 | 7.8 |
| 1875* | 3.46 | 34.967 | 6.21 | 1885* | 3.52 | 34.968 | 6.23 | 7.87 |
| 2060 | 3.35 | 34.964 | 6.21 | 2080 | 3.41 | 34.968 | 6.20 |  |
| 2240* | 3.18 | 34.960 | 6.20 | 2280** | 3.25 | 34.962 | 6.21 | 7.86 |
| 2520 | 2.98 | 34.953 | 6.22 | 2480 | 3.09 | 34.959 | 6.22 | - |
| 2800* | 2.665 | 34.937 | 6.26 | 2675* | 2.950 | 34.950 | 6.20 | 7.86 |
| 3085 | 2.41 | 34.925 | 6.32 | 2975 | 2.70 | 34.960 ? | 6.27 |  |
| 3370* | 2.29 | 34.913 | 6.33 | 3275** | 2.405 | 34.923 | 6.34 | 7.84 |
| 3650 | 2.245 | 34.908 | 6.32 | 3470** | 2.120 | 34.902 | 6.19 | 7.84 |
| 3935* | 2.200 | 34.903 | 6.21 |  |  |  |  |  |
| Station 5904; 19 April; $40^{\circ} 19^{\prime} \mathrm{N}$. $66^{\circ} 28^{\prime}$ W.; Depth 2940 m. |  |  |  |  |  |  |  |  |
| 11 | 7.79 | 33.324 3573 | 7.46 |  |  |  |  |  |
| 45 | 13.62 | 35.730 | 5.55 |  |  |  |  |  |
| 95 | 13.28 | 35.656 | 5.56 |  |  |  |  |  |
| 185 | 11.82 | 35.428 | 4.37 |  |  |  |  |  |
| 280* | 10.05 | 35.265 | 3.20 | 1 | 6.10 | 32.970 | 7.52 | 7.80 |
| 370 | 7.97 | 35.094 | 3.68 | 50 | 8.14 | 34.140 | 6.29 | 7.90 |
| 465* | 6.39 | 35.029 | 4.49 | 100 | 10.93 | 35.119 | 6.59 | 7.98 |
| 555 | 5.31 | 34.995 | 5.11 | 200 | 9.59 | 35.203 | 3.28 | 7.60 |
| 645* | 4.94 | 34.993 | 5.47 | $300 *$ | 7.70 | 35.078 | $\therefore .69$ | 7.55 |
| 735 | 4.64 | 34.993 | 5.66 | 395 | 6.26 | 35.016 | 4.48 | 7.55 |
| $830^{*}$ | 4.47 | 34.996 | 5.79 | 495* | 5.36 | 34.997 | 5.05 | 7.73 |
| 925 | 4.39 | 34.995 | 5.85 | 595 | 4.91 | 34.986 | 5.46 | 7.74 |
| 1115* | 4.00 | 34.976 | 6.11 | 695* | 4.46 | 34.965 | 5.86 | 7.84 |
| 1275* | 3.86 | 34.969 | 6.19 | 795 | 4.33 | 34.961 | 5.94 | 7.85 |
| 1470 | 3.71 | 34.962 | 6.32 | 895* | 4.22 | 34.967 | 6.00 | 7.76 |
| 1660** | 3.61 | 34.959 | 6.41 | 975* | 4.14 | 34.960 | 6.12 | 7.74 |
| 1855 | 3.50 | 34.962 | 6.29 | 1175 | 3.98 | 34.971 | 6.20 | 7.76 |
| 2050* | 3.38 | 34.966 | 6.26 | 1375** | 3.86 | 34.964 | 6.25 | 7.79 |
| 2250 | 3.25 | 34.960 | 6.20 | 1570 | 3.73 | 34.955 | 6.27 | 7.87 |
| 2445* | 3.08 | 34.956 | 6.22 | 1770** | 3.65 | 34.956 | 6.32 | 7.88 |
| 2645 | 2.870 | 34.944 | 6.22 | 2070 | 3.48 | 34.959 | 6.35 | 7.94 |
| 2940* | 2.700 | 34.935 | 6.34 | 2370 | 3.26 | 34.966 | 6.29 | 7.97 |




| Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | $\begin{gathered} \mathrm{O}_{2} \\ \mathrm{ml} / \mathrm{l} . \end{gathered}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | $\underset{\mathrm{ol}}{\mathrm{O}_{2}} \mathrm{l} .$ | Depth, meters | Tem-регаture, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | $\begin{gathered} \mathrm{O}_{2} \\ \mathrm{ml} / \mathrm{l} \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Station 5920; 24 April; $36^{\circ} 59^{\prime} \mathrm{N}$. $64^{\circ} 31^{\prime} \mathrm{W}$.; Depth 4934 m . |  |  |  | Station 5922; 24 April; $35^{\circ} 59^{\prime} \mathrm{N}$. $64^{\circ} 33^{\prime}$ W.; Depth 4856 m . |  |  |  | Station 5924; 25 April; $34^{\circ} 58^{\prime} \mathrm{N}$. $64^{\circ} 28^{\prime}$ W.; Depth 4944 m. |  |  |  |
| 1 | 19.11 | 36.583 | 5.41 | 1 | 18.47 | 36.353 | 5.56 | 1 | 19.31 | 36.577 | 5.38 |
| 95 | 18.64 | 36.564 | 5.03 | 100 | 16.93 | 36.298 | 4.92 | 100 | 18.59 | 36.548 | 5.00 |
| 195 | 18.38 | 36.551 | 4.98 | 200 | 14.35 | 35.807 | 4.12 | 195 | 18.25 | 36.537 | 5.00 |
| 290 | 18.19 | 36.526 | 4.93 | 300 | 12.40 | 35.568 | 3.43 | 295 | 18.18 | 36.526 | 4.99 |
| 380* | 17.83 | 36.454 | 4.63 | 395* | 10.21 | 35.289 | 3.22 | 390* | 17.97 | 36.490 | 4.80 |
| 475 | 17.36 | 36.386 | 4.62 | 495 | 8.44 | 35.114 | 3.39 | 490 | 17.49 | 36.405 | 4.55 |
| 575* | 16.27 | 36.198 | 4.42 | 595* | 6.96 | 35.058 | 4.03 | 565* | 16.23 | 36.179 | 4.20 |
| 670 | 14.46 | 35.893 | 3.76 | 695 | 5.98 | 35.037 | 4.74 | 680 | 14.55 | 35.900 | 3.92 |
| 760* | 12.54 | 35.606 | 3.49 | 795* | 5.34 | 35.048 | 5.16 | 780* | 12.40 | 35.578 | 3.40 |
| 955 | 8.03 | 35.117 | 3.72 | 995 | 4.48 | 35.000 | 5.75 | 970 | 8.08 | 35.089 | 3.54 |
| 1145* | 5.31 | 35.011 | 5.29 | 1190* | 4.13 | 34.984 | 6.03 | 1160* | 5.19 | 34.997 | 5.19 |
| 1335 | 4.57 | 35.007 | 5.72 | 1390 | 3.92 | 34.972 | 6.13 | 1355 | 4.52 | 34.988 | 5.67 |
| 1530* | 4.16 | 34.990 | 6.02 | 1590* | 3.75 | 34.967 | 6.21 | 1550* | 4.23 | 34.990 | 5.98 |
| 1695* | 4.01 | 34.989 | 6.13 | 1745* | 3.68 | 34.966 | 6.21 | 1745* | 3.95 | 34.970 | 6.13 |
| 1875 | 3.86 | 34.984 | 6.15 | 1940 | 3.54 | 34.969 | 6.17 | 1935 | 3.79 | 34.967 | 6.16 |
| 2150* | 3.65 | 34.980 | 6.31 | 2140* | 3.46 | 34.989 ? | 6.15 | 2120** | 3.66 | 34.968 | 6.21 |
| 2425 | 3.45 | 34.970 | 6.17 | 2440 | 3.21 | 34.984? | 6.09 | 2305 | 3.53 | 34.967 | 6.11 |
| 2700* | 3.26 | 34.962 | 6.13 | 2735* | 2.97 | 34.949 | 6.16 | 2590* | 3.34 | 34.963 | 6.11 |
| 2980 | 2.99 | 34.954 | 6.11 | 3030 | 2.73 | 34.941 | 6.14 | 2870 | 3.06 | 34.945 | 6.10 |
| 3260* | 2.77 | 34.944 | 6.16 | 3330** | 2.51 | 34.932 | 6.17 | 3150* | 2.810 | 34.937 | 6.17 |
| 3635 | 2.48 | 34.924 | 6.15 | 3625 | 2.38 | 34.918 | 6.13 | 3430 | 2.600 | 34.926 | 6.21 |
| 4015* | 2.325 | 34.915 | 6.24 | 3925* | 2.305 | 34.913 | 6.13 | 3715* | 2.410 | 34.914 | 6.20 |
| 4405 | 2.295 | 34.906 | 6.13 | 4320 | 2.285 | 34.902 | 6.15 | 3995 | 2.345 | 34.909 | 6.16 |
| 4600 | 2.285 | 34.901 | 6.10 | 4715' | 2.295 | 34.901 | 6.06 | 4380 | 2.315 | 34.902 | 6.14 |
| 4800* | 2.300 | 34.900 | 6.05 | 4815* | 2.30 | 34.896 | 6.08 | 4765* | 2.325 | 34,909 | 6.13 |
| Station 5921; 24 April; $36^{\circ} 29^{\prime} \mathrm{N}$. $64^{\circ} 32^{\prime}$ W.; Depth 4931 m. |  |  |  | Station 5923; 25 April; $35^{\circ} 28^{\prime} \mathrm{N}$. $64^{\circ} 22^{\prime} \mathrm{W}$.; Depth 4956 m . |  |  |  | Station 5925; 25 April; $33^{\circ} 58^{\prime} \mathrm{N}$ $64^{\circ} 28^{\prime}$ W.; Depth 4535 m . |  |  |  |
|  | 19.15 | 36.580 | 5.30 | 0 | 20.35 | 36.560 | 5.13 | 1 | 19.82 | 36.623 | 5.32 |
| 90 | 18.73 | 36.569 | 5.04 | 100 | 18.24 | 36.536 | 5.21 | 100 | 18.83 | 36.565 | 5.16 |
| 170 | 18.23 | 36.530 | 4.93 | 195 | 17.77 | 36.420 | 5.09 | 195 | 18.49 | 36.537 | 4.81 |
| 255 | 17.94 | 36.502 | 4.86 | 290 | 17.60 | 36.422 | 4.78 | 295 | 18.34 | 36.543 | 5.15 |
| 335* | 17.34 | 36.387 | 4.65 | 385* | 16.75 | 36.271 | 4.17 | 390* | 18.23 | 36.538 | 4.98 |
| 415 | 16.16 | 36.174 | 4.69 | 480 | 14.92 | 35.969 | 3.70 | 485 | 17.96 | 36.489 | 4.78 |
| 490* | 14.14 | 35.810 | 4.32 | 570* | 12.93 | 35.672 | 3.47 | 585* | 17.52 | 36.411 | 4.74 |
| 560 | 12.53 | 35.626 | 3.44 | 655 | 10.32 | 35.303 | 3.22 | 685 | 16.60 | 36.249 | 4.25 |
| 630* | 10.70 | 35.364 | 3.29 | 745* | 8.45 | 35.131 | 3.45 | 780* | 14.28 | 35.821 | 4.55 |
| 765 | 7.87 | 35.090 | 3.63 | 920 | 5.75 | 35.026 | 4.81 | 980 | 9.68 | 35.226 | 3.20 |
| $905^{*}$ | 5.91 | 35.036 | 4.74 | 1095* | 4.75 | 35.018 | 5.54 | 1175* | 6.07 | 35.032 | 4.74 |
| 1060 | 5.11 | 35.032 | 5.27 | 1275 | 4.38 | 35.003 | 5.81 | 1375 | 4.74 | 35.009 | 5.81 |
| 1225* | 4.52 | 35.013 | 5.71 | 1465* | 4.10 | 34.983 | 6.00 | 1570* | 4.30 | 34.993 | 5.92 |
| 1045* | 5.16 | 35.029 | 5.27 | 1605* | 3.95 | 34.970 | 6.08 |  |  |  |  |
| 1220 | 4.62 | 35.010 | 5.65 | 1790 | 3.79 | 34.966 | 6.16 |  |  |  |  |
| 1405* | 4.17 | 34.987 | 5.97 | 2070* | 3.61 | 34.966 | 6.20 |  |  |  |  |
| 1590 | 3.99 | 34.980 | 6.10 | 2355 | 3.44 | 34.966 | - |  |  |  |  |
| 1775* | 3.79 | 34.969 | 6.15 | 2640* | 3.19 | 34.960 | - |  |  |  |  |
| 1965 | 3.68 | 34.979 | 6.10 | 2930 | 2.93 | 34.946 | 6.13 |  |  |  |  |
| 2220** | 3.49 | 34.972 | 6.15 | 3220** | 2.72 | 34.934 | 6.16 |  |  |  |  |
| 2485 | 3.24 | 34.964 | 6.11 | 3510 | 2.53 | 34.925 | 6.19 |  |  |  |  |
| 2770* | 3.025 | 34.956 | 6.11 | 3905* | 2.345 | 34.912 | 6.16 |  |  |  |  |
| 3085 | 2.710 | 34.937 | 6.24 | 4295 | 2.300 | 34.902 | 6.21 |  |  |  |  |
| 3325 | 2.565 | 34.930 | 6.20 | 4495 | 2.295 | 34.899 | 6.13 |  |  |  |  |
| $3410^{*}$ | 2.510 | 34.925 | 6.17 | 4695* | 2.300 | 34.899 | 6.15 |  |  |  |  |


| Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\begin{gathered} \text { Salinity, } \\ \% \end{gathered}$ | $\underset{\mathrm{ol}}{\mathrm{o}} \mathrm{~m}$ | Depth, meters | Tem-perature, ${ }^{\circ}$ | $\underset{\%}{\text { Salinity, }}$ | $\begin{gathered} \mathbf{O}_{\mathbf{2}} \\ \mathrm{ml} / \mathrm{l} \end{gathered}$ | Depth, meters | Temture, ${ }^{\circ} \mathrm{C}$ | $\begin{gathered} \text { Salinity, } \\ \% \end{gathered}$ | $\begin{gathered} \mathbf{O}_{\mathbf{3}}^{\mathbf{m} / \mathrm{l} .} . \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Station 5926; 26 April; $32^{\circ}{ }^{\circ} 55^{\prime} \mathrm{N}$. <br> $64^{\circ} 27^{\prime}$ W.; Depth 4445 m. |  |  |  | Station 5928; 5 May; $38^{\circ} 37 \prime$ N. $65^{\circ} 02^{\prime} \mathbf{W}$.; Depth 4887 m. |  |  |  | Station 5930; 5 May; $37^{\circ} 58^{\prime} \mathrm{N}$. $64^{\circ} 53^{\prime}$ W.; Depth 4954 m . |  |  |  |
| 1 | 19.74 | 36.608 | 5.30 |  | 22.61 | 37.420 ? | 5.00 |  | 20.72 | 36.533 | 5.06 |
| 90 | 18.82 | 36.571 | 5.16 | 45 | 20.40 | 35.980 | 5.22 | 50 | 19.40 | 36.544 | 5.16 |
| 190 | 18.52 | 36.570 | 5.05 | 95 | 15.60 | 35.647 | 5.43 | 100 | 18.47 | 36.555 | 5.10 |
| 265 | 18.32 | 36.532 | 5.05 | 140 | 13.59 | 36.007 | 4.09 | 150 | 18.25 | 36.525 | 4.95 |
| 355 | 18.18 | 36.508 | 4.93 | 180** | 12.29 | 35.685 | 4.56 | 195* | 18.19 | 36.535 | 5.01 |
| 440 | 17.92 | 36.468 | 4.80 | 265 | 11.39 | 35.427 | 3.32 | 295 | 18.00 | 36.508 | 4.85 |
| 5304 | 17.30 | 36.380 | 4.68 | 345** | 9.42 | 35.169 35 | 3.44 | 395* | 17.85 | 36.541 | 4.85 |
| 620 | 16.23 | 36.186 | 4.15 | 430 | 8.07 | 35.065 | 3.39 | 495 | 17.50 | 36.412 | 4.53 |
| 705* | 14.60 | 35.924 | 3.92 | 510 |  | 34.968 | 5.43 | 590* | 16.14 | 36.164 | 4.04 |
| 795 | 12.42 | 35.596 | 3.67 | 590 | 5.49 | 34.999 | 4.91 | 690 | 14.66 | 35.920 | 3.74 |
| $980 *$ | 8.03 | 35.138 | 3.85 | 670* | 5.06 | 35.027 | 5.27 | 790* | 11.96 | 35.526 | 3.39 |
| 1170 | 5.85 | 35.079 | 4.86 | 755 | 4.81 | 35.018 | 5.45 | 890 | 9.12 | 35.153 | 3.06 |
| 1365** | 4.74 | 35.034 | 5.59 | 845** | 4.61 | 35.014 | 5.60 | 985* | 7.77 | 35.105 | 3.75 |
| 1580* | 4.25 | 35.004 | 5.90 | ${ }_{1030}$ | 4.21 | 34.986 3509 | 5.97 | 1185 | 5.37 | 35.030 | 5.00 |
| 1775 | 3.93 | 34.986 | 6.09 | 1230** | 4.00 | 35.009 | 5.29 | 1380** | 4.56 | 35.005 | 5.62 |
| 1975** | 3.80 | 34.982 | 6.16 | 1625* | 3.72 | 34.971 | 6.20 | 1375* | 4.49 | 35.003 | 5.94 |
| 2170 | 3.61 | 34.985 | 6.13 | 1910 | 3.59 | 34.969 | 6.16 | 1675 | 4.03 | 34.974 | 6.07 |
| 2370* | 3.44 | 34.972 | 6.13 | 2195* | 3.38 | 34.968 | 6.19 | 1970* | 3.76 | 34.968 | 6.18 |
| 2665 | 3.175 | 34.963 | 6.12 | 2475 | 3.15 | 34.959 | 6.14 | 2270 | 3.58 | 34.966 | 6.14 |
| 2960* | 2.92 | 34.950 | 6.13 | 2760* | 2.93 | 34.947 | 6.20 | 2565** | 3.39 | 34.964 | 6.10 |
| 3255 | 2.65 | 34.934 | 6.19 | 3040 | 2.66 | 34.942 | 6.15 | 2965 | 3.050 | 34.953 | 6.11 |
| 3655* | 2.370 | 34.921 | 6.19 | 3330** | 2.50 | 34.924 | 6.20 | 3360 |  | 34.988? | 6.22 |
| 4050 | 2.250 | 34.903 | 6.11 | 3705 | 2.315 | 34.911 | 6.15 | 3755 | 2.425 | 34.920 | 6.19 |
| 4345 | 2.245 | 34.899 | 6.01 | 4090** | 2.275 | 34.906 | 6.11 | 4150** | 2.315 | 34.910 | 6.14 |
| 4445* | 2.250 | 34.900 | 6.09 | 4475 | 2.285 | 34.904 | 6.20 | 4550 | 2.295 | 34.908 |  |
|  |  |  |  | 4870* | 2.285 | 34.911 | 6.09 | 4945* | 2.285 | 35.346? | $5.51 ?$ |
| Station 5927; 4 May; $38^{\circ} 56^{\prime} \mathrm{N}$. $65^{\circ} 12^{\prime}$ W.; Depth 4870 m . |  |  |  | Station 5929; 5 May; $38^{\circ} 18^{\prime} \mathrm{N}$. $64^{\circ} 56^{\prime}$ W.; Depth 4940 m. |  |  |  | Station 5931; $9 \mathrm{May} ; 38^{\circ} 16^{\prime} \mathrm{N}$. $65^{\circ} 02^{\prime}$ W.; Depth 4932 m . |  |  |  |
|  | 13.12 | 35.170 | 6.40 | 1 | 22.91 | 36.444 | 4.83 | - | 22.52 | 36.505 | 4.90 |
| 50 | 12.04 | 35.156 | 6.20 | 50 | 22.95 | 36.448 | 4.86 | 80 | 22.40 21.41 | 36.509 $\mathbf{3 6 . 6 3 5}$ | 4.95 4.79 |
| 100 | 11.90 | 35.202 | 5.73 | 100 |  | 36.635 |  | 80 120 | 20.66 | 36.635 36.634 | 4.79 |
| 150 | 11.40 | 35.336 <br> 35.338 | 4.74 <br> 3.75 | ${ }_{150}{ }^{20}$ | 19.14 | 36.560 36.501 | 4.25 | 120 160 | 20.66 19.07 | 36.634 36.546 | 4.67 5.06 |
| $200{ }^{\text {* }}$ | 10.87 | 35.338 35.300 | 3.53 3.33 | 200 300 | 18.30 | 36.501 | 4.37 | 240 | 18.07 | 36.546 36.504 | 4.83 |
| 300 | 8.42 | 35.100 | 3.33 | 300 395 | 17.93 | 36.522 |  | $320^{*}$ | 17.78 | 36.504 36.478 | 4.88 |
| $400^{*}$ | 6.47 | 35.032 | 4.34 | 395* | 17.77 | 36.501 | 4.95 4.14 | 400 | 17.61 | 36.430 36.430 | 4.50 |
| 500 | 5.49 | 35.017 | 4.91 | 495* | 16.31 | 36.210 | 4.14 |  |  |  |  |
| $600^{*}$ | 4.99 | 35.016 | 5.29 | 590* | 14.31 | 35.860 | 3.44 | 435* | 17.17 | 36.344 | 4.30 |
| 700 | 4.63 | 35.014 | 5.62 | 690 | 10.86 |  | 3.26 | 515 | 16.26 | 36.182 | 3.97 |
| ${ }^{800}$ | 4.38 | 34.991 | 5.77 | 785* | 8.54 | 35.128 | 3.35 | $57{ }^{59}$ | 14.05 | 35.837 | 3.76 |
| 900 | 4.24 | 34.993 | 5.88 | 880 | 6.37 | 35.024 | 4.36 | 670 | 11.80 | 35.505 | 3.44 |
| 1000* | 4.13 | 34.988 | 5.95 | 975* | 5.42 | 35.031 | 5.04 | 745* | 9.82 | 35.226 | 3.17 |
| 1200 | 3.90 | 34.976 | 6.10 | 1170 | 4.57 | 34.996 | 5.66 | 920 | 6.14 | 35.031 | 4.46 |
| 1395* | 3.76 | 34.970 | 6.14 | 1365* | 4.23 | 34.985 | 5.84 | 1100* | 4.53 | 34.973 | 5.65 |
| 1585* | 3.67 | 34.973 | 6.15 | 1645* | 3.91 | 34.972 | 6.24 | $1320{ }^{\circ}$ | 4.28 | 34.978 | 5.84 |
| 1880 | 3.53 | 34.970 | 6.14 | 1905 | 3.76 | 34.965 | 6.02 | 1570 | 4.05 | 34.968 | 6.05 |
| 2180* | 3.29 | 34.964 | 6.09 | 2165** | 3.59 | 34.967 | 6.10 | 1815* | 3.86 | 34.978 | 6.09 |
| 2480 | 3.04 | 34.957 | 6.14 | 2420 | 3.43 | 34.981 | 6.08 | 2065 | 3.66 | 34.969 | 6.14 |
| 2775* | 2.81 | 34.940 | 6.16 | 2680* | 3.19 | 34.960 | 6.14 | 2315* | 3.50 | 34.971 | 6.11 |
| 3075 | 2.59 | 34.935 | 6.16 | 2945 | 2.95 | 34.949 | 6.14 | 2575 | 3.28 | 34.965 | 6.08 |
| $3375{ }^{*}$ | 2.43 | 34.927 | 6.17 | 3215** | 2.735 | 34.940 | 6.09 | 2840** | 3.24 3.045 2 | 34.955 34.936 | 6.10 |
| 3675 | 2.320 | 34.917 | 6.15 | 3575 | 2.460 | 34.925 | 6.14 | 3215 | 2.715 | 34.936 | 6.16 |
| $4070^{*}$ 4470 | 2.275 | 34.907 | 6.15 6.08 | $3940 *$ 4315 | 2.335 2.290 | 34.914 34.906 | 6.10 6.08 | $3600 *$ 3975 | 2.430 | 34.920 34.912 | 6.15 |
| 4470 4870 | 2.270 $\mathbf{2 . 2 5 5}$ | 34.902 34.903 | 6.08 6.02 | 4315 ${ }_{\text {469** }}$ | 2.290 $\mathbf{2 . 2 0}$ | 34.906 34.903 | 6.08 $\mathbf{6 . 0 2}$ | 3975 $435{ }^{\text {a }}$ | 2.315 2.290 | 34.912 34.905 | 6.11 6.09 |


| Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | $\begin{gathered} \mathrm{O}_{2} \\ \mathrm{ml} / \mathrm{l} \end{gathered}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | Salinity, \% | $\underset{\mathrm{ml}}{\mathrm{O}_{2}} .$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | Salinity, $\%$ | $\begin{gathered} \mathrm{O}_{2} \\ \mathrm{ml} / \mathrm{l} . \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Station 5932; 9 May; $38^{\circ} 30^{\prime} \mathrm{N}$. $65^{\circ} 02^{\prime}$ W.; Depth 4910 m . |  |  |  | Station 5934; 11 May; $38^{\circ} 18^{\prime} \mathrm{N}$. $64^{\circ} 35^{\prime}$ W.; Depth 4989 m. |  |  |  | Station 5936; 13 May; $38^{\circ} 18^{\prime} \mathrm{N}$. $64^{\circ}$ 26' W.; Depth 4994 m. |  |  |  |
| 1 | 22.26 | 36.498 | 4.90 | 1 | 19.15 | 36.583 | 5.35 | 1 | 20.60 | 36.556 | 5.13 |
| 45 | 22.18 | 36.506 | 4.97 | 50 | 18.86 | 36.580 | 5.30 | 45 | 19.66 | 36.554 | 5.14 |
| 85 | 21.47 | 36.540 | 4.80 | 100 | 18.81 | 36.582 | 5.21 | 95 | 18.93 | 36.553 | 5.01 |
| 130 | 20.31 | 36.614 | 4.53 | 145 | 18.46 | 36.536 | 5.03 | 140 | 18.38 | 36.526 | 4.86 |
| 165* | 18.89 | 36.537 | 4.42 | 195** | 18.23 | 36.533 | 4.96 | 185* | 18.21 | 36.519 | 4.89 |
| 245 | 17.89 | 36.471 | 4.50 | 295 | 17.99 | 36.512 | 4.92 | 280 | 17.99 | 36.501 | 4.84 |
| 320* | 17.13 | 36.350 | 4.28 | 390* | 17.61 | 36.442 | 4.68 | 370* | 17.66 | 36.444 | 4.78 |
| 390 | 15.32 | 36.069 | 3.84 | 490 | 16.72 | 36.265 | 4.28 | 460 | 17.09 | 36.342 | 4.52 |
| 460* | 14.10 | 35.834 | 3.53 | 580* | 14.72 | 35.928 | 3.81 | 545* | 15.84 | 36.102 | 4.15 |
| 525 | 11.78 | 35.486 | 3.15 | 675 | 13.20 | 35.704 | 3.62 | 635 | 14.16 | 35.846 | 3.92 |
| 585* | 10.00 | 35.291 | 3.23 | 770* | 11.05 | 35.416 | 3.35 | 720** | 12.05 | 35.537 | 3.47 |
| 640 | 8.50 | 35.116 | 3.36 | 860 | 8.83 | 35.155 | 3.38 | 805 | 9.90 | 35.267 | 3.27 |
| 695* | 7.44 | 35.063 | 3.69 | 950* | 6.89 | 35.076 | 4.16 | 890* | 8.01 | 35.112 | 3.66 |
| 815 | 5.56 | 35.026 | 4.83 | 1140 | 4.83 | 34.991 | 5.45 | 1075 | 5.36 | 35.020 | 5.07 |
| 935* | 4.70 | 34.970 | 5.49 | 1330* | 4.40 | 34.987 | 5.79 | 1255* | 4.63 | 35.001 | 5.60 |
| 1125** | 4.36 | 34.987 | 6.09 | 1640** | 4.08 | 34.987 | 6.09 | 1530* | 4.17 | 34.987 | 3.36 |
| 1345 | 4.14 | 34.986 | 5.95 | 1900 | 3.88 | 34.974 | 6.10 | 1795 | 3.89 | 34.967 | 5.93 |
| 1560** | 3.92 | 34.980 | 6.03 | 2155* | 3.66 | 34.978 | 6.10 | 2055* | 3.69 | 34.968 | 6.11 |
| 1770 | 3.71 | 34.969 | 6.08 | 2415 | 3.45 | 34.970 | 6.09 | 2320 | 3.55 | 34.972 | 6.05 |
| 1975* | 3.62 | 34.974 | 6.10 | 2675* | 3.25 | 34.963 | 6.11 | 2590* | 3.33 | 34.966 | 6.09 |
| 2215 | 3.48 | 34.970 | 6.09 | 2950 | 2.99 | 34.950 | 6.09 | 2960 | 3.04 | 34.953 | 6.11 |
| 2540* | 3.20 | 34.961 | 6.11 | 3305* | 2.60 | 34.932 | 6.16 | 3330** | 2.66 | 34.932 | 6.24 |
| 2830 | 2.915 | 34.949 | 6.10 | 3665 | 2.395 | 34.916 | 6.15 | 3690 | 2.465 | 34.921 | 6.19 |
| 3115* | 2.680 | 34.937 | 6.11 | 4020** | 2.320 | 34.911 | 6.15 | 4055* | 2.330 | 34.908 | 6.10 |
| 3385 | 2.525 | 34.926 | 6.16 | 4385 | 2.300 | 34.907 | 6.24 | 4420 | 2.300 | 34.903 | 6.24 |
| 3650* | 2.395 | 34.918 | 6.14 | 4755* | 2.290 | 34.901 | 6.09 | 4790* | 2.300 | 34.908 | 6.30 |
| Station 5933; 11 May; $38^{\circ} 29^{\prime} \mathrm{N}$. $64^{\circ} 4^{\prime} \mathrm{W}$.; Depth 4982 m . |  |  |  | Station 5935; 12 May; $38^{\circ} 30^{\prime} \mathrm{N}$. $64^{\circ} 23^{\prime}$ W.; Depth 4995 m . |  |  |  | Station 5937; 15 May; $39^{\circ} 14^{\prime}$ IJ. $64^{\circ} 08^{\prime}$ W.; Depth 4935 m . |  |  |  |
| 15 | 21.84 | 36.554 | 5.25 | 1 | 19.46 | 36.543 | 5.40 | 5 | 17.25 | 35.167 | 5.84 |
| 45 | 20.80 | 36.537 | 5.08 | 45 | 18.41 | 36.540 | 5.30 | 50 | 13.28 | 35.196 | 5.93 |
| 90 | 19.71 | 36.581 | 4.57 | 90 | 18.35 | 36.537 | 5.18 | 100 | 12.66 | 35.291 | 5.54 |
| 135 | 18.65 | 36.542 | 4.87 | 130 | 18.34 | 36.541 | 5.18 | 150 | 11.23 | 35.182 | 5.13 |
| $180^{*}$ | 18.18 | 36.527 | 5.02 | 175* | 18.34 | 36.536 | 5.13 | 200* | 11.32 | 35.290 | 4.78 |
| 265 | 17.98 | 36.526 | 4.92 | 265 | 18.01 | 36.492 | 4.91 | 300 | 9.53 | 35.199 | 3.12 |
| 355* | 17.88 | 36.519 | 5.01 | 355* | 17.66 | 36.440 | 4.74 | 400* | 7.63 | 35.068 | 3.62 |
| 445 | 16.82 | 36.283 | 4.12 | 440 | 17.04 | 36.322 | 4.51 | 495 | 5.98 | 35.009 | 4.62 |
| 535* | 14.60 | 35.910 | 3.63 | 520* | 15.22 | 35.989 | 4.20 | 595* | 5.26 | 35.003 | 5.14 |
| 625 | 12.14 | 35.530 | 3.14 | 605 | 13.40 | 35.709 | 3.97 | 695 | 4.80 | 35.004 | 5.52 |
| 715* | 9.47 | 35.221 | 3.27 | 685* | 11.46 | 35.462 | 3.35 | 795* | 4.57 | 34.996 | 5.71 |
| 800 | 7.74 | 35.097 | 3.70 | 770 | 9.25 | 35.200 | 3.34 | 895 | 4.34 | 34.986 | 5.87 |
| 890* | 5.90 | 35.043 | 4.74 | 855* | 7.77 | 35.099 | 3.71 | 995* | 4.17 | 34.982 | 5.78 |
| 1075 | 4.55 | 34.969 | 5.66 | 1035 | 4.87 | 34.982 | 5.44 | 1195 | 3.95 | 34.967 | 6.11 |
| 1260* | 4.32 | 34.990 | 5.86 | 1215** | 4.42 | 34.973 | 5.82 | 1390** | 3.80 | 34.963 | 6.24 |
| 1580* | 3.94 | 34.977 | 6.08 | 1675* | 3.91 | 34.973 | 6.11 | 1470* | 3.75 | 34.963 | 6.26 |
| 1835 | 4.00 | 34.970 | 6.17 | 1945 | 3.73 | 34.971 | 6.17 | 1770 | 3.63 | 34.967 | 6.21 |
| 2090** | 3.58 | 34.970 | 6.16 | 2215* | 3.52 | 34.963 | 6.15 | 2065* | 3.43 | 34.964 | 6.24 |
| 2350 | 3.41 | 34.965 | 6.15 | 2490 | 3.32 | 34.960 | 6.14 | 2365 | 3.24 | 34.955 | 6.21 |
| 2615* | 3.18 | 34.967 | 6.15 | 2765* | 3.07 | 34.951 | 6.14 | 2665* | 3.04 | 34.953 | 6.19 |
| 2965 | 2.86 | 34.945 | 6.20 | 3125 | 2.71 | 34.936 | 6.19 | 2960 | 2.78 | 34.936 | 6.25 |
| 3325* | $\frac{2.54}{2.5}$ | 34.929 | 6.24 | 3480** | 2.41 | 34.916 | 6.17 | 3355 | 2.52 | 34.931 | 6.24 |
| $3670$ | 2.220 ? | 34.914 | 6.16 | 3845 | 2.290 | 34.909 | 6.13 | 3750 | 2.350 | 34.911 | 6.20 |
| $4025^{*}$ | 2.245 | 34.906 | 6.11 | 4205* | 2.265 | 34.903 | 6.10 | 4145* | 2.295 | 34.900 | 6.14 |
| 4330 | 2.240 | 34.903 | 6.15 | 4580 | 2.295 | 34.899 | 6.15 | 4540 | 2.290 | 34.90 | 6.11 |
| 4635* | 2.285 | 34.899 | 6.09 | 4960** | 2.340 | 34.899 | 6.11 | 4935**********) | 2.295 | 34.896 | 6.09 |


| Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | Salinity, $\%$ | $\begin{gathered} \mathrm{O}_{2} \\ \mathrm{ml} / \mathrm{l} \end{gathered}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | $\begin{gathered} \mathrm{O}_{2} \\ \mathrm{ml} . / . \end{gathered}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | $\begin{gathered} \mathrm{O}_{2} \\ \mathrm{ml} / \mathrm{l} \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Station 5938; 15 May; $38^{\circ} 55^{\prime} \mathrm{N}$. $64^{\circ} 18^{\prime}$ W.; Depth 4993 m. |  |  |  | Station 5940; 18 May; $38^{\circ} 55^{\prime} \mathrm{N}$, $64^{\circ} 00^{\prime}$ W.; Depth - |  |  |  | Station 5942; 26 May: $32^{\circ} 57^{\prime} \mathrm{N}$. $62^{\circ} 02^{\prime}$ W.; Depth - |  |  |  |
| 1 | 23.67 | - | - | 1 | 18.74 | 34.732 | 5.50 | 1 | 21.09 | 36.539 | - |
| 50 | 23.52 | - | - | 45 | 16.44 | 34.462 | 5.80 | 50 | 19.36 | 36.553 |  |
| 100 | 21.55 | - | - | 85 | 18.00 | 36.013 | 4.34 | 100 | 18.72 | 36.559 |  |
| 145 | 19.33 | - | - | 130 | 13.93 | 35.258 | 4.77 | 150 | 18.38 | 36.536 |  |
| 195* | 17.14 |  | - | 170* | 13.47 | 35.439 | 4.33 | 200* | 18.15 | 36.516 |  |
| 285 | 13.46 | - | - | 245 | 12.13 | 35.534 | 3.10 | 300 | 17.94 | 36.503 |  |
| 380* | 11.42 | - |  | 315* | 9.96 | 35.229 | 3.62 | 400* | 17.66 | 36.449 |  |
| 465 | 9.05 |  |  | 390 | 8.38 | 35.087 | 3.39 | 500 | 15.89 ? | 36.343 | - |
| 550* | 7.49 | - | - | 465* | 7.77 | 35.102 | 3.75 | 595* | 15.70 | 36.086 | - |
| 645 | 6.19 | - | - | 540 | 6.45 | 35.017 | 4.38 | 695 | 13.82 | 35.786 | - |
| 735 | 5.10 |  | - | 605* | 5.69 | 35.031 | 4.94 | 795* | 11.50 | 35.467 | - |
| 825 | 4.63 | 34.992 | - | 685 | 5.22 | 35.017 | 5.19 | 895 | 9.21 | 35.193 | - |
| 915* | 4.48 | 34.984 | - | 760* | 4.88 | 35.013 | 5.56 | 995* | 7.34 | 35.106 |  |
| 1110 | 4.31 | 35.000 | - | 930 | 4.41 | 34.998 | 5.81 | 1195 | 5.09 | 35.021 |  |
| 1305** | 3.99 | 34.979 | - | $1110^{*}$ | 4.10 | 34.977 | 5.99 | 1395* | 4.52 | 35.019 |  |
| 1300* | 4.00 | 34.986 | - | 1060* | 4.21 | 34.993 | 6.05 | 1575* | 4.18 | 34.992 |  |
| 1565 | 3.83 | 34.970 | - | 1335 | 3.91 | 34.973 | 6.13 | 1870 | 3.85 | 34.973 |  |
| 1835* | 3.61 | 34.967 | - | 1615* | 3.66 | 34.966 | 6.18 | $2170{ }^{*}$ | 3.60 | 34.969 |  |
| 2200 | 3.36 | 34.969 | - | 1930 | 3.49 | 34.970 | 6.18 | 2465 | 3.34 | 34.966 |  |
| 2575* | 3.05 | 34.956 | - | 2240* | 3.30 | 34.961 | 6.18 | 2760** | 3.14 | 34.958 | - |
| 2955 | 2.75 | 34.947 | - | 2515 | 3.10 | 34.961 | 6.15 | 3060 | 2.845 | 34.943 |  |
| 3340* | 2.465 | 34.926 | - | 2790* | 2.87 | 34.950 | 6.19 | 3355* | 2.585 | 34.928 |  |
| 3710 | 2.320 | 34.914 | - | 3080 | 2.800 | 34.940 | 6.28 | 3655 | 2.410 | 34.914 | - |
| 4085* | 2.240 | 34.906 | - | 3375* | 2.520 | 34.925 | 6.23 | 4050** | 2.300 | 34.908 | - |
| 4470 | 2.270 | 34.904 | - |  |  |  |  | 4445 | 2.270 | 34.899 | - |
| 4860* | 2.270 | 34.956 ? |  |  |  |  |  | 4840** | 2.300 | 34.894 | - |
| Station 5939: $16 \mathrm{May} ; 38^{\circ} 34^{\prime} \mathrm{N}$. $64^{\circ} 18^{\prime}$ W.; Depth 4991 m. |  |  |  | Station 5941; 19 May; $39^{\circ} 01^{\prime} \mathrm{N}$. $64^{\circ} 08^{\prime} \mathbf{W}$.; Depth 4650 m . |  |  |  |  |  |  |  |
| 1 | 23.82 | 36.410 | 4.86 | 1 | 19.03 | 35.368 | 5.60 |  |  |  |  |
| 50 | 23.73 | 36.413 | 4.80 | 50 | 16.16 | 35.274 | 5.56 |  |  |  |  |
| 95 | 21.16 | 36.538 | 4.55 | 95 | 10.53 | 34.798 | 5.37 |  |  |  |  |
| 145 | 19.33 | 36.565 | 4.72 | 145 | 10.62 | 35.023 | 5.05 |  |  |  |  |
| 190* | 18.54 | 36.522 | 5.13 | 190* | 10.86 | 35.240 | 3.93 |  |  |  |  |
| 285 | 17.36 | 36.348 | 5.03 | 290 | 8.93 | 35.112 | 3.34 |  |  |  |  |
| 375* | 16.30 | 36.151 | 4.85 | 385 ${ }^{\text { }}$ | 7.35 | 35.047 | 3.79 |  |  |  |  |
| 465 | 14.73 | 35.932 | 3.57 | 480 | 5.73 | 35.601 | 4.79 |  |  |  |  |
| 555* | 12.65 | 35.630 | 3.53 | 575* | 5.13 | 35.006 | 5.24 |  |  |  |  |
| 645 | 10.73 | 35.370 | 3.32 | 665 | 4.91 | 35.022 | 5.51 |  |  |  |  |
| 735* | 8.59 | 35.098 | 3.33 | 760* | 4.55 | 35.003 | 5.81 |  |  |  |  |
| 820 | 6.94 | 35.056 | 4.10 | 855 | 4.36 | 34.992 | 5.82 |  |  |  |  |
| 900** | 5.80 | 35.023 | 4.76 | 955* | 4.21 | 34.985 | 5.94 |  |  |  |  |
| 1085 | 4.71 | 34.998 | 4.93 | 1150 | 3.98 | 34.975 | 6.09 |  |  |  |  |
| 1275* | 4.36 | 34.996 | 5.94 | 1350** | 3.83 | 34.971 | 6.17 |  |  |  |  |
| 1630** | 3.89 | 34.971 | 6.13 | 1305** | 3.88 | 34.968 | 6.19 |  |  |  |  |
| 1865 | 3.81 | 34.972 | 6.24 | 1600 | 3.70 | 34.975 | 6.18 |  |  |  |  |
| 2095* | 3.63 | 34.979 | 6.15 | 1895* | 3.54 | 34.969 | 6.19 |  |  |  |  |
| 2330 | 3.41 | 34.967 | 6.13 | 2185 | 3.29 | 34.961 | 6.17 |  |  |  |  |
| 2565* | 3.25 | 34.964 | 6.14 | 2480* | 3.10 | 34.956 | 6.17 |  |  |  |  |
| 2880 | 3.02 | 34.953 | 6.13 | 2770 | 2.79 | 34.939 | 6.18 |  |  |  |  |
| 3200** | 2.74 | 34.940 | 6.20 | 3065* | 2.55 | 34.930 | 6.28 |  |  |  |  |
| 3520 | 2.530 | 34.928 | 6.20 | 3460 | 2.355 | 34.914 | 6.22 |  |  |  |  |
| 3835* | 2.385 | 34.910 | 5.93 | 3850* | 2.255 | 34.901 | 6.14 |  |  |  |  |
| 4175 | 2.325 | 34.910 | 6.14 | 4250 | 2.250 | 34.900 | 6.13 |  |  |  |  |
| 4520* | 2.305 | 34.904 | 6.19 | 4645* | 2.300 | 34.897 | 6.08 |  |  |  |  |


| Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Station 5943; 26 May; $33^{\circ} 30^{\prime}$ N. $61^{\circ} 57^{\prime} \mathrm{W} . ;$ Depth 4717 m. |  |  | Station 5945; 27 May; $34^{\circ} 32^{\prime}$ N. $62^{\circ} 05^{\prime}$ W.; Depth 5000 m . |  |  | Station 5947; 28 May; $35^{\circ} 27^{\prime}$ N. $62^{\circ} 00^{\prime}$ W.; Depth 4797 m. |  |  | Station 5949; 28 May; $36^{\circ} 27^{\prime} \mathrm{N} .62^{\circ} 00^{\prime} \mathrm{W}$.; Depth 5020 m . |  |  |
| 1 | 21.50 | 36.580 | 1 | 20.95 | 36.546 | 1 | 21.27 | 36.366 | 1 | 20.83 | 36,507 |
| 50 | 19.18 | 36.590 | 50 | 19.29 | 36.543 | 45 | 19.13 | 36.544 | 45 | 20.08 | 36.554 |
| 100 | 18.86 | 36.571 | 100 | 18.57 | 36.496 | 90 | 18.57 | 36.554 | 90 | 18.92 | 36.562 |
| 150 | 18.43 | 36.548 | 150 | 17.77 | 36.429 | 130 | 18.39 | 36.545 | 140 | 18.40 | 36.543 |
| 200* | 18.29 | 36.538 | 195* | 17.50 | 36.408 | 175* | 18.31 | 36.541 | 185* | 18.13 | 36.532 |
| 300 | 18.09 | 36.515 | 295 | 16.96 | 36.306 | 260 | 17.98 | 36.549 | 280 | 17.94 | 36.527 |
| 400* | 17.94 | 36.513 | 395* | 15.69 | 36.057 | 345* | 17.71 | 36.467 | 370* | 17.74 | 36.489 |
| 495 | 17.52 | 36.413 | 495 | 14.34 | 35.851 | 430 | 17.24 | 36.361 | 465 | 17.10 | 36.375 |
| 595* | 16.72 | 36.264 | 590* | 12.55 | 35.596 | 510* | 16.30 | 36.215 | 560* | 15.26 | 36.028 |
| 695 | 14.71 | 35.930 | 690 | 10.64 | 35.345 | 595 | 14.35 | 35.859 | 655 | 12.97 | 35.670 |
| 795* | 12.47 | 35.614 | 790* | 8.55 | 35.140 | 680* | 12.87 | 35.650 | 750* | 10.54 | 35.342 |
| 895 | 9.93 | 35.276 | 890 | 7.16 | 35.066 | 760 | 10.53 | 35.342 | 850 | 8.58 | 35.156 |
| 995* | 8.01 | 35.142 | 985* | 5.84 | 35.040 | 845* | 8.31 | 35.124 | 945* | 6.64 | 35.053 |
| 1195 | 5.58 | 35.081 | 1185 | 4.84 | 35.028 | 1025 | 5.79 | 35.033 | 1140 | 4.84 | 35.105 |
| 1390* | 4.57 | 35.016 | 1380** | 4.37 | 35.007 | 1215* | 4.79 | 35.013 | 1335* | 4.52 | 35.020 |
| 1605* | 4.11 | 34.990 | 1620* | 4.00 | 34.982 | 1520** | 4.09 | 34.990 | 1550* | 4.13 | 35.028 |
| 1895 | 3.85 | 34.976 | 1915 | 3.78 | 34.971 | 1800 | 3.86 | 34.974 | 1840 | 3.85 | 34.984 |
| 2185** | 3.60 | 34.975 | 2210* | 3.55 | 34.970 | 2085** | 3.66 | 34.975 | 2130* | 3.62 | 35.004 |
| 2475 | 3.39 | 34.971 | 2510 | 3.33 | 34.966 | 2375 | 3.43 | 34.973 | 2415 | 3.36 | 34.977 |
| 2770* | 3.12 | 34.960 | 2805* | 3.10 | 34.957 | 2670** | 3.15 | 34.962 | 2700* | 3.10 | 34.965 |
| 3065 | 2.830 | 34.946 | 3105 | 2.84 | 34.943 | 2970 | 2.91 | 34.949 | 2990 | 2.82 | 34.972 |
| 3360* | 2.555 | 34.929 | 3400* | 2.565 | 34.926 | 3260** | 2.64 | 34.936 | 3370** | 2.51 | 34.935 |
| 3655 | 2.370 | 34.917 | 3800 | 2.365 | 34.913 | 3645 | 2.420 | 34.922 | 3750 | 2.340 | 34.933 |
| 3950* | 2.290 | 34.908 | 4200* | 2.285 | 34.903 | 4015** | 2.310 | 34.911 | 4125** | 2.290 | 34.921 |
| 4245 | 2.265 | 34.904 | 4600 | 2.295 | 34.896 | 4400 | 2.280 | 34.905 | 4510 | 2.280 | 34.915 |
| 4635** | 2.260 | 34.899 | $5000^{\circ}$ | 2.315 | 34.886 | 4790** | 2.285 | 34.900 | 4890** | 2.270 | 34.903 |
| Station 5944; 27 May; $34^{\circ} 02^{\prime}$ N. $61^{\circ} 55^{\prime} \mathrm{W}$.; Depth 4670 m . |  |  | Station 5946; 27 May; $34^{\circ} 56^{\prime}$ N. $61^{\circ} 56^{\prime}$ W.; Depth 4658 m . |  |  | Station 5948; 28 May; $35^{\circ} 57^{\prime}$ N. $62^{\circ} 02^{\prime} \mathrm{W} . ;$ Depth 5035 m. |  |  | Station 5950; 29 May; $37^{\circ} 02^{\prime}$ N. $62^{\circ} 03^{\prime} \mathrm{W} . ;$ Depth 5029 m . |  |  |
| 1 | 21.00 | 36.566 | a | 21.08 | 36.546 | 1 | 20.58 | 36.508 | 1 | 22.25 | 36.372 |
| 45 | 19.41 | 36.584 | 40 | 19.73 | 36.535 | 50 | 19.73 | 36.554 | 50 | 19.79 | 36.556 |
| 85 | 18.97 | 36.573 | 85 | 18.85 | 36.537 | 100 | 18.62 | 36.533 | 100 | 18.89 | 36.569 |
| 130 | 18.36 | 36.530 | 125 | 18.48 | 36.537 | 150 | 18.22 | 36.518 | 150 | 18.47 | 36.549 |
| 170* | 18.19 | 36.515 | 165* | 18.24 | 36.524 | 195* | 18.08 | 36.513 | 200* | 18.27 | 36.543 |
| 255 | 18.06 | 36.510 | 250 | 18.02 | 36.533 | 295 | 17.88 | 36.506 | 300 | 18.09 | 36.538 |
| 340* | 17.81 | 36.480 | 335* | 17.84 | 36.514. | 395* | 17.42 | 36.403 | 400* | 17.82 | 36.499 |
| 425 | 17.45 | 36.408 | 420 | 17.48 | 36.422 | 495 | 16.13 | 36.181 | 495 | 17.33 | 36.398 |
| 505* | 16.48 | 36.234 | 505* | 16.39 | 36.210 | 590* | 13.99 | 35.834 | 595* | 16.10 | 36.163 |
| 590 | 15.16 | 35.997 | 600 | 14.62 | 35.868 | 690 | 11.46 | 35.462 | 695 | 14.38 | 35.886 |
| 670* | 13.35 | 35.720 | 690* | 12.86 | 35.633 | 790* | 8.98 | 35.171 | 795* | 12.17 | 35.560 |
| 750 | 11.22 | 35.436 | 785 | 10.50 | 35.328 | 890 | 6.96 | 35.039 | 895 | 9.79 | 35.616 ? |
| 830* | 9.19 | 35.212 | 875* | 8.19 | 35.105 | 985* | 5.79 | 35.043 | 995* | 7.77 | 35.107 |
| 1000 | 6.07 | 35.030 | 1070 | 5.44 | 35.017 | 1185 | 4.75 | 35.025 | 1195 | 4.99 | 34.983 |
| $1170^{*}$ | 4.91 | 35.010 | 1265* | 4.88 | 35.056 | 1380* | 4.38 | 35.019 | 1390******* | 4.47 | 34.999 |
| 1425* | 4.32 | 35.014 | 1355* | 4.58 | 35.049 | 1535** | 4.10 | 35.013 | 1660* | 4.08 | 34.987 |
| 1710 | 3.95 | 34.981 | 1550 | 4.15 | 34.999 | 1820 | 3.81 | 34.980 | 1955 | 3.83 | 34.976 |
| 1990** | 3.69 | 34.973 | 1750* | 3.87 | 34.984 | 2110** | 3.62 | 35.011 | 2250** | 3.61 | 34.981 |
| 2275 | 3.48 | 34.973 | 2045 | 3.62 | 34.980 | 2400 | 3.42 | 34.989 | 2545 | 3.43 | 34.975 |
| 2565* | 3.28 | 34.965 | 2345* | 3.40 | 34.972 | 2685* | 3.18 | 34.979 | 2840* | 3.21 | 34.970 |
| 2860 | 2.99 | 34.958 | 2640 | 3.13 | 34.966 | 2975 | 2.915 | 34.995 | 3135 | 2.93 | 34.957 |
| $3150{ }^{*}$ | 2.75 | 34.938 | 3035* | 2.700 | 34.946 | 3355* | 2.600 | 34.945 | 3435* | 2.68 | 34.947 |
| 3445 | 2.505 | 34.926 | 3430 | 2.405 | 34.921 | 3740 | 2.410 | 34.934 | 3830 | 2.430 | 34.931 |
| 3825* | 2.320 | 34.916 | 3825* | 2.285 | . | $4125^{*}$ | 2.325 | 34.927 | 4220** | 2.330 | 34.927 |
| 4220 | 2.275 | 34.906 | 4220 | 2.270 | 34.904 | 4510 | 2.305 | 34.913 | 4615 | 2.300 | 34.911 |
| 4615* | 2.270 | 34.896 | 4615* | 2.250 | 34.896 | 4890** | 2.315 | 34.959? | $5010^{*}$ | 2.295 | 34.905 |


| Depth, meters | Temture, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | Depth, meters | Tem-pera${ }^{\circ} \mathrm{C}$ | $\begin{gathered} \text { Salinity, } \\ \%_{0} \end{gathered}$ | Depth meters | Tem pera${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Station 5951; 29 May; <br> $37^{\circ} 32^{\prime}$ N. $62^{\circ} 00^{\prime} \mathrm{W}$.; Depth 5070 m . |  |  | Station 5953; 30 May; $38^{\circ} 28^{\prime}$ N. $61^{\circ} 58^{\prime}$ W.; Depth 5073 m . |  |  | Station 5955; 30 May ; $38^{\circ} 26^{\prime}$ N. $61^{\circ} 00^{\prime}$ W.; Depth 5123 m . |  |  | Station 5957; 31 May; $38^{\circ} 33^{\prime} \mathrm{N}. 60^{\circ} 00^{\circ} \mathrm{W}$.; Depth 5148 m . |  |  |
| 1 | 22.48 | 36.418 | 1 | 23.09 | 36.428 |  | 23.67 | 36.423 | 1 | 19.85 | 35.8 |
| 50 | 20.85 | 36.530 | 50 | 22.65 | 36.386 | 45 | 22.29 | 36.587 | 50 | 17.49 | 36.148 |
| 100 | 19.16 | 36.573 | 100 | 20.36 | 36.604 | 95 | 19.52 | 36.572 | 100 | 15.48 | 36.006 |
| 150 | 18.61 | 36.569 | 150 | 19.11 | 36.579 | 140 | 18.45 | 36.519 | 150 | 13.97 | 35.774 |
| 200* | 18.40 | 36.554 | 200* | 18.50 | 36.543 | 185* | 18.21 | 36.536 | 200* | 13.04 | 35.633 |
| 300 | 18.07 | 36.529 | 295 | 18.17 | 36.530 | 275 | 17.98 | 36.517 | 300 | 11.47 | 35.462 |
| 395* | 17.88 | 36.515 | 395* | 18.02 | 36.521 | 360* | 17.42 | 36.423 | 400** | 9.29 | 35.199 |
| 495 | 17.50 | 36.430 | 495 | 17.68 | 36.427 | 445 | 16.09 | 36.151 | 500 | 7.21 | 35.066 |
| 595* | 16.50 | 36.239 | 595* | 17.02 | 36.321 | $530^{*}$ | 13.99 | 35.805 | 600* | 5.84 | 35.010 |
| 695 | 14.82 | 35.949 | 690 | 15.63 | 36.076 | 610 | 12.06 | 35.532 | 700 | 5.05 | 34.972 |
| 795* | 12.55 | 35.623 | 790* | 13.37 | 35.720 | 690* | 9.58 | 35.193 | 800* | 4.86 | 35.025 |
| 895 | 9.99 | 35.284 | 890 | 11.23 | 35.416 | 765 | 7.70 | 35.019 | 900 | 4.45 | 34.998 |
| 995** | 7.97 507 | 35.134 35.018 | ${ }^{99} 0^{*}$ | 8.57 | 35.130 35.019 | 940* | 5.65 | 35.006 | 1000* | 4.21 | 34.982 |
| 1190 | 5.07 4.54 | 35.018 35020 | 1190 1390 | 5.63 4.62 | 35.019 34.982 | 1235 | 4.36 | 34.993 | 1200 $1400^{*}$ | 4.05 3.85 | 34.982 |
| 1390* | 4.54 | 35.020 | 1390** | 4.62 | 34.982 | 1525** | 3.96 | $\begin{aligned} & 34.993 \\ & \hline \end{aligned}$ | 1400* | 3.85 | 34.974 |
| 1490* | 4.37 | 35.015 | 1360* | 4.70 | 34.999 | 1845 | 3.68 | 34.962 | 1540* | 3.76 | 34.972 |
| 1790 | 3.98 | 34.996 | 1635 | 4.37 | 34.988 | 2175** | 3.49 | 34.964 | 1840 | 3.62 | 34.970 |
| 2090* | 3.75 3.52 | 35.019 34 | 1915** | 3.77 3.58 | 34.965 | 2505 | 3.28 | 34.955 | 2135* | 3.41 | 34.970 |
| 2385 | 3.52 | 34.991 | 2200 | 3.58 | 34.966 | 2845* | 2.93 | 34.948 | 2435 | 3.21 | 34.959 |
| 2685* | 3.27 | 34.993 | 2485** | 3.46 | 34.957 | 3195 | 2.59 | 34.931 34.916 | 2735* | 2.99 | 34.953 |
| 3085 | 2.91 | 34.957 | 2870 | 3.14 | 34.953 | 3545* | 2.400 | 34.916 | 3135 | 2.69 | 34.942 |
| $3480^{*}$ | 2.59 2.350 | 34.943 34.930 | $3260 *$ 3655 | 2.82 2.545 | 34.941 34.925 | 3945 4355 | 2.295 | 34.904 34 | 3530** | 2.47 | 34.926 |
| 3880 | 2.350 2.300 | 34.930 34.913 | 3655** | 2.385 | 34.925 34.909 | 4355* |  | 34.901 | 3930 4330 | 2.360 | 34.913 |
| 4675 | 2.325 | 34.914 | 4450 | 2.310 | 34.895 |  |  |  |  | 2.295 | 34.904 34.902 |
| 5070** | 2.340 | 34.913 | 4845* | 2.280 | 34.892 |  |  |  | $5130^{*}$ | 2.270 | 34.896 |
| Station 5952; 29 May; <br> $38^{\circ} 02^{\prime} \mathrm{N} .62^{\circ} 01^{\prime} \mathrm{W} . ;$ Depth 4590 m. |  |  | Station 5954; 30 May: $38^{\circ} 28^{\prime}$ N. $61^{\circ} 28^{\prime}$ W.; Depth 5106 m . |  |  | Station 5956; 30 May; $38^{\circ} 30^{\prime} \mathrm{N} .60^{\circ} 30^{\prime} \mathrm{W} . ;$ Depth 4903 m . |  |  | Station 5958; 31 May; $38^{\circ} 30^{\prime} \mathrm{N} .59^{\circ} 29^{\prime} \mathrm{W} . ;$ Depth 5160 m . |  |  |
| 1 | 22.90 | 36.435 |  | 23.25 | 36.424 |  | 18.15 | 35.497 | 1 | 18.84 | 35.680 |
| 50 | 22.37 | 36.452 | 45 | 22.81 | 36.434 | 45 | 15.20 | 35.738 | 50 | 14.79 | 35.641 |
| 100 | 19.99 | 36.556 | 95 | 21.19 | 36.652 | 95 | 13.69 | 35.672 35 $\mathbf{3 5}$ | 100 | 13.99 | 35.768 |
| 150 | 18.92 | 36.565 | 140 | 19.15 | 36.551 | 140 | 13.49 | 35.695 | 150 | 12.44 | 35.473 |
| 200* | 18.46 | 36.535 | 185* | 18.50 | 36.545 | 185* | 12.86 | 35.599 35 | 200* | 12.17 | 35.496 |
| 300 | 18.08 | 36.497 | 280 | 18.12 | 36.524 | 270 | 12.22 | 35.507 | 300 | 10.50 | 35.278 |
| 400** | 17.94 | 36.505 | 370** | 17.92 | 36.497 | 360* | 11.02 | 35.377 35.37 | 395* | 8.65 | 35.111 |
| 495 | 17.54 | 36.406 | ${ }^{460}$ | 17.81 | 36.481 | 445 | 9.07 | 35.162 | 495 | 7.20 | 35.051 |
| 595* | 16.91 | 36.296 | ${ }_{540}{ }^{56}$ | 17.03 | 36.312 | $525 *$ | 7.47 | 35.055 | 595* | 6.07 | 35.031 |
| 695 | 15.22 | 36.006 | 640 | 15.60 | 36.076 | 610 | 6.50 | 35.023 | 695 | 5.29 | 35.019 |
| 790* | 13.14 | 35.676 <br> 35.359 | ${ }^{730}{ }^{*}$ | 13.57 | 35.760 | 695* | 5.55 | 35.011 | 790 | 4.87 | 35.006 |
| 890 | 10.72 | 35.359 | 820 | 10.94 | 35.394 | 775 | 5.11 | 35.010 | 890 | 4.58 | 35.005 |
| 985** | 8.69 | 35.150 | 910** | 8.84 | 35.159 | 860* | 4.81 | 35.002 | 990* | 4.43 | 35.010 |
| 1185 | 5.57 | 35.007 | 1095 | 5.28 | 34.945 | 1040 | 4.40 | 34.997 | 1185 | 4.07 | 34.980 |
| 1385* | 4.56 | 34.997 | 1275* | 4.76 | 35.001 | 1225* | 4.13 | 34.978 | 1385* | 3.88 | 34.977 |
| 1465** | 4.42 | 34.995 | 1515* | 4.19 | 34.977 | 1375** | 4.00 | 34.978 | 1590* | 3.78 | 35.044 |
| 1655 | 4.17 | 34.990 | 1790 | 3.85 | 34.961 | 1570 | 3.89 | 34.973 | 1885 | 3.65 | 35.010 |
| ${ }_{2130}^{1845^{*}}$ | 3.91 3.68 | 34.991 <br> 34.978 | $2070 *$ 230 | 3.67 <br> 3.47 | 34.967 34.961 | 1860** | 3.69 3.46 | 34.965 | 2180** | 3.46 | 34.976 |
| $\stackrel{2130}{ } \mathbf{2 4 1 5}$ | 3.68 <br> 3.55 <br> .5 | 34.978 <br> 34.968 | 2350 $2715 *$ | 3.47 3.19 | 34.961 34.966 | ${ }_{2145}^{2150}$ | 3.46 <br> 2.98 | 34.966 34.950 | 2480 | 3.21 | 34.962 |
| 2700 | 3.24 | 34.968 34 | 3090 | 3.690 | 34.969 <br> 349 | 2920 | 2.650 | 34.944 |  | 3.72 2.72 | 35.010 34.966 |
| 2980* | 3.04 | 34.958 | 3460* | 2.475 | 34.927 | 3315** | 2.490 | 34.966 | 3565** | 2.480 | 34.964 |
| 3260 | 2.750 | 34.941 | 3835 | 2.330 | 34.941 ? | 3710 | 2.385 | 35.025? | 3960 | 2.365 | 34.920 |
| ${ }_{3} 3540^{*}$ | 2.500 | 34.925 | ${ }_{4}^{4215 *}{ }^{\text {4 }}$ | 2.295 | 34.895 | ${ }^{4105^{*}}$ | 2.325 | 35.062? | 4355* | 2.305 | 34.941 |
| 4285** | 2.385 2.285 | 34.915 | 4595 $4980^{*}$ | 2.295 2.330 | 34.901 | 4500 | 2.275 | 34.932 | 4755 | 2.310 | 34.921 |
| 4285* | 2.285 | 34.901 | 4980* | 2.330 | 34.903 | 4895* | 2.260 | 34.924 | 5155* | 2.275 | 34.893 |



| Depth, meters | Tem-pera${ }^{\circ} \mathrm{C}$ C | $\underset{\%}{\substack{\text { Salinity, } \\ \text { \% }}}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | Depth, meters | Temture, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | Depth, meters | Tem-pera${ }^{\text {ture, }}$ | $\underset{\%}{\text { Salinity }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Station 5967; 6 June; $37^{\circ} 48^{\prime}$ N. $60^{\circ} 40^{\prime}$ W.; Depth 5090 m . |  |  | Station 5969; 8 June; $36^{\circ} 44^{\prime}$ N. $61^{\circ} 06^{\prime}$ W.; Depth 4990 m. |  |  | Station 5971; 8 June; $36^{\circ} 40^{\prime}$ N. $60^{\circ} 00^{\prime}$ W.; Depth 5155 m . |  |  | Station 5973; 9 June; $36^{\circ} 46^{\prime}$ N. $58^{\circ} 59^{\prime} \mathrm{W}$.; Depth 4554 m. |  |  |
| 1 | 25.23 | 36.334 |  | 22.46 | 36.441 |  | 26.24 | 36.265 |  | 23.07 | 36.379 |
| 50 | 22.73 | 36.606 | 50 | 19.95 | 36.551 | 45 | 26.04 | 36.318 | 50 | 19.45 | 36.536 |
| 100 | 20.83 | 36.645 | 100 | 19.10 | 36.581 | 90 | 23.51 | 36.329 | 100 | 18.54 | 36.534 |
| 150 | 19.30 | 36.560 | 150 | 18.48 | 36.551 | 130 | 21.26 | 36.470 | 150 | 18.23 | 36.528 |
| 200** | 18.64 | 36.542 | 200* | 18.31 | 36.550 | 175* | 20.02 | 36.558 | 195* | 18.06 | 36.504 |
| 295 | 18.00 | 36.495 | 295 | 18.15 | 36.556 | 265 | 17.50 | 36.329 | 295 | 17.85 | 36.494 |
| 395* | 17.52 | 36.427 36.225 | 395* | 18.02 | 36.536 | 350 <br> 80 | 15.98 | 36.162 35.174 | 395* | 17.61 | 36.462 |
| 495 | 16.49 | 36.225 | 495 | 17.80 | 36.494 | 425 | 14.00 | 35.774 | 495 | 17.27 | 36.386 |
| 595* | 14.44 | 35.874 | 595* | 16.99 | 36.330 | $500^{*}$ | 12.78 | 35.584 | $590 *$ | 15.78 | 36.093 |
| 690 | 11.87 | 35.496 | 695 | 15.17 | 36.009 | 580 | 12.14 | 35.491 | 690 | 13.46 | 35.722 |
| 790* | 9.60 | 35.230 | 790* | 12.61 | 35.615 | $660^{*}$ | 10.15 | 35.277 | 790* | 11.10 | 35.400 |
| 890 | 7.41 | 35.066 | 890 | 10.39 | 35.317 | 740 | 8.14 | 35.092 | 890 | 8.55 | 35.163 |
| 990* | 5.57 | 35.002 | 990* | 8.38 | 35.115 | 815* | 6.98 | 35.053 | 985* | 6.80 | 35.046 |
| 1185 | 4.71 | 35.004 | 1190 | 5.41 | 35.011 | 990 | 5.40 | 35.048 | 1185 | 5.04 | 35.004 |
| 1385* | 4.27 | 34.990 | 1385* | 4.34 | 34.978 | 1165* | 4.66 | 35.010 | 1380* | 4.44 | 35.007 |
| 1525* | 4.00 | 34.981 | 1505* | 4.19 | 34.968 | 1470* | 4.10 | 34.989 | 1478* | 4.34 | 35.001 |
| 1820 | 3.76 | 34.969 | 1800 | 3.93 | 34.975 | 1735 | 3.90 | 34.976 | 1675 | 4.10 | 34.985 |
| 2115* | 3.55 | 34.970 | 2095* | 3.71 | 34.980 | 2090 ${ }^{\circ}$ | 3.64 | 34.982 | 1970* | 3.77 | 34.974 |
| 2415 | 3.35 | 34.963 | 2390 | 3.58 | 35.020 | 2460 | 3.43 | 34.982 | 2266 | 3.60 | 34.970 |
| 2710* | 3.21 | 34.962 | 2685* | 3.27 | 34.971 | 2840* | 3.10 | 34.957 | 2561* | 3.41 | 34.960 |
| 3105 | 2.89 | 34.950 | 2980 | 2.975 | 34.980 | 3210 | 2.810 | 34.954 | 2857 | 3.06 | 34.988? |
| 3505* | 2.57 | 34.935 | 3370** | 2.650 | 34.942 | 3585* | 2.520 | 34.931 | 3152* | 2.80 | 34.950 |
| 3900 | 2.385 | 34.916 | 3765 | 2.425 | 34.926 | 3960 | 2.395 | 34.944 | 3448 | 2.605 | 34.935 |
| 4295* | 2.320 | 34.905 | $4160^{*}$ | 2.330 | 34.932 | 4335* | 2.310 | 34.924 | 3842* | 2.370 | 34.918 |
| 4695 | 2.310 | 34.903 | 4550 | 2.290 | 34.911 | 4740 | 2.315 | 34.906 | 4236 | 2.300 | 34.903 |
| 5090** | 2.300 | 34.901 | 4945* | 2.280 | 34.903 | 5145* | 2.325 | 34.920 | 4554* | 2.275 | 34.895 |
| Station 5968; 6 June; $36^{\circ} 58^{\prime}$ N. $60^{\circ} 24^{\prime}$ W.; Depth 4675 m . |  |  | Station 5970; 8 June; $36^{\circ} 45^{\prime}$ N. $60^{\circ} 29^{\prime}$ W.; Depth 5125 m . |  |  | Station 5972; 9 June; $36^{\circ} 56^{\prime}$ N. $59^{\circ} 34^{\prime}$ W.; Depth 5165 m. |  |  | Station 5974; 10 June; $36^{\circ} 40^{\prime}$ N. $59^{\circ} 44^{\prime}$ W.; Depth 4220 m. |  |  |
|  | 25.59 | 36.311 |  | 25.73 | 36.335 |  | 25.54 | 36.201 |  | 25.62 | 36.191 |
| 45 | 24.58 | 36.512 |  | 24.10 | 36.481 | 50 |  | 36.153 |  | 25.46 | 36.332 |
| 95 | 21.95 | 36.633 | 100 | 22.07 | 36.643 | 100 | 20.41 | 36.530 | 100 | 19.80 | 35.732? |
| 140 | 20.07 | 36.647 | 150 | 20.51 | 36.611 | 145 | 19.29 | 36.585 | 145 | 19.35 | 36.512 |
| 185* | 18.63 | 36.529 36.388 | 199* | 19.10 | 36.577 36506 | 195* | 18.14 | 36.410 | 195* | 18.75 | 36.515 |
| 275 | 17.47 | 36.388 36.888 | 295 | 18.15 | 36.506 | 290 | 17.21 | 36.415 | 295 | 17.24 | 36.308 |
| $360^{*}$ | 15.77 | 36.078 35645 | $390 *$ | 17.66 | 36.450 | 390** | 15.16 | 36.025 | 390** | 16.44 | 36.234 |
| 445 | 12.88 | 35.645 | 485 | 17.18 | 36.362 | 485 | 13.89 | 35.809 | 490 | 14.65 | 35.921 |
| 525* | 10.97 | 35.392 | 585* | 15.20 | 36.020 | 585* | 12.31 | 35.576 | 585* | 12.05 | 35.455 |
| 600 | 9.47 | 35.215 | 680 | 13.40 | 35.737 | 685 | 10.52 | 35.353 | 685 | 11.35 | 35.438 |
| 680* | 8.02 | 35.071 | 780* | 10.81 | 35.377 | 785* | 8.57 | 35.153 | 780* | 9.28 | 35.217 |
| 750 | 6.71 | 35.045 | 880 | 8.16 | 35.063 | 885 | 6.84 | 35.132 | 880 | 7.15 | 35.083 |
| 825* | 5.53 | 35.008 | 980** | 6.12 | 34.941 | 985* | 5.81 | 35.121 | 975* | 6.21 | 35.066 |
| 995 | 4.88 | 35.003 | 1175 | 5.08 | 35.021 | 1185 | 4.73 | 35.026 | 1170 | 4.79 | 35.007 |
| 1170* | 4.35 | 34.998 | 1375* | 4.40 | 34.999 | 1385* | 4.22 | 34.984 | 1365* | 4.36 | 34.993 |
| 1185** | 4.31 | 34.995 | 1550* | 4.11 | 34.981 | 1415* | 4.22 | 34.981 | 1570** | 4.10 | 34.981 |
| 1385 | 4.06 | 34.982 | 1850 | 3.89 | 34.979 | 1710 | 3.93 | 34.972 | 1765 | 3.90 | 34.967 |
| 1580* | 3.86 | 34.966 | 2145* | 3.66 | 34.975 | 2010** | 3.69 | 34.967 | 1960** | 3.75 | 34.970 |
| 1845 | 3.70 | 34.966 | 2435 | 3.46 | 34.973 | 2405 | 3.44 | 34.993 | 2155 | 3.67 | 34.974 |
| 2115** | 3.60 | 34.974 | ${ }^{2730 *}$ | 3.28 | 34.967 | ${ }^{2800}{ }^{*}$ | 3.14 | 35.013? | 2445* | 3.45 | 34.964 |
| 2390 | 3.445 | 34.966 | 3125 | 2.93 | 34.950 | 3195 | 2.79 | 34.935 | 2740 | 3.21 | 34.961 |
| $2660{ }^{*}$ | 3.22 | 34.961 | 3520** | 2.61 | 34.928 | 3590** | 2.50 | 34.922 | 3040* | 2.91 | 34.943 |
| 2930 | 3.105 | 34.952 | 3910 | 2.405 | 34.921 | 3985 | 2.370 | 34.922 | 3335 | 2.620 | 34.930 |
| ${ }_{3} 3000$ | 2.965 | 34.947 34 | 4305* | 2.330 | 34.905 34 | $4380{ }^{*}$ 4775 | 2.310 2.310 | 34.899 34.895 | $3630^{*}$ 3925 | 2.400 | 34.914 |
| 3500 | 2.660 | 34.943 34 | 4705* | 2.320 | 34.904 | 4775 | 2.310 | 34.895 | 3925 | 2.300 | 34.902 34.902 |
| 3810* | 2.435 | 34.918 | 5100* | 2.330 | 34.902 | 5165* | 2.310 | 34.891 | 4220* | 2.295 | 34.902 |

## CRAWFORD CRUISE 40-1960

| Depth, meters | Tem-pera${ }^{\text {ture, }}$ ${ }^{\circ} \mathrm{C}$ | $\begin{gathered} \text { Salinity, } \\ \% \end{gathered}$ | $\underset{\mathrm{O}}{\mathrm{O} / 1}$ | Depth, meters | Tem-pera${ }^{\text {ture, }}$ | $\underset{\%}{\text { Salinity, }}$ | $\begin{gathered} \mathrm{O}_{2} \\ \mathrm{~m} / \mathrm{l} . \end{gathered}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\substack{\text { Salinity, }}}$ | $\begin{gathered} \mathrm{O}_{\mathbf{2}} \\ \mathrm{m} / \mathrm{l} . \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Station 809; 9 April; $42^{\circ} 58^{\prime} \mathrm{N}$. $62^{\circ} 29^{\prime}$ W.; Depth 172 m . |  |  |  | Station 812; 10 April; $42^{\circ} 00^{\circ} \mathrm{N}$. $62^{\circ} 29^{\prime}$ W.; Depth 3015 m. |  |  |  | Station 814; 10 April; $41^{\circ} 20^{\prime} \mathrm{N}$. $62^{\circ} 28^{\prime} \mathrm{W}$.; Depth 4105 m . |  |  |  |
| 0 | 3.60 | 32.420 | 7.89 | 0 | 5.10 | 33.082 | 7.41 | 0 | 11.92 | 35.294 | 6.05 |
| 10 | 3.56 | 32.418 | 7.83 | 45 | 8.91 | 34.331 | 6.73 | 40 | 12.01 | 35.323 | 6.01 |
| 30 | 3.44 | 32.476 | 7.65 | 85 | 11.60 | 35.290 | 5.75 | 75 | 12.53 | 35.512 | 5.82 |
| $50^{*}$ | 4.51 | 33.248 | 6.60 | 170** | 10.69 | 35.320 | 3.28 | 155 | 11.70 | 35.426 | 4.39 |
| 70 | 5.67 | 33.749 | 6.04 | 255 |  | 35.111 | 3.43 | 235 | 10.86 | 35.361 | 3.32 |
| 90 | 6.17 | 33.959 | 5.74 | $340^{*}$ | 6.81 | 35.010 | 4.45 | 315* | 9.18 | 35.171 | 3.17 |
| 110 | 6.63 | 34.185 | 5.31 | 430 | 5.32 | 34.913 | 5.05 | 395 | 7.85 | 35.082 | 3.57 |
| $130^{*}$ | 6.87 | 34.266 | 5.23 | $515{ }^{*}$ | 5.09 | 34.935 | 5.21 | 480 |  | 34.913 | 4.52 |
| 150 | 7.97 | 34.684 | 4.67 | 600 |  | 34.961 | 5.59 | 570 |  | 34.940 | 4.99 |
| 170* | 7.84 | 34.765 | 4.51 | 685** | 4.66 | 34.990 | 5.83 | 655* | 5.22 | 35.005 | 5.19 |
|  |  |  |  | 775 | 4.28 | 34.960 | 5.91 | 745 | 4.83 | 35.004 | 5.50 |
| Station 810; 9 April; $42^{\circ} 41^{\prime} \mathrm{N}$. $62^{\circ} 32^{\prime}$ W.; Depth 1402 m . |  |  |  | 860 1040 | 4.00 3.82 | 34.947 34.933 | 6.23 6.60 | 840** | 4.48 4.19 | 34.974 34.969 | 5.87 5.97 |
|  |  |  |  | 1225 | 3.73 | 34.933 | 6.54 | 1220 | 4.01 | 34.968 | 6.03 |
|  |  |  |  | $\begin{aligned} & 1490 * \\ & 1680 \\ & 1870 \end{aligned}$ | 3.74 <br> 3.74 <br> 3.57 <br> 3.68 | 34.952$\mathbf{3 4 . 9 6 0}$ | $\begin{aligned} & 6.38 \\ & 6.25 \end{aligned}$ | $\begin{aligned} & 1599^{*} \\ & 1990 \\ & 1990^{*} \end{aligned}$ | 3.64 <br> 3.55 | 34.95134.955 | 6.526.22 |
|  | 6.75 | 33.741 | 6.94 |  |  |  |  |  |  |  |  |
| 50 | 10.44 | 34.914 | 6.94 5.89 | $\begin{aligned} & 1870 \\ & 2060 \end{aligned}$ | 3.230 | 34.952 <br> 34.950 | 6.536.39 | $\begin{aligned} & 1990^{*} \\ & 2190 \end{aligned}$ | 3.36 | 34.95834.955 |  |
| 95 | 12.04 | 35.442 | 5.24 | 2250** |  |  |  | 2390* | 3.21 |  | 6.22 6.36 |
| 190* | 10.18 | 35.247 | 3.27 |  | 3.0702.935 | 34.950 | 6.19 | 25902890* | 3.052.82 | 34.95034.934 | 6.186.30 |
| 285 | 8.13 | 35.052 | 3.58 |  |  | 34.94534.939 | $\begin{aligned} & 6.23 \\ & 6.23 \end{aligned}$ |  |  |  |  |
| 385* | 6.28 | 34.998 | 4.41 | 263028203015 | $\begin{aligned} & 2.935 \\ & 2.870 \\ & 2.600 \end{aligned}$ |  |  | 3190 | 2.55 | 34.934 | 6.30 6.34 |
| 480 | 5.25 | 34.959 | 5.07 |  |  | 34.929 | $\stackrel{6.23}{\text { Mud }}$ | $\begin{aligned} & 3490^{*} \\ & 34690 \\ & 3890^{*} \end{aligned}$ | 2.37 | 34.906 | 6.35 |
| 575* | 4.67 | 34.951 | 5.59 | 3015 |  |  |  |  | 2.292.26 | 34.91134.908 | 6.316.46 |
| 670 ${ }^{\text {76* }}$ | 4.36 4.16 | $\begin{aligned} & 34.929 \\ & 34.933 \end{aligned}$ | 5.90 5.98 |  |  |  |  |  |  |  |  |
| $\begin{gathered} 865 \\ .960^{*} \end{gathered}$ | 4.07 | 34.931 <br> 34.934 | $\begin{aligned} & 6.70 \\ & 6.18 \end{aligned}$ | Station 813; 10 April; $41^{\circ} 39^{\prime} \mathrm{N}$. $62^{\circ} 29^{\prime}$ W.; Depth 3655 m. |  |  |  |  |  |  |  |
|  | 4.00 |  |  |  |  |  |  | Station 815; 10 April; $41^{\circ} 00^{\prime} \mathrm{N}$. $62^{\circ} 28^{\circ}$ W.; Depth 4444 m. |  |  |  |
| $\begin{aligned} & 1155 \\ & 1345 \end{aligned}$ | 3.96 3.87 | $\begin{aligned} & 34.938 \\ & 34.944 \end{aligned}$ | $\begin{aligned} & 6.17 \\ & 6.24 \end{aligned}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| Station 811; 9 April; $42^{\circ}{ }^{\circ} 0^{\prime} \mathrm{N}$. $62^{\circ} 30^{\prime}$ W.; Depth 2270 m . |  |  |  | 40 | 9.84 12.77 |  | 5.62 | 0 | 17.07 |  |  |
|  |  |  |  | 75 | 12.54 | 35.531 | 5.35 | 40 | 16.98 | 36.075 36.023 | 5.04 |
|  |  |  |  | 155 | 11.86 | 35.415 | 5.54 | 80 | 16.28 | 36.133 | 3.58 |
|  |  |  |  | 310?310 |  | 35.022 |  | 165 | 12.01 | 35:356 | 4.87 |
| 0 |  | 33.5657 .29 |  |  | 8.14 | 35.085 | 3.45 | 245 | 11.64 | 35.389 | 4.24 |
|  | 6.14 |  |  | 390 | 6.67 | 34.985 | 4.17 | 3304* | 10.018.24 | 35.26135.081 | 3.103.46 |
| 45 | 6.27 | $33.695 \quad 7.01$ |  |  | 5.29 |  |  |  |  |  |  |
| 90. | 7.42 |  |  | 550$630 *$ | 5.21 | 34.893 | 5.72 | 500** | 8.24 7.00 | $\begin{aligned} & 35.081 \\ & 35.052 \end{aligned}$ | 3.46 4.09 |
| 185* | 7.29 | 34.464 5.05 <br> 34.837 4.15 <br> 34.85 4.95 |  |  | 4.59 | 34.98434.982 | 5.765.78 | $\begin{aligned} & 590 \\ & 675 * \end{aligned}$ | 5.63 | $\begin{aligned} & 35.001 \\ & 34.992 \end{aligned}$ | 4.89 |
| 280 |  | 34.890 4.95 |  | 715795 |  |  |  |  | 5.064.61 | 34.971 | 5.53 |
| $375 *$ | 5.26 |  |  | $\begin{aligned} & 4.66 \\ & 4.23 \end{aligned}$ | $\begin{aligned} & 34.982 \\ & 34.982 \end{aligned}$ | 5.95 | 675** | 34.960 |  |  |  |
| 470 | 5.37 | 34.98934.979 | 5.14 |  |  | 795965$1140^{*}$ | 6.07 | 855 | 4.60 | 34.989 | 6.13 |
| 565* | 4.84 |  | 5.505.91 | 3.96 | - |  | 6.24 | 1040** | 4.29 4.03 | 34.983 | 6.356.21 |
| ${ }_{760}{ }^{\text {7 }}$ | 4.39 4.12 | 34.945 34.936 |  | 1365 | 3.78 | 34.960 | 6.30 |  | 4.03 | 34.967 |  |
| 760* | 4.12 4.10 | 34.95634.974 | 6.10 6.04 | 15501730 | 3.663.623 | $\begin{aligned} & 34.956 \\ & 34.962 \end{aligned}$ | 6.336.33 | 1595* | 3.77 | 34.963 | 6.24 |
| $960^{*}$ | 4.15 |  | 6.02 |  |  |  |  | 1895 | 3.65 | 34.964 | 6.546.146.23 |
| 1160 | 3.99 | 34.967 <br> 34.956 | $\begin{aligned} & 6.02 \\ & 6.12 \\ & 6.25 \end{aligned}$ | $\begin{aligned} & 1915 \\ & 2105 \end{aligned}$ | 3.51 3.39 | $\begin{aligned} & 34.966 \\ & 34.964 \end{aligned}$ | 6.26 6.24 | $\begin{aligned} & 2190 \\ & 2490 \end{aligned}$ | 3.42 | 34.959 |  |
| 1360 |  |  |  | 2105 | 3.39 3.23 |  |  |  | 3.89 | 34.938 | 6. 23 |
| 1535 | 3.70 | 34.957 <br> 34.957 | 6.256.25 | 24802675 | 3.092.90 | 二 | 6.186.30 | 30903385*3685* | 2.620 | 34.933 | 23 |
| 1725* | 3.57 |  |  |  |  |  |  |  |  | 34.919 |  |
| 1915 | 3.45 | $\begin{aligned} & 34.960 \\ & 34.933 \\ & 34.954 \end{aligned}$ | $\begin{aligned} & 6.24 \\ & 6.24 \\ & 6.22 \end{aligned}$ | $\begin{aligned} & 2865 \\ & 3155 \\ & \mathbf{3 4 4 5} \end{aligned}$ | $\begin{aligned} & \mathbf{2 . 7 1} \\ & 2.50 \\ & 2.40 \end{aligned}$ | 二 | 6.126.30 | 36853985*4285 | $\begin{aligned} & 2.315 \\ & 2.255 \\ & 2.225 \end{aligned}$ | $34.909$ | 6.28 |
| $2105^{*}$ | 3.35 |  |  |  |  |  |  |  |  | $34.900$ | 6.28 |
| 2270 | 3.26 |  |  |  |  |  | 6.33 |  |  | 34.887 | 6.14 |


| Depth, meters | $\begin{aligned} & \text { Tem- } \\ & \text { pera- } \\ & \text { ture, } \\ & { }^{\circ} \mathbf{C} \end{aligned}$ | $\underset{\%}{\text { Salinity, }}$ | $\begin{gathered} \mathbf{O}_{\mathbf{2}} \\ \mathrm{ml} / \mathrm{l} . \end{gathered}$ | Depth, meters | Tem-pera${ }^{\circ} \mathrm{C}$ (ure, | $\underset{\%}{\text { Salinity, }}$ | $\begin{gathered} \mathrm{O}_{2} \\ \mathrm{ml} / \mathrm{l} . \end{gathered}$ | Depth, meters | $\begin{aligned} & \text { Tem- } \\ & \text { pera- } \\ & \text { ture, } \\ & { }^{\circ} \mathrm{C} \end{aligned}$ | $\begin{gathered} \text { Salinity, } \\ \% \end{gathered}$ | $\begin{gathered} \mathrm{O}_{\mathbf{2}} \\ \mathrm{ll} / \mathrm{l} \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Station 816; 11 April; $40^{\circ} 30^{\circ} \mathrm{N}$. $62^{\circ} 28^{\prime}$ W.; Depth 4766 m . |  |  |  | Station 818; 11 April; $39^{\circ} 34^{\prime} \mathrm{N}$. $62^{\circ} 29^{\prime}$ W.; Depth 5047 m. |  |  |  | Station 820; 12 April; $38^{\circ} 29^{\prime} \mathrm{N}$. $62^{\circ} 32^{\prime}$ W.; Depth 5048 m. |  |  |  |
| 0 | 18.66 | 36.228 | 4.89 | 0 | 15.81 | 35.597 | 5.53 | 0 | 19.37 | 36.517 | 5.38 |
| 45 | 18.69 | 36.225 | 5.02 | 45 | 15.81 | 35.605 | 5.48 | 45 | 19.05 | 36.487 | 5.30 |
| 90 | 18.47 | 36.309 | 4.68 | 90 | 13.77 | 35.401 | 5.32 | 95 | 18.76 | 36.545 | 5.08 |
| 185 | 15.47 | 36.065 | 3.78 | 185 | 10.91 | 35.075 | 5.58 | 190 | 18.33 | 36.545 | 5.08 |
| 275 | 12.97 | 35.629 | 3.70 | 275 | 11.38 | 35.337 | 4.31 | 285 | 18.12 | 36.519 | 5.04 |
| 370* | 10.86 | 35.321 | 4.61 | 365* | 10.40 | 35.295 | 3.24 | 380** | 18.07 | 36.514 | 5.03 |
| 460 | 9.20 | 35.189 | 3.29 | 455 | 8.90 | 35.143 | 3.29 | 480 | 17.96 | 36.504 | 4.96 |
| 550* | 7.81 | 35.133 | 3.84 | 545 |  | 35.068 | 3.75 | 575 |  | 36.346 | 4.39 |
| 645 | 6.02 | 35.013 | 4.63 | 640 | 6.44 | 35.016 | 4.43 | 675 | 15.74 | 36.101 | 3.92 |
| $735{ }^{*}$ | 5.33 | 35.013 | 5.13 | 730 | 5.64 | 35.010 | 4.96 | $77{ }^{\text {7 }}$ | 13.65 | 35.768 | 3.70 |
| 835 | 4.90 | 35.002 | 5.43 | 820 | 5.07 | 34.997 <br> 35006 | 5.36 | 870 | 11.52 | 35.465 | 3.42 |
| 925* | 4.66 | 35.002 | 5.72 | 910 | 4.74 | 35.006 | 5.73 | 970* | 8.77 | 35.156 | 3.39 . |
| 1110 | 4.33 | 34.996 | 5.89 | 1090 | 4.44 | 35.000 | 5.90 | 1170 | 5.45 | 35.015 | 5.15 |
| 1300* | 4.03 | 34.978 | 6.25 | 1270 | 4.14 | 34.987 | 6.11 | 1365** | 4.70 | 35.015 | 5.66 |
| 585* | 6.97 | 35.053 | 4.22 | 1380* | 3.95 | 34.975 | 6.18 | 1640* | 4.20 | 34.994 | 6.00 |
| 880 | 4.67 | 34.996 | 5.61 | 1635 | 3.78 | 34.968 | 6.23 | 1940 | 3.84 | 34.968 | 6.06 |
| 1175* | 4.17 | 34.984 | 6.00 | 1895* | 3.65 | 34.966 | 6.25 | 2235** | 3.65 | 34.973 | 6.16 |
| 1470 | 3.85 | 34.976 | 6.06 | 2155 | 3.51 | 34.971 | 6.25 | 2535 | 3.45 | 34.980 | 6.09 |
| 1765* | 3.67 | 34.965 | 6.21 | 2505* | 3.27 | 34.970 | 6.30 | 2835** | 3.21 | 34.975 | 6.15 |
| 2060 | 3.52 | 34.968 | 6.16 | 2865 | 2.945 | 34.955 | 6.29 | 3135 | 2.970 | 34.957 | 6.14 |
| 2450* | 3.26 | 34.960 | 6.15 | 3230* | 2.660 | 34.927 | 6.30 | 3435** | 2.715 | 34.934 | 6.27 |
| 2845 | 3.02 | 34.951 | 6.16 | 3605 | 2.425 | 34.920 | 6.30 | 3830 | 2.445 | 34.923 | 6.22 |
| $3240{ }^{*}$ | 2.72 | 34.937 | 6.19 | $3980{ }^{*}$ | 2.325 | 34.912 |  | 4230* | 2.355 | 34.922 | 6.21 |
| 3635 | 2.48 | 34.924 | 6.47 | 4360* | 2.300 2 | 34.907 34 | 6.19 | ${ }_{4815 *}{ }^{4630 *}$ | 2.315 | 34.916 | 6.20 6.24 |
| 3830 | 2.40 | 34.918 | 6.17 | 4555* | 2.300 | 34.901 | 6.18 | 4815** | 2.325 | 34.913 | 6.24 |
| Station 817: 11 April; $40^{\circ} 04^{\prime} \mathrm{N}$. $62^{\circ} 32^{\prime}$ W.; Depth 4967 m. |  |  |  | Station 819; 12 April; $38^{\circ} 59^{\prime} \mathrm{N}$. <br> $62^{\circ} 27^{\prime}$ W.; Depth 5050 m. |  |  |  | Station 821; 12 April; $38^{\circ} 00^{\prime} \mathrm{N}$. $62^{\circ} 30^{\prime}$ W.; Depth 5065 m. |  |  |  |
| 0 | 18.70 | 36.268 | 4.49 | 0 | 20.84 | 36.498 | 4.93 | 0 | 18.47 | 36.536 | 5.26 |
| 45 | 18.74 | 36.271 | 4.53 |  | 20.85 |  | 5.00 | 50 | 18.47 | 36.543 | 5.40 |
| 90 | 18.60 | 36.506 | 3.72 | 95 | 20.36 | 36.497 | 5.17 | 100 | 18.45 | 36.548 | 5.27 |
| 180 | 16.90 | 36.278 | 3.79 | 190 | 19.11 | 36.565 | 4.93 | 200 | 18.10 | 36.543 | 5.15 |
| 270 | 14.63 | 35.982 | 3.78 | 285 | 18.26 | 36.492 | 4.61 | 300 | 18.05 | 36.531 | 5.04 |
| 355* | 12.59 | 35.603 | 3.65 | $380^{*}$ | 17.76 | 36.446 | 4.61 | 400** | 18.06 | 36.527 | 5.15 |
| 445 | 10.64 | 35.337 | 3.18 | 480 | 17.06 | 36.339 | 4.35 | 500 | 17.93 | 36.527 |  |
| $530^{*}$ | 8.44 | 35.115 | 3.36 | 575* |  | 36.113 | 3.96 | ${ }^{600}{ }^{*}$ | 16.89 | 36.305 | 4.38 |
| 615 | 6.64 | 35.050 | 4.27 | 675 | 12.91 | 35.502 | 3.93 | 700 | 15.09 | 36.003 | 3.99 |
| 700 | 5.56 | 35.008 | 4.88 | 770* | 10.51 | 35.296 | 3.28 | 800* | 12.69 | 35.633 | 3.47 |
| 785 | 5.07 | 35.005 | 5.24 | 870 | 7.73 | 35.084 | 3.74 | 900 | 10.44 | 35.313 | 3.25 |
| 870 | 4.59 | 34.994 | 5.72 | 970* | 6.03 | 35.011 | 4.73 | 1000* | 8.44 | 35.139 | 3.53 |
| 1030 | 4.36 | 34.985 | 5.86 | 1165 | 4.83 | 35.009 | 5.57 | 1200 | 5.87 | 35.020 | 4.98 |
| 1195* | 4.16 | 34.982 | 6.07 | 1365* | 4.32 | 34.989 | 5.97 | 1400* | 4.73 | 35.011 | 5.66 |
| 1175* | 4.15 | 34.983 | 5.96 | 1865 |  | 34.966 | 6.17 | 1600* | 4.25 | 34.994 | 6.01 |
| 1400 | 3.88 | 34.965 | 6.14 | 2160 | 3.64 | 34.966 | 6.36 | 1900 | 3.91 | 34.968 | 6.17 |
| 1630 | 3.77 3 | 34.962 | 6.40 | 2455* | 3.50 | 34.969 | 6.33 | 2200** | 3.67 | 34.969 | 6.39 |
| 1870 | 3.67 | 34.966 | 6.24 | 2750 | 3.24 | 34.960 | 6.32 | 2500 | 3.52 | 34.972 | 6.15 |
| 2110* | 3.52 | 34.967 | 6.75 | 3050* | 3.07 | 34.959 | 6.24 | ${ }^{2800}{ }^{\text {a }}$ | 3.29 | 34.966 34.949 | 6.26 |
| 2360 | 3.35 | 34.963 | 6.17 | 3345 | 2.81 | 34.941 | 6.22 | 3200 | 2.97 | 34.949 | 6.14 |
| 2615 | 3.15 | 34.956 | 6.20 | 3740* | 2.51 | 34.923 | 6.24 | $3600^{*}$ | 2.65 | 34.929 | 6.30 |
| 2960 315 | 2.85 | 34.945 | 6.27 | 4140 | 2.38 | 34.913 | 6.17 | 4000 | 2.39 | 34.915 | 6.21 |
| $3315 *$ 3685 | 2.58 2.38 | 34.930 34 | 6.24 6.26 | 4535** $4935 *$ | 2.33 2.31 | $\begin{aligned} & 34.905 \\ & 34.899 \end{aligned}$ | 6.09 6.06 | $4400^{*}$ $4800^{*}$ | 2.32 2 | 34.909 34 | 6.12 |
| 3685 4015 | 2.38 2.31 | 34.914 34.906 | 6.26 6.43 |  | 2.31 2.32 | 34.899 34.897 | 6.06 6.11 | (4800****** | 2.31 2.32 | 34.905 34.901 | M.08 |
|  |  |  |  |  |  |  |  |  |  |  |  |


| Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | $\begin{gathered} \mathrm{O}_{2} \\ \mathrm{ml} / \mathrm{l} . \end{gathered}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | $\begin{gathered} \mathrm{O}_{2} \\ \mathrm{ml} / \mathrm{l} \end{gathered}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | $\begin{gathered} \mathrm{O}_{2} \\ \mathrm{ml} / \mathrm{l} \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Station 822; 12 April; $37^{\circ} 28^{\prime} \mathrm{N}$. $62^{\circ} 28^{\prime}$ W.; Depth 5061 m . |  |  |  | Station 824; 13 April; $36^{\circ} 37^{\prime} \mathrm{N}$. $62^{\circ} 35^{\prime}$ W.; Depth 4990 m . |  |  |  | Station 826; 14 April; $35^{\circ} 00^{\prime} \mathrm{N}$. $62^{\circ} 30^{\prime}$ W.; Depth 5201 m . |  |  |  |
| 0 | 19.15 | 36.555 | 5.54 | 0 | 18.93 | 36.546 | 5.25 | 0 | 18.10 | 36.467 | 4.78? |
| 50 | 19.04 | 36.548 | 5.41 | 45 | 18.93 | 36.550 | 5.24 | 50 | 17.91 | 36.459 | 5.46 |
| 95 | 18.65 | 36.543 | 5.39 | 95 | 18.84 | 36.544 | 5.14 | 95 | 17.86 | 36.445 | 5,34 |
| 195 | 18.12 | 36.523 | 4.96 | 185 | 18.48 | 36.539 | 5.15 | 190 | 17.07 | 36.347 | 4.96 |
| 290 | 18.06 | 36.527 | 5.31 | 280 | 17.82 | 36.462 | 4.68 | 285 | 15.78 | 36.071 | 4.78 |
| 390* | 18.05 | 36.512 | 5.00 | 380* | 17.23 | 36.354 | 4.47 | 375* | 14.11 | 35.814 | 4.21 |
| 490 | 17.78 | 36.471 | 4.82 | 475 | 15.73 | 36.092 | 4.18 | 465 | 11.94 | 35.508 | 3.49 |
| 585* | 17.09 | 36.342 | 4.43 | 570* | 13.62 | 35.744 | 3.81 | 555* | 9.49 | 35.215 | 3.21 |
| 685 | 15.34 | 36,046 | 3.89 | 670 | 11.88 | 35.510 | 3.37 | 640 | 7.72 | 35.084 | 3.80 |
| 785* | 13.37 | 35.737 | 3.53 | 765* | 9.57 | 35.226 | 3.31 | 725* | 6.28 | 35.031 | 4.53 |
| 885 | 10.58 | 35.358 | 3.45 | 865 | 7.21 | 35.072 | 4.05 | 805 | 5.31 | 35.007 | 5.15 |
| 985* | 8.57 | 35.133 | 3.45 | 965* | 5.99 | 35.055 | 4.78 | 885* | 5.20 | 35.050 | 5.34 |
| 1185 | 5.37 | 35.003 | 5.10 | 1165 | 4.77 | 35.000 | 5.55 | 1065 | 4.61 | 35.013 | 5.72 |
| 1380* | 4.54 | 35.002 | 5.79 | 1360** | 4.30 | 34.985 | 5.89 | 1260* | 4.22 | 34.990 | 5.89 |
| 1660* | 4.06 | 34.979 | 6.81 | 1670* | 3.93 | - | , | 1330* | 4.15 | 34.985 | 6.04 |
| 1960 | 3.82 | 34.970 | 6.31 | 1960 | 3.69 | 34.970 | 6.16 | 1565 | 3.89 | 34.982 | 6.25 |
| 2260* | 3.64 | 34.976 | 6.26 | 2250** | 3.50 | 34.968 | 6.14 | 1810** | 3.73 | 34.973 | 6.28 |
| 2555 | 3.47 | 34.980 | 6.30 | 2545 | 3.32 | 34.967 | 6.14 | 2150 | 3.46 | 34.971 | 6.23 |
| 2855* | 3.24 | 34.969 | 6.32 | 2840* | 3.07 | 34.951 | 6.37 | 2490* | 3.17 | 34.957 | 6.14 |
| 3255 | 2.930 | 34.955 | 6.23 | 3230 | 2.780 | - | -17 | 2845 | 2.910 | 34.947 | 6.18 |
| 3650* | 2.615 | 34.930 | 6.26 | 3620 | 2.520 | 34.926 | 6.17 | 3205* | 2.570 | 34.933 | 6.23 |
| 4050 | 2.395 | 34.919 | 6.24 | 4010 | 2.370 | 34.913 | 6.11 | 3570 | 2.430 | 34.925 | 6.20 |
| 4450* | 2.330 | 34.913 | 6.22 | 4400* | 2.305 | 34.901 | 6.09 | 3935** | 2.340 | 34.910 | 6.16 |
| 4850** | 2.320 | 34.908 | 6.12 | 4790* | 2.285 | 34.897 | 6.12 | 4305 | 2.290 | 34.901 | 6.14 |
| 5050* | 2.315 | 34.905 | 6.12 | 4985* | 2.305 |  | 6.14 | 4485* | 2.295 | 34.900 | 6.08 |
| Station 823; 13 April; $36^{\circ} 59^{\prime}$ N. $62^{\circ} 31^{\prime} \mathrm{W}$.; Depth 5027 m . |  |  |  | Station 825; 13 April; $36^{\circ} 04^{\prime} \mathrm{N}$. $62^{\circ} 30^{\circ} \mathrm{W}$.; Depth 4989 m . |  |  |  | Station 827; 14 April; $33^{\circ} 59^{\prime} \mathrm{N}$. $62^{\circ} 29^{\prime}$ W.; Depth 4485 m . |  |  |  |
|  |  |  |  | 0 | 18.80 | 36.529 | 5.70 | 0 | 18.51 | 36.555 | 5.44 |
| 0 | 19.63 | 36.561 | 5.17 | 45 | 18.78 | 36.541 | 5.37 | 50 | 18.47 | 36.549 | 5.41 |
| 40 | 19.35 | 36.558 | 5.15 | 90 | 18.56 | 36.531 | 5.21 | 100 | 18.44 | 36.547 | 5.35 |
| 80 | 19.13 | 36.560 | 5.16 | 175 | 18.27 | 36.521 | 5.15 | 195 | 18.29 | 36.542 | 5.11 |
| 160 | 18.67 | 36.555 | 5.25 | 260 | 17.37 | 36.380 | 5.15 | 295 | 18.07 | 36.518 | 5.03 |
| 250 | 18.34 | 36.544 | 5.09 | 345* | 16.49 | 36.209 | 4.85 | 395* | 18.02 | 36.516 | 5.00 |
| 335* | 18.14 | 36.530 | 5.02 | 425 | 14.79 | 35.909 | 4.07 | 495 | 17.35 | 36.382 | 4.64 |
| 425 | 17.94 | 36.514 | 4.90 | 505* | 13.21 | 35.690 | 3.72 | 595* | 15.36 | 36.014 | 4.11 |
| 520* | 17.52 | 36.430 | 4.59 | 585 | 11.47 | 35.446 | 3.34 | 695 | 13.05 | 35.656 | 3.69 |
| 615 | 16.25 | 36.204 | 4.03 | 660* | 9.52 | - | 3.75 | 795* | 10.23 | 35.286 | 3.29 |
| 710 | 14.38 | 35.901 | 3.85 | 740 | 7.91 | 35.098 | 3.71 | 895 | 7.70 | 35.094 | 3.93 |
| 805 | 11.74 | 35.479 | 3.89 3.29 | 815* | 6.61 | 35.039 | 4.34 | 995* | 6.14 | 35.034 | 4.62 |
| 905 | 8.89 | 35.169 | 3.31 | 980 | 5.34 | 35.046 | 5.13 | 1195 | 4.73 | 35.006 | 5.75 |
| 1105 | 5.59 | 35.018 | 5.03 | 1155* | 4.51 | 34.996 | 5.72 | 1390* | 4.28 | 34.990 | 5.58 |
| 1305 | 4.70 | 35,001 | 5.63 | 1395* | 4.13 | 34.982 | 5.97 | 1645* | 3.91 | 34.966 | 6.33 |
| 1655* | 4.02 | 34.982 | 6.15 | 1650 | 3.84 | 34.975 | 6.25 | 1845 | 3.73 | 34.976 | 6.22 |
| 1945 | 3.77 | 34.966 | 6.34 | 1905* | 3.69 | 34.970 | 6.20 | $2140 *$ | 3.58 | 34.981 | 6.19 |
| 2235****** | 3.61 | 34.971 | 6.22 | 2165 | 3.52 | 34.968 | 6.17 | 2440 | 3.44 | 34.967 | 6.20 |
| 2520 | 3.46 | 34.976 | 6.29 | 2515* | 3.33 | 34.967 | 6.16 | 2740* | 3.29 | 34.962 | 6.20 |
| 2805* | 3.25 | 34.972 | 6.20 | 2885 | 3.01 | 34.948 | 6.23 | 3040 | 3.025 | 34.950 | 6.17 |
| 3190 | 2.95 | 34.954 | 6.20 | 3260 | 2.72 | 34.938 | 6.28 | 3340** | 2.760 | 34.939 | 6.20 |
| 3565* | 2.59 | 34.940 | 6.28 | 3640 | 2.46 | 34.921 | 6.29 | 3645 | 2.390 | 34.918 | 6.17 |
| 3945 | 2.38 | 34.915 | 6.27 | 4025** | 2.35 | 34.910 | 6.21 | 3945 | 2.295 | 34.910 | 6.25 |
| 4320** | 2.31 | 34.909 | 6.20 | 4415* | 2.31 | 34.901 | 6.09 | 4245 | 2.245 | 34.899 | 6.28 |
| 4695* | 2.31 | 34.901 | 6.18 | 4610* | 2.31 | 34.898 | 6.07 | 4485* | 2.245 | 34.896 | Mud |


| Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\substack{\text { Salinity, }}}$ | $\begin{gathered} \mathrm{O}_{2} \\ \mathrm{ml} / \mathrm{l} . \end{gathered}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | $\begin{gathered} \mathrm{O}_{2} \\ \mathrm{ml} / \mathrm{l} . \end{gathered}$ | Depth, meters | 'Tem-pera${ }^{\text {ture, }}$ | $\underset{\%}{\text { Salinity, }}$ | $\begin{gathered} \mathrm{O}_{2} \\ \mathrm{~m} / \mathrm{l} . \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Station 828; 15 April; $33^{\circ} 01^{\prime} \mathrm{N}$. $62^{\circ} 27^{\prime}$ W.; Depth 4820 m. |  |  |  | Station 830; 15 April; $34^{\circ} 06^{\prime} \mathrm{N}$. $60^{\circ} 32^{\prime}$ W.; Depth 4630 m . |  |  |  | Station 832; 16 April; $36^{\circ} 02^{\prime} \mathrm{N}$. $60^{\circ} 30^{\prime}$ W.; Depth 4745 m. |  |  |  |
| 0 | 19.87 | 36.651 | 5.60 | 0 | 19.27 | 36.6 | 5.54 | 0 | 19.13 | 36.491 | 16 |
| 50 | 18.95 | 36.583 | 5.39 | 45 | 18.96 | 36.594 | 5.46 | 40 | 18.97 | 36.477 | 5.05 |
| 95 | 18.80 | 36.583 | 5.30 | 95 | 18.57 | 36.555 | 5.23 | 85 | 18.72 | 36.506 | 5.20 |
| 195 | 18.44 | 36.573 | 5.19 | 190 | 18.14 | 36.511 | 5.04 | 170 | 18.16 | 36.490 | 4.56 |
| 290 | 18.07 | 36.503 | 4.85 | 285 | 17.85 | 36.452 | 4.69 | 255 | 17.81 | 36.463 | 4.83 |
| 390********** | 17.72 | 36.439 | 4.60 | 380** | 17.41 | 36.390 | 4.67 | 340* | 17.51 | 36.412 | 4.78 |
| 485 | 17.03 | 36.337 | 4.46 | 475 | 16.69 | 36.281 | 4.34 | 425 | 17.00 | 36.328 | 4.79 |
| 585* | 15.70 | 36.093 | 4.10 | 570* | 15.55 | 36.094 | 4.33 | 515* | 16.06 | 36.131 | 4.97 |
| 680 | 13.82 | 35.692 | 3.89 | 665 | 14.01 | 35.856 | 4.19 | 600 | 14.70 | 35.909 | 3.98 |
| 780* | 11.66 | 35.504 | 3.58 | 760** | 12.06 | 35.575 | 3.82 | 690* | 12.86 | 35.640 | 3.61 |
| 875 | 9.70 | 35.277 | 3.53 | 855 | 9.99 | 35.298 | 3.54 | 780 | 10.63 | 35.357 | 3.36 |
| 975* | 7.94 | 35.126 | 3.84 | 950** | 7.93 | 35.135 | 3.87 | 870* | 8.43 | 35.139 | 3.55 |
| 1170 | 5.22 | 35.013 | 5.25 | 1145 | 5.71 | 35.062 | 4.95 | 1055 | 5.92 | 35.055 | 4.85 |
| 1365* | 4.59 | 35.013 | 5.81 | 1335** | 4.73 | 35.028 | 5.67 | 1240** | 4.81 | 35.022 | 5.65 |
| 1515* | 4.26 | 35.001 | 5.94 | 1455* | 4.53 | 35.015 | 5.77 | 1600* | 4.16 | 34.994 | 5.92 |
| 1710 | 3.96 | 34.985 | 6.14 | 1645 | 4.20 | 35.002 | 6.08 | 1895 | 3.81 | 34.977 | 6.20 |
| 2000* | 3.72 | 34.974 | 6.19 | 1930** | 3.97 |  | 6.08 | 2195* | 3.61 | 34.971 | 6.16 |
| 2295 | 3.50 | 34.966 | 6.20 | 2215 | 3.60 | 34.971 | 6.14 | 2495 | 3.39 | 34.966 | 6.12 |
| 2590* | 3.27 | 34.961 | 6.21 | 2505* | 3.34 | 34.964 | 6.20 | 2795* | 3.13 | 34.954 | 6.32 |
| 2985 | 2.87 | 34.953 | 6.11 | 2795 | 3.075 | 34.951 | 6.11 | 3095 | 2.890 | 34.943 | 6.19 |
| 3380* | 2.53 | 34.925 | 6.18 | 3180* | 2.710 | 34.935 | 6.19 | 3395 | 2.610 | 34.927 | 6.20 |
|  | 2.36 | 34.914 | 6.16 | 3570 | 2.415 | 34.917 | 6.01 | 3795 | 2.375 | 34.910 | 6.14 |
| 4165** | 2.29 | 34.907 | 6.16 | 3955** | 2.295 | 34.906 | 6.10 | 4195* | 2.290 | 34.901 | 6.27 |
| 4560** | 2.28 | 34.900 | 6.08 | 4340 | 2.260 | 34.899 | 6.08 | 4595* | 2.275 | 34.896 | 6.13 |
| 4755* | 2.30 | 34.899 | 6.11 | 4485* | 2.265 | 34.899 | 6.17 | 4745* | 2.275 | 34.897 | Mud |
|  |  |  |  |  |  |  |  |  |  |  |  |
| Station 829; 15 April; $33^{\circ} 00^{\prime} \mathrm{N}$. $60^{\circ} 31^{\prime}$ W.; Depth 4650 m. |  |  |  | Station 831; 16 April; $35^{\circ} 00^{\prime} \mathrm{N}$. $60^{\circ} 30^{\prime}$ W.; Depth 4530 m . |  |  |  | Station 833; 16 April; $36^{\circ} 30^{\prime} \mathrm{N}$. $60^{\circ} 30^{\prime}$ W.; Depth 5000 m . |  |  |  |
| 0 | 19.12 | 36.569 | 5.72 |  |  |  |  |  |  |  |  |
| 50 | 19.04 | 36.567 | 5.58 | 0 | 18.66 | 36.545 | 5.35 | 0 | 19.71 | 36.508 | 5.53 |
| 100 | 18.52 | 36.551 | 5.36 | 45 | 18.64 | 36.547 | 5.26 | 50 | 19.64 | 36.504 | 5.41 |
| 200 | 17.77 | 36.449 | 4.67 | 90 | 18.60 | 36.547 | 4.86 | 95 | 19.08 | 36.548 | 5.44 |
| 300 | 17.81 |  | 5.30 | 180 | 18.23 | 36.519 36509 | 5.41 | 190 | 18.17 | 36.529 | 5.19 |
| $400^{*}$ | 17.43 | 36.379 | 4.80 4.89 | 275 | 18.00 | 36.500 | 5.05 | 285 | 18.03 | 36.520 3620 | 5.10 |
| 500 | 16.20 | 36.176 3516 | 4.29 4.03 | ${ }^{365}{ }^{\text {46* }}$ | 17.90 | 36.497 36465 | 5.05 | 385* | 18.01 | 36.520 | 5.09 |
| ${ }_{700} 7$ | 14.67 12.45 | 35.916 35.578 | 4.03 <br> 3.47 | 560** | 17.74 16.92 | 36.465 36.296 | 5.14 4.37 | 480 | 17.05 15.52 | 36.322 36.063 | 4.47 3.93 |
| 800** | 9.95 | 35.271 | 3.46 | 650 | 15.23 | 36.009 | 4.03 | 670 | 13.13 | 36.691 | 3.93 3.60 |
| 895 | 7.79 | 35.109 | 3.91 | 745* | 13.23 | 35.704 | 3.85 | 765* | 10.65 | 35.355 | 3.39 |
| 995* | 6.44 | 35.080 | 4.58 | 845 | 10.61 | 35.370 | 3.65 | 860 | 7.94 | 35.087 | 3.62 |
| 1195 | 5.09 | 35.061 | 5.52 | $940^{*}$ | 7.90 | 35.089 | 3.57 | 960* | 6.07 | 35.020 | 4.12 |
| 1390** | 4.42 | 35.013 | 5.86 | 1135 | 5.54 | 35.072 | 5.15 | 1150 | 4.72 | 34.997 | 5.68 |
| 1470** | 4.27 | 35.005 | 6.10 | 1335 | 4.67 | 35.04 | 5.53 | ${ }^{1340 *}$ | 4.33 | 34.993 | 5.92 |
| 1770 | 3.86 | 34.979 | 6.24 | 1725* | 3.84 | 34.973 | 6.19 | 1645* | 3.90 | 34.971 | 6.23 |
| 2070* | 3.60 | 34.974 | 6.25 | 1925 | 3.70 | 34.976 | 6.28 | 1835 | 3.75 | 34.965 | 6.22 |
| 2365 | 3.38 | 34.968 | 6.20 | 2220** | 3.46 | 34.972 | 6.19 | 2120** | 3.56 | 34.966 | 6.01 |
| 2665* | 3.11 | 34.958 | 6.26 | 2520 | 3.25 | 34.963 | 6.10 | 2505 | 3.30 | 34.962 | 6.21 |
| 2965 | 2.790 | 34.940 | 6.23 | 2820** | 2.99 | 34.952 | 6.15 | 2895* | 2.99 | 34.947 | 6.12 |
| 3265* | 2.515 | 34.925 | 6.35 | 3120 | 2.67 | 34.935 | 6.14 | 3280 | 2.640 | 34.931 | 6.24 |
| 3665 | 2.310 | 34.909 | 6.20 | 3415** | 2.42 | 34.921 | 6.13 | 3670** | 2.410 | 34.912 | 6.14 |
| 4065** | 2.270 | 34.902 | 6.18 | 3715 | 2.29 | 34.911 | 6.04 | 4055 | 2.320 | 34.904 | 6.14 |
| 44650** | 2.245 2.230 | 34.896 | 6.18 | $4015^{*}$ $4410^{*}$ | 2.26 2.25 | 34.904 34 | ${ }_{6}^{6.02}$ | 4440********* | 2.295 | 34.899 | 6.16 |
| 4650** | 2.230 | 34.891 | ${ }_{\text {cloudy }}$ | $4410^{*}$ $4530^{*}$ | 2.25 2.25 | 34.899 34.896 | 6.08 Mud | 4825**** | 2.290 2.320 | 34.893 34.898 | \% ${ }_{\text {Mud }}$ |
|  |  |  |  |  |  |  |  |  |  |  |  |


| Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | $\begin{gathered} \mathrm{O}_{2} \\ \mathrm{ml} / \mathrm{l} . \end{gathered}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | Salinity, $\%$ | $\begin{gathered} \mathrm{O}_{2} \\ \mathrm{ml} / \mathrm{l} . \end{gathered}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\begin{gathered} \text { Salinity, } \\ \% \end{gathered}$ | $\mathrm{O}_{2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Station 834; 17 April; $37^{\circ} 00^{\prime} \mathrm{N}$. $60^{\circ} 28^{\prime}$ W.; Depth 4536 m . |  |  |  | Station 836; 17 April; $38^{\circ} 02^{\prime} \mathrm{N}$. $60^{\circ} 32^{\prime}$ W.; Depth 4423 m. |  |  |  | Station 838; 18 April; $38^{\circ} 59^{\prime} \mathrm{N}$. $60^{\circ} 30^{\prime}$ W.; Depth 5103 m . |  |  |  |
| 0 | 15.67 | 35.883 | 5.94 | 0 | 18.09 | 36.513 | 5.98 | 0 | 17.38 | 36.133 | 5.08 |
| 50 | 14.93 | 35.842 | 5.99 | 45 | 17.90 | 36.501 | 5.27 | 40 | 17.59 | 36.337 | 3.72 |
| 100 | 14.77 | 35.817 | 5.40 | 90 | 17.71 | 36.485 | 5.58 | 80 | 16.29 | 36.051 | 4.53 |
| 200 | 13.26 | 35.641 | 5.03 | 180 | 17.64 | 36.476 | 5.26 | 160 | 13.46 | 35.433 | 5.65 |
| 295 | 12.50 | 35.575 | 4.79 | 270 | 17.58 | 36.458 | 5.22 | 240 | 12.87 | 35.497 | 4.72 |
| 395* | 11.70 | 35.463 | 3.66 | 360* | 17.27 | 36.380 | 5.13 | 330 | 12.31? | 35.414 | 4.54 |
| 495 | 9.96 | 35.243 | 3.30 | 450 | 16.48 | 36.223 | 4.41 | 415 | 12.33 | 35.498 | 4.78 |
| 595* | 7.89 | 35.071 | 3.60 | 535* | 14.75 | 35.930 | 3.83 | 505* | 11.75 | 35.444 | 3.66 |
| 695 | 6.51 | 35.014 | 4.23 | 620 | 12.31 | 35.567 | 3.79 | 595 | 9.86 | 35.235 | 3.25 |
| 795* | 5.60 | 35.007 | 4.72 | 705* | 9.82 | 35.240 | 3.40 | 690* | 8.23 | 35.090 | 3.43 |
| 890 | 5.00 | 35.000 | 5.22 | 790 | 7.93 | 35.077 | 3.86 | 785 | 6.91 | 35.037 | 4.11 |
| 990* | 4.80 | 35.002 | 5.50 | 875* | 6.38 | 35.022 | 4.68 | 880* | 5.77 | 35.012 | 4.93 |
| 1190 | 4.36 | 34.997 | 5.89 | 1055 | 5.31 | 35.073 | 5.39 | 1085 | 4.77 | 35.003 | 5.68 |
| 1385* | 4.06 | 34.975 | 5.89 | 1235** | 4.48 | 35.007 | 5.86 | 1295* | 4.31 | 34.991 | 6.01 |
| 1575* | 3.86 | 34.966 | 6.12 | 1145* | 4.91 | 35.046 | 5.61 | 1515* | 4.02 | 34.977 | 5.97 |
| 1870 | 3.69 | 34.968 | 6.28 | 1335 | 4.25 | 34.989 | 6.12 | 1810 | 3.76 | 34.969 | 6.29 |
| 2165* | 3.55 | 34.966 | 5.98 | 1530* | 3.96 | 34.974 | 5.72 | 2105* | 3.57 | 34.967 | 6.35 |
| 2460 | 3.35 | 34.960 | 6.16 | 1825 | 3.75 | 34.966 | 6.32 | 2410 | 3.370 | 34.965 | 6.37 |
| 2750* | 3.12 | 34.951 | 6.08 | 2215** | 3.57 | 34.966 | 6.21 | 2815** | 3.180 | 34.956 | 6.32 |
| 3045 | 2.90 | 34.942 | 6.17 | 2610 | 3.195 | 34.956 | 6.18 | 3225 | 2.800 | 34.939 | 6.27 |
| 3340* | 2.62 | 34.931 | 6.21 | 3010 ${ }^{*}$ | 2.905 | 34.944 | 6.18 | 3640** | 2.460 | 34.920 | 6.27 |
| 3635 | 2.47 | 34.916 | 6.22 | 3410 | 2.575 | 34.926 | 6.18 | 4055 | 2.330 | 34.908 | 6.27 |
| 3930* | 2.45 | 34.913 | 6.29 | $3810^{\text {m }}$ | 2.475 | 34.920 | 6.28 | 4465* | 2.290 | 34.901 | 6.14 |
| 4225 | 2.44 | 34.896 | 6.23 | 4215 | 2.395 | 34.911 | 6.21 | 4875* | 2.300 | 34.895 | 6.23 |
| 4460* | 2.35 | 34.903 | 6.33 | 4420* | 2.355 | 34.907 | 6.22 | 5080* | 2.280 | 34.891 | 6.09 |
| Station 835; 17 April; $37^{\circ} 32^{\prime} \mathrm{N}$. $60^{\circ} 34^{\prime}$ W.; Depth 5154 m. |  |  |  | Station 837; 17 April; $38^{\circ} 30^{\prime} \mathrm{N}$. $60^{\circ} 30^{\circ}$ W.; Depth 5056 m . |  |  |  | Station 839; 18 April; $39^{\circ} 28^{\prime} \mathrm{N}$. $60^{\circ} 31^{\prime}$ W.; Depth 5111 m. |  |  |  |
| 5 | 18.11 | 36.255 | 5.12 | 5 | 17.85 | 36.504 | 5.66 | 0 | 22.05 | 36.437 | 5.15 |
| 45 | 17.63 | 36.205 | 5.00 | 45 | 17.81 | 36.503 | 5.55 | 40 | 21.88 | 36.478 | 5.01 |
| 90 | 17.78 | 36.391 | 3.82 | 95 | 17.63 | 36.480 | 5.34 | 85 | 20.74 | 36.601 | 4.63 |
| 175 | 16.91 | 36.280 | 5.16 | 185 | 17.57 | 36.467 | 5.21 | 165 | 18.30 | 36.466 | 3.79 |
| 260 | 15.45 | 36.023 | 4.17 | 280 | 17.47 | 36.452 | 5.15 | 250 | 17.81 | 36.457 | 4.58 |
| 345* | 13.48 | 35.719 | 4.24 | 375* | 17.36 | 36.430 | 5.01 | 330 ${ }^{\text {+ }}$ | 17.22 | 36.355 | 4.47 |
| 430 | 11.77 | 35.491 | 3.31 | 470 | 16.49 | 36.239 | 4.77 | 410 | 13.80 | 36.109 | 4.01 |
| $510^{*}$ | 9.89 | 35.263 | 3.30 | 565* | 14.26 | 35.852 | 4.11 | 485* | 12.65 ? | 35.543 | 5.52 |
| 590 | 8.52 | 35.141 | 3.47 | 660 | 11.64 | 35.489 | 3.47 | 565 | 12.57 | 35.534 | 5.24 |
| 670* | 7.11 | 35.063 | 4.05 | 755* | 9.51 | 35.245 | 3.55 | 645 | 11.02 | 35.384 | 3.35 |
| 750 | 6.42 | 35.088 | 4.59 | 850 | 7.63 | 35.086 | 3.92 | 725 | 8.67 | 35.118 | 3.39 |
| 835* | 5.93 | 35.100 | 4.89 | 945* | 6.53 | 35.069 | 4.59 | 805* | 7.24 | 35.059 | 3.98 |
| 1005 | 5.13 | 35.062 | 5.34 | 1135 | 4.86 | 35.013 | 5.46 | 965 | 5.26 | 35.011 | 5.41 |
| $1190{ }^{*}$ | 4.57 | 35.034 | 5.80 | 1325* | 4.37 | 35.005 | 5.87 | 1125* | 4.57 | 35.002 | 5.80 |
| 1435* | 4.06 | 34.993 | 6.07 | 1550* | 4.10 | 34.981 | 6.14 | 1330* | 4.23 | 34.996 | 5.93 |
| 1710 | 3.83 | 34.985 | 6.14 | 1845 | 3.80 | 34.966 | 6.32 | 1625 | 3.92 | 34.980 | 6.21 |
| 1985* | 3.57 | 34.967 | 6.27 | 2145* | 3.59 | 34.968 | ? | 2030** | 3.66 | 34.966 | 6.21 |
| 2345 | 3.36 | 34.965 | 6.21 | 2450 | 3.42 | 34.966 | 6.18 | 2400 | 3.44 | 34.965 | 6.29 |
| 2695* | 3.110 | 34.954 | 6.33 | 2855* | 3.09 | 34.958 | 6.33 | 2760* | 3.08 | 34.955 | 6.14 |
| 3045 | 2.840 | 34.939 | 6.19 | 3265 | 2.78 | 34.938 | 6.20 | 3140 | 2.830 | 34.944 | 6.21 |
| 3385* | 2.595 | 34.930 | 6.22 | 3675* | 2.49 | 34.920 | 6.20 | 3545** | 2.550 | 34.925 | 6.23 |
| 3700* | 2.425 | 34.918 | 6.21 | 4070 | 2.32 | 34.908 | 6.18 | 3960 | 2.375 | 34.911 | 6.18 |
| 4020** | 2.360 | 34.906 | 6.21 | 4460** | 2.31 | 34.902 | 6.27 | 4380* | 2.310 | 34.904 | 6.21 |
| 4390 | 2.335 | 34.901 | 6.30 | 4845* | 2.30 | 34.898 | 6.12 | 4795* | 2.305 | 34,900 | 6.17 |
| 4580* | 2.320 | 34.901 | 6.12 | 5055* | 2.32 | 34.899 | Mud | 5000** | 2.300 | 34.899 | 6.14 |




| Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }} \underset{\%}{ }$ | $\begin{gathered} \mathrm{O}_{2} \\ \mathrm{ml} / \mathrm{l} \end{gathered}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | $\begin{gathered} \mathrm{O}_{2} \\ \mathrm{ml} / \mathrm{I} . \end{gathered}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | Salinity, $\%$ | $\begin{gathered} \mathbf{O}_{2} \\ \mathrm{ml} \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Station 853; 21 April; $42^{\circ} 40^{\prime} \mathrm{N}$. $58^{\circ} 30^{\prime}$ W.; Depth 4245 m. |  |  |  | Station 855; 21 April; $42^{\circ} 00^{\prime} \mathrm{N}$. $58^{\circ} 29^{\prime}$ W.; Depth 4770 m. |  |  |  | Station 857; 22 April; $41^{\circ} 00^{\prime} \mathrm{N}$. $58^{\circ} 30^{\prime} \mathbf{W}$.; Depth 5050 m . |  |  |  |
| 0 | 13.09 | 35.635 | 6.28 | 0 | 15.01 | 35.879 | 5.75 | 0 | 16.48 | 36.120 | 5.67 |
| 50 | 13.05 | 35.625 | 6.02 | 45 | 13.33 | 35.608 | 5.07 | 45 | 15.41 | 35.919 | 5.28 |
| 100 | 12.86 | 35.534 | - | 95 | 12.82 | 35.556 | 5.78 | 90 | 14.21 | 35.740 | 5.28 |
| 195 | 12.62 | 35.539 | 5.92 | 190 | 12.39 | 35.494 | 5.51 | 180 | 12.88 | 35.582 | 5.14 |
| 295 | 11.24 | 35.403 | 3.76 | 285 | 12.20 | 35.527 | 4.67 | 270 | 12.18 | 35.505 | 4.35 |
| 395* | 8.98 | 35.193 | 3.31 | 380* | 9.34 | 35.177 | 3.44 | 360* | 9.38 | 35.157 | 3.25 |
| 495 | 7.07 | 35.052 | 4.49 | 480 | 7.00 | 34.933 | 4.10 | 455 | 7.44 | 35.055 | 3.90 |
| 590 | 5.50 | 34.977 | 4.98 | 575* | 6.24 | 35.014 | 4.62 | 545* | 6.03 | 35.014 | 4.76 |
| 690 | 4.97 | 34.964 | 5.47 | 675 | 5.15 | 34.971 | 5.32 | 640 | 5.30 | 35.018 | 5.14 |
| 790* | 4.53 | 34.949 | 6.50 | 770* | 4.83 | 34.989 | 5.74 | 1425* |  | 34.974 |  |
| 890 | 4.40 | 34.969 | 6.12 | 870 | 4.56 | 34.993 | 5.79 | $1425 *$ 1720 | 3.80 3.60 | 34.974 34.964 | 6.08 6.32 |
| 985** | 4.33 | 34.987 | 6.31 | 965* | 4.46 | 34.995 | 5.91 | $2115{ }^{*}$ | 3.60 3.48 | 34.964 34.971 | 6.32 6.26 |
| 1185 | 4.08 | 34.980 | 6.39 | 1165 | 4.14 | 34.981 | 5.84 | 2515 | 3.48 3.15 | 34.955 | 6.26 6.27 |
| 1380* | 3.88 | 34.957 | 6.61 | 1360* | 3.92 | 34.968 | 6.21 | 2915* | 2.83 | 34.946 | 6.31 |
| 1510** | 3.79 | 34.960 | 6.47 | 1505* | 3.82 | 34.964 | 6.26 | 3320 | 2.580 | 34.923 | 6.27 |
| 1705 | 3.67 | 34.963 | 6.33 | 1805 | 3.64 | 34.960 | 6.30 | 3720* | 2.450 | 34.915 . | 6.26 |
| 1900* | 3.61 | 34.966 | 6.32 | 2100* | 3.46 | 34.956 | 6.40 | 4120 | 2.310 | 34.905 | 6.27 |
| 2190 | 3.45 | 34.964 | 6.28 | 2400 | 3.32 | 34.961 | 6.24 | 4520** | 2.285 | 34.902 | 6.28 |
| 2485* | 3.235 | 34.953 | 6.33 | 2700* | 3.11 | 34.951 | 6.39 | 4915 | 2.270 | 34.891 | 6.20 |
| 2780 | 2.985 | 34.946 | 6.35 | 3000 | 2.885 | 34.939 | 6.26 |  |  |  |  |
| 3075* | 2.740 | 34.939 | - | 3395* | 2.590 | 34.926 | 6.30 |  |  |  |  |
| 3370 | 2.475 | 34.925 | 6.37 | 3790 | 2.375 | 34.912 | 6.32 |  |  |  |  |
| 3665* | 2.310 | 34.916 | 6.37 | 4180** | 2.300 | 34.904 | 6.33 |  |  |  |  |
| 3965 | 2.255 | 34.906 | 6.38 | 4565 | 2.270 | 34.902 | 6.25 |  |  |  |  |
| 4160* | 2.230 | 34.905 | 6.31 |  |  |  |  |  |  |  |  |
| Station 854; 21 April; 42 ${ }^{\circ} 21^{\prime} \mathrm{N}$. $58^{\circ} 29^{\prime}$ W.; Depth 4560 m. |  |  |  |  |  |  |  | Station 858; 22 April; $40^{\circ} 30^{\prime} \mathrm{N}$. $58^{\circ} 29^{\prime}$ W.; Depth 5115 m . |  |  |  |
|  |  |  |  | Station 856; 21 April; 41 $31^{\circ} \mathrm{N}$. $58^{\circ} 31^{\prime}$ W.; Depth 4949 m . |  |  |  | 0 | 15.34 | 35.971 | 5.65 |
| 0 | 13.61 | 35.729 | 5.94 |  |  |  |  | 45 | 15.26 | 35.969 | 5.61 |
| 50 | 13.55 | 35.727 | 5.79 |  |  |  |  | 90 | 12.74 | 35.477 | 5.64 |
| 95 | 13.52 | 35.724 | 5.65 | 0 | 16.49 | 36.133 | 5.72 | 185 | 12.96 | 35.601 | 5.58 |
| 190 | 12.83 | 35.632 | 5.20 | 50 | 14.83 | 35.887 | 4.02 | 275 | 11.88 | 35.453 | 4.16 |
| 290 | 11.33 | 35.424 | 3.37 | 100 | 12.89 | 35.517 | 5.19 | 370* | 9.27 | 35.186 | 3.27 |
| 385* | 9.09 | 35.180 | 3.31 | 195 | 12.64 | 35.558 | 5.27 | 465 | 7.52 | 35.063 | 3.86 |
| 480 | 7.38 | 35.047 | 4.04 | 295 | 10.91 | 35.364 | 3.32 | $555 *$ | 6.41 | 35.029 | 4.61 |
| $580^{*}$ | 5.76 | 34.950 | 4.75 | 395* | 8.75 | 35.129 | 3.35 | 650 | - | 35.028 | 4.49 |
| 675 | 5.22 | 34.976 | 5.26 | 490 | 6.96 | 35.049 | 4.17 | 745* | 4.90 | 35.008 | 5.54 |
| 775* | 4.58 | 34.960 | 5.80 | 590* | 5.67 | 35.008 | 4.93 | 840 | 4.61 | 35.007 | 5.61 |
| 870 | 4.42 | 34.964 | 6.04 | 690 | 5.18 | 35.009 | 5.26 | 940** | 4.40 | 34.996 | 5.91 |
| 970* | 4.28 | 34.970 | 6.02 | 790* | 4.79 | 35.001 | 5.59 | 1130 | 4.14 | 34.986 | 6.14 |
| 1160 | 4.10 | 34.971 | 6.14 | 890 | 4.55 | 34.998 | 5.78 | 1325* | 3.93 | 34.971 | 6.20 |
| 1355** | 3.91 | 34.960 | 6.20 | 990** | 4.35 | 34.991 | 5.98 |  |  |  |  |
| 1530* | 3.76 | 34.957 | 6.37 | 1190 1390 | 4.09 3.91 | 34.980 34.969 | 6.14 6.20 | $1570 *$ 1860 | 3.74 3.57 | 34.967 34.967 | 6.35 6.32 |
| 1925 | 3.54 | 34.957 | 6.27 | 1390** | 3.91 | 34.969 | 6.20 | 2155** | 3.43 | 34.967 | 6.23 |
| 2220* | 3.39 | 34.962 | 6.30 | 1570* | 3.78 | 34.966 | - | 2450 | 3.24 | 34.959 | 6.26 |
| 2515 | 3.20 | 34.951 | 6.26 | 1870 | 3.58 | 34.967 | 6.23 | 2845** | 2.96 | 34.947 | 6.38 |
| $2810^{*}$ | 2.98 | 34.944 | 6.26 | 2170* | 3.39 | 34.965 | 6.23 | 3245 | 2.680 | 34.933 | 6.17 |
| 3110 | 2.745 | 34.935 | 6.33 | 2470 | 3.20 | 34.957 | 6.23 | 3645** | 2.460 | 34.920 | 6.27 |
| 3405* | 2.475 | 34.920 | 6.30 | 2770** | 2.98 | 34.947 | 6.31 | 4045 | 2.335 | 34.906 | 6.23 |
| 3700 | 2.340 | 34.910 | 6.23 | 3170 | 2.625 | 34.931 | 6.32 | 4440** | 2.300 | 34.900 | 6.44 |
| 4095* | 2.265 | 34.903 | 6.08 | 3570* | 2.405 | 34.916 | 6.26 | 4835 | 2.310 | 34.896 | 6.24 |
| 4485 | 2.235 | 34.899 | 6.20 | 3970 | 2.305 | 34.904 | 6.21 | 5115* | 2.255 | 34.886 | 6.08 |
| 4560* | 2.235 | - | - | 4370** | 2.280 | 34.900 | 6.10 |  |  |  | Mud |


| Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | $\begin{gathered} \mathrm{O}_{2} \\ \mathrm{ml} / \mathrm{l} . \end{gathered}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | $\begin{gathered} \mathrm{O}_{2} \\ \mathrm{ml} / \mathrm{l} . \end{gathered}$ | Depth, meters | Tem perature, ${ }^{\circ} \mathrm{C}$ | Salinity, $\%$ | $\begin{gathered} \mathrm{O}_{2} \\ \mathrm{ml} / \mathrm{l} \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Station 859; 22 April; $40^{\circ} 01^{\prime} \mathrm{N}$. $58^{\circ} 27^{\prime}$ W.; Depth 5170 m . |  |  |  | Station 861; 23 April; $38^{\circ} 59^{\prime} \mathrm{N}$. $58^{\circ} 31^{\prime}$ W.; Depth 5205 m . |  |  |  | Station 863; 24 April: $38^{\circ} 00^{\prime} \mathrm{N}$. $58^{\circ} 29^{\prime}$ W.; Depth 5195 m . |  |  |  |
| 0 | 10.48 | 34.293 | 7.60 | 0 | 18.28 | 36.518 | 5.55 | 0 | 19.87 | 36.373 | 5.28 |
| 45 | 11.95 | 35.146 | 6.00 | 50 | 18.28 | 36.528 | 5.59 | 45 | 19.87 | 36.495 | 5.20 |
| 90 | 12.41 | 35.497 | 5.55 | 95 | 18.18 | 36.511 | 4.93 | 90 | 19.28 | 36.572 | 4.96 |
| 185 | 12.48 | 35.535 | 5.62 | 195 | 17.92 | 36.505 | 5.33 | 185 | 18.75 | 36.565 | 4.99 |
| 275 | 12.01 | 35.433 | 5.26 | 290 | 17.86 | 36.493 | 4.93 | 280 | 18.21 | 36.510 | 4.69 |
| 370* | 10.35 | 35.294 | 3.36 | 385* | 17.56 | 36.423 | 5.09 | 375* | 17.74 | 36.447 | 4.62 |
| 460 | 8.47 | 35.108 | 3.78 | 480 | 17.17 | 36.361 | 4.80 | 470 | 17.23 | 36.374 | 4.55 |
| 555* | 7.18 | 35.059 | 4.14 | $580{ }^{*}$ | 15.73 | 36.3680 | 4.803 | 565* | 16.04 | 36.163 | 4.20 |
| 645 | 6.02 | 35.017 | 4.70 | 680 | 15.73 | 35.961 | 4.02 | 665 | 14.34 | 35.876 | 3.70 |
| 740* | 5.43 | 35.016 | 5.11 | 7880* | 11.45 | 35.961 | 4.02 4.14 | 760* | 11.84 | 35.451 | 4.08 |
| 835 | 4.88 | 34.998 | 5.66 | 885 | 1.8 | 35.097 | 4.14 3.42 | 860 | 9.31 | 35.193 | 3.37 |
| 925** | 4.72 | 34.999 | 5.67 | 888 | 8.87 | 35.097 | 3.42 3.38 | 960 | 7.48 | 35.074 | 3.97 |
| 1115 | 4.31 | 34.988 | 6.06 | 1180 | 5.20 | 35.100 | 5.20 | 1160 | 5.27 | 35.022 | 5.31 |
| 1300** | 4.08 | 34.980 | 6.14 | 1380** | 4.54 | 35.013 | 5.81 | 1360* | 4.90 | 35.061 | 5.65 |
| 1425* | 3.99 | 34.987 | 6.06 | 1650* | 4.05 | 34.983 | 6.17 | 1420* | 4.76 | 35.061 | 5.91 |
| 1795 | 3.62 | 34.964 | 6.37 | 1940 | 3.80 | 34.966 | 6.18 | 1720 | 4.06 | 34.992 | 6.33 |
| $2170^{*}$ | 3.34 | 34.961 | 6.23 | 2330** | 3.85 3.55 | 34.966 37.969 | 6.18 | 2120** | 3.74 | 34.989 | 6.26 |
| 2545 | 3.085 | 34.949 | 6.26 | 2720 | 3.30 | 34.969 | 6.14 | 2520 | 3.46 | 34.973 | 6.31 |
| 2925* | 2.750 | 34.930 | 6.44 | 3115** | 2.99 | 34.963 34.949 | 6.23 | 2920** | 3.09 | 34.955 | 6.39 |
| 3310 | 2.540 | 34.920 | 6.26 | 3510 | 2.990 | 35.933 | 6.26 | 3320 | 2.780 | 34.943 | 6.38 |
| 3695 | 2.350 | 34.908 | 6.27 | 3900* | 2.690 | 34.914 | 6.23 | $3720^{*}$ | 2.550 | 34.930 | 6.20 |
| 4080 | 2.300 | 34.900 | 6.27 | 4295 | 2.330 | 34.907 | 6.20 | 4125****** | 2.370 | 34.914 | 6.20 |
| 4465** | 2.300 | 34.895 | 6.17 | 4685 | 2.310 | 34.904 | 6.15 | 4625********** | 2.300 | 34.909 | 6.33 |
| 4850* | 2.325 | 34.891 | 6.26 | 5075* | 2.395 | 34.904 34.893 | 6.23 | 5125* | 2.245 | 34.886 | 6.00 |
| 5040* | 2.340 | 34.891 | 6.21 | 5205* | 2.275 | 34.893 | Mud | 5195* | 2.260 | 34.867 | 6.13 Mud |
| Station 860; 23 April; $39^{\circ} 25^{\prime} \mathrm{N}$. $58^{\circ} 26^{\prime} \mathrm{W}$. ; Depth 5205 m . |  |  |  | Station 862; 23 April; $38^{\circ} 30^{\prime} \mathrm{N}$. $58^{\circ} 31^{\prime} \mathrm{W}$.; Depth 5190 m . |  |  |  | Station 864; 24 April; $37^{\circ} 35^{\prime} \mathrm{N}$. $58^{\circ} 28^{\prime} W_{\text {. }}$; Depth 5180 m . |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| 0 | 18.39 | 36.543 | 5.45 | 0 | 17.88 | 36.508 | 5.38 |  |  |  |  |
| 45 | 18.38 | 36.552 | 5.33 | 50 | 17.88 | 36.507 | 5.34 | 0 | 19.90 | 36.501 | 5.33 |
| 95 | 18.43 | 36.553 | 5.32 | 100 | 17.86 | 36.503 | 5.33 | 40 | 19.91 | 36.513 | 5.26 |
| 190 | 18.14 | 36.523 | 5.02 | 200 | 17.64 | 36.484 | 5.22 | 85 | 19.11 | 36.583 | 4.99 |
| 285 | 17.95 | 36.501 | 4.95 | 300 | 17.52 | 36.456 | 5.05 | 170 | 18.76 | 36.518 | 5.39 |
| 385* | 17.56 | 36.411 | 4.80 | 400* | 17.49 | 36.462 | 5.12 | 255 | 18.28 | 36.568 | 4.74 |
| 480 | 16.58 | 36.234 | 4.47 | 500 | 17.46 | 36.464 | 5.08 | 345* | 18.12 | 36.548 | 4.98 |
| 575* | 14.70 | 35.930 | 4.02 | 600* | 16.84 | 36.311 | 4.75 | 435 | 17.54 | 36.443 | 4.50 |
| 675 | 12.75 | 35.608 | 3.71 | 700 | 14.52 | 35.896 | 4.06 | 530* | 16.41 | 36.223 | 4.13 |
| 775* | 10.31 | 35.370 | 3.49 | 800* | 12.22 | 35.612 | 3.61 | 625 | 14.41 | 35.897 | 3.90 |
| 875 | 7.77 | 35.040 | 3.84 | 900 | 9.18 | 35.190 | 3.45 | 720 * | 12.53 | 35.596 | 3.49 |
| 970* | 6.29 | 35.053 | 4.61 | 1000* | 7.16 | 35.048 | 4.13 | 820 | 9.33 | 35.209 | 3.31 |
| 1170 | 4.82 | 34.998 | 5.72 | 1200 | 5.32 | 35.023 | 5.26 | 920** | 7.52 | 35.087 | 4.22 |
| 1370** | 4.34 | 35.016 | 5.90 | 1400** | 4.53 | 34.996 | 5.86 | 1120 | 5.08 | 35.014 | 5.39 |
| 1530* | 4.12 | 34.986 | 6.14 | 1500* | 4.36 | 34.994 | 5.98 | 1325 | 4.48 | 35.010 | 5.81 |
| 1830 | 3.81 | 34.966 | 6.23 | 1795 | 3.95 | 34.975 | 6.23 | 1645 | 3.99 | 34.994 | 6.08 |
| 2230* | 3.58 | 34.973 | 6.25 | 2195* | 3.66 | 34.968 | 6.26 | 1940 | 3.73 | 34.987 | 6.21 |
| 2630 | 3.360 | 34.964 |  | 2595 | 3.45 | 34.971 | 6.21 | 2740 | 3.15 | 34.965 | 6.18 |
| 3030* | 2.980 | 34.953 | 6.10 | 2995* | 3.175 | 34.961 | 6.14 | 3145* | 2.81 | 34.941 | 6.48 |
| 3430 | 2.655 | 34.948 | 6.30 | 3395 | 2.850 | 34.944 | 6.33 | 3555 | 2.555 | 34.925 | 6.20 |
| 3830** | 2.455 | 34.913 | 6.33 | 3795* | 2.585 | 34.928 | 6.10 | 3960** | 2.385 | 34.919 | 6.19 |
| 4230 | 2.330 | 34.907 | 6.14 | 4195 | 2.410 | 34.914 | 6.24 | 4365 | 2.310 | 34.903 | 6.19 |
| 4630 | 2.310 | 34.902 | 6.21 | 4595* | 2.335 | 34.905 | 6.21 | 4770 | 2.305 | 34.898 | 6.18 |
| 5030* | 2.310 | 34.898 | 6.21 | 4995* | 2.325 | 34.900 | 6.17 | 5170* | 2.330 | 34.896 | 6.14 |
| 5205* | 2.300 | 34.891 | Mud | 5190* | 2.310 | 34.895 | Mud | 5180** | 2.335 | 34.893 | Mud |


| Depth, meters | Tem-pera${ }^{\circ} \mathrm{C}$ (ure, ${ }^{\circ} \mathrm{C}$ | $\begin{gathered} \text { Salinity, } \\ \% \end{gathered}$ | $\begin{gathered} \mathrm{O}_{2} \\ \mathrm{ml} / \mathrm{l} . \end{gathered}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | $\begin{gathered} \mathrm{O}_{2} \\ \mathrm{ml} / \mathrm{I} . \end{gathered}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\begin{gathered} \text { Salinity, } \\ \% \end{gathered}$ | $\begin{gathered} \mathbf{O}_{\mathbf{2}} \\ \mathrm{ml} / \mathrm{l} . \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Station 865; 24 April; $37^{\circ} 00^{\prime} \mathrm{N}$. $58^{\circ} 28^{\prime}$ W.; Depth 4830 m. |  |  |  | Station 867; 25 April; $35^{\circ} 56^{\prime} \mathrm{N}$. $58^{\circ} 28^{\prime}$ W.; Depth 4437 m. |  |  |  | Station 869; 25 April; $34^{\circ} 00^{\prime} \mathrm{N}$. $58^{\circ} 29^{\prime}$ W.; Depth 4800 m. |  |  |  |
| 0 | 19.31 | 36.521 | 5.29 | 0 | 18.80 | 36.562 | 5.45 | 0 | 18.82 | 36.528 | 5.55 |
| 45 | 19.16 | 36.518 | 5.23 | 45 | 18.77 | 36.566 | 5.42 | 45 | 18.76 | 36.566 | 5.47 |
| 95 | 19.08 | 36.531 | 5.38 | 95 | 18.72 | 36.566 | 5.34 | 90 | 18.16 | 36.496 | 5.44 |
| 190 | 18.26 | 36.538 | 5.08 | 190 | 18.38 | 36.544 | 5.02 | 175 | 17.83 | 36.487 | 5.03 |
| 285 | 18.04 | 36.522 | 5.00 | 280 | 18.04 | 36.513 | 5.39 | 265 | 17.74 | 36.472 | 5.14 |
| 380* | 18.01 | 36.515 | 5.02 | 375* | 17.97 | 36.498 | 5.13 | 350 | 17.21 | 36.361 |  |
| 475 | 17.60 | 36.424 | 4.65 | 465 | 17.69 | 36.447 | 4.77 | 440 | 16.18 | 36.177 |  |
| 575* | 16.30 | 36.192 | 4.09 | 560* | 17.11 | 36.344 | 4.56 | 525* | 14.78 | 35.952 |  |
| 670 | 13.86 | 35.797 | 3.69 | 650 | 15.80 | 36.116 | 4.14 | 615 | 13.24 | 35.715 |  |
| $770 *$ | 11.26 | 35.427 | 3.37 | $740{ }^{*}$ | 13.75 | 35.794 | 3.96 | 705** | 11.25 | 35.440 |  |
| 865 | 8.82 | 35.162 35 | 3.45 | 835 | 11.35 | 35.440 | 3.38 | 795 | 9.12 | 35.198 |  |
| 965* | 6.54 | 35.032 | 4.48 | 925* | 8.98 | 35.169 | 3.29 | 880* | 7.50 | 35.100 |  |
| 1160 | 4.89 | 35.006 | 5.56 | 1105 | 5.92 | 35.028 35 | 4.79 | ${ }^{1065}$ | 5.76 | 35.074 |  |
| 1355* | 4.40 | 34.996 | 5.86 | 1290** | 4.93 | 35.019 | 5.41 | 1250* | 4.78 | 35.029 |  |
| 1555 | 4.07 | 34.983 | 6.08 | 1375** | 4.54 | 35.009 | 5.61 | 1410** | 4.56 | 35.043 |  |
| 1855 | 3.76 | 34.969 | 6.25 | 1545 | 4.19 | 34.990 | 5.99 | 1600 |  | 35.000 |  |
| 2155* | 3.60 | 34.966 | 6.23 | 1810** | 3.92 | 34.983 | 6.08 | 1880** | 3.98 | 35.032 |  |
| 2455 | 3.40 | 34.967 | 6.26 | 2070 | 3.80 | 34.991 | 5.93 | 2155 | 3.61 | 34.990 |  |
| 2755* | 3.19 | 34.965 | 6.18 | 2335* | 3.61 | 34.985 | 6.08 | 2530** | 3.22 | 34.961 |  |
| 3055 | 2.995 | 34.950 | 6.18 | 2605 | 3.340 | 34.977 | 6.17 | 2910 | 2.900 | 34.944 |  |
| 3450* | 2.725 | 34.937 | 6.25 | 2870** | 3.135 | 34.961 | 6.10 | 3290* | 2.590 | 34.932 |  |
| 3850 | 2.465 | 34.918 | 6.26 | 3145 3415* | 2.920 | 34.963 | 6.10 | 3670 | 2.375 | 34.914 34 |  |
| 4250 | 2.320 | 34.906 | 6.23 | 3415* | 2.665 | 34.940 | 6.24 | 4055* | 2.285 | 34.905 |  |
| 4650** | 2.275 | 34.897 | 6.14 | 3785 | 2.440 | 34.923 | 6.13 | 4440** | 2.255 | 34.894 |  |
| 4830* | 2.280 | 34.892 | Mud | 3965 | 2.360 | 34.916 | 6.26 | 4635** | 2.235 | 34.890 |  |
| Station 866; 24 April; $36^{\circ} \mathbf{2 8}^{\prime} \mathrm{N}$. $58^{\circ} 30^{\prime}$ W.; Depth 5000 m . |  |  |  | Station 868; 25 April; $35^{\circ} 00^{\prime} \mathrm{N}$. $58^{\circ} 29^{\prime}$ W.; Depth 5195 m. |  |  |  |  |  |  |  |
| 0 | 18.78 | 36.561 | 5.47 |  |  |  |  |  |  |  |  |
| 50 | 18.70 | 36.561 | 5.45 | 0 | 18.28 | 36.532 | 5.54 |  |  |  |  |
| 100 | 18.39 | 36.540 | 5.06 | 45 | 18.24 | 36.536 | 5.91 |  |  |  |  |
| 200 | 18.05 | 36.509 | 5.09 | 90 | 17.93 | 36.507 | 5.32 |  |  |  |  |
| 300 | 17.90 | 36.493 | 5.05 | 180 | 17.75 | 36.490 | 5.27 |  |  |  |  |
| $400^{*}$ | 17.77 | 36.460 | 4.96 | ${ }_{365}$ | 17.66 | 36.480 | 5.11 |  |  |  |  |
| 500 | 17.12 | 36.334 | 4.55 | $36{ }^{\text {3 }}$ | 17.43 | 36.432 | 5.03 |  |  |  |  |
| 600 700 | 15.64 <br> 13 <br> 19 | 36.075 $\mathbf{3 5 . 6 8 6}$ | 4.14 <br> 3.69 | 5500* | 16.91 15.74 | 36.336 36.107 | 4.89 |  |  |  |  |
| 700 $800^{*}$ | 13.19 10.50 | 35.686 35.326 | 3.69 3.31 | 550 650 | 15.74 13.43 | 36.107 35.709 | 4.26 4.37 |  |  |  |  |
| 900 | 8.34 | 35.105 | 3.51 | 745* | 11.30 | 35.433 | 3.48 |  |  |  |  |
| $1000{ }^{*}$ | 6.89 | 35.081 | 4.29 | 840 | 9.64 | 35.268 | 3.55 |  |  |  |  |
| 1200 | 5.03 | 35.016 | 5.45 | 940* | 8.12 | 35.147 | 3.90 |  |  |  |  |
| 1400** | 4.47 | 35.016 | 5.82 | 1140 | 5.75 | 35.048 | 5.07 |  |  |  |  |
| 1480** | 4.27 | 34.996 | 5.97 | 1340** | 5.04 | 35.065 | 5.54 |  |  |  |  |
| 1775 | 3.88 | 34.972? | 6.20 | 1615** | 4.49 | 35.047 | 5.82 |  |  |  |  |
| 2070 | 3.68 | 34.996? | 6.23 | 1915 | 3.92 | 35.002 | 6.27 |  |  |  |  |
| ${ }_{2655}$ | 3.53 <br> 3.27 | 34.972 34.966 | 6.24 6.18 | 2215* | 3.68 <br> $\mathbf{3} .38$ | 34.996 34.976 | 6.20 6.15 |  |  |  |  |
| ${ }_{3060}$ | 3.27 2.960 | 34.966 34.954 | 6.18 6.20 | ${ }_{3010}$ | 3.38 3.050 | 34.976 34.952 | 6.15 6.35 |  |  |  |  |
| 3455** | 2.655 | 34.930 | 6.23 | 3410 | 2.745 | 34.936 | 6.20 |  |  |  |  |
| 3855* | 2.375 | 34.915 | 6.25 | 3805* | 2.480 | 34.918 | 6.21 |  |  |  |  |
| 4255** | 2.300 | 34.908 | 6.26 | 4205 | 2.360 | 34.911 | 6.30 |  |  |  |  |
| ${ }_{4660 *}{ }_{48}$ | 2.280 | 34.901 34.899 | 6.20 | 4605* | 2.320 | 34.905 | 6.10 |  |  |  |  |
| 4860** | 2.290 | 34.899 | ${ }^{6.06}$ | 5005** | 2.320 2.315 | 34.896 34.896 | 6.18 Mud |  |  |  |  |




| Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\begin{gathered} \text { Salinity, } \\ \% \end{gathered}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\begin{gathered} \text { Salinity, } \\ \% \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Station 891; 27 May; $36^{\circ} 32^{\prime}$ N. $64^{\circ} 00^{\prime}$ W.; Depth 4952 m. |  |  | Station 893; 28 May; $37^{\circ} 31^{\prime}$ N. $64^{\circ} 02^{\prime} \mathbf{W}$.; Depth 5027 m . |  |  | Station 895; 28 May; $38^{\circ} 30^{\prime}$ N. $63^{\circ} 58^{\prime}$ W.; Depth 5005 m . |  |  | Station 897; 29 May; $39^{\circ} 29^{\prime}$ N. $63^{\circ} 59^{\prime}$ W.; Depth 4942 m. |  |  |
| 0 | 21.04 | 36.490 | 0 | 21.27 | 36.431 | 0 | 23.40 | 36.386 | 0 | 17.30 | 35.156 |
| 50 | 19.35 | 36.530 | 50 | 19.76 | 36.478 | 50 | 20.41 | 36.494 | 50 | 12.99 | 35.159 |
| 100 | 18.54 | 36.498 | 100 | 18.94 | 36.554 | 100 | 19.08 | 36.546 | 100 | 12.17 | 35.325 |
| 195 | 17.98 | 36.488 | 200 | 18.27 | 36.534 | 200 | 18.23 | 36.520 | 200 | 10.99 | 35.374 |
| 295 | 17.71 | 36.463 | 300 | 18.01 | 36.510 | 300 | 17.94 | 36.500 | 300 | 8.70 | 35.129 |
| 395* | 17.17 | 36.357 | 400* | 17.89 | 36.486 | 400* | 17.73 | 36.468 | 400* | 6.52 | 35.013 |
| 490 | 15.84 | 36.120 | 500 | 17.54 | 36.429 | 500 | 17.04 | 36.344 | 500. | 5.58 | 35.026 |
| 585* | 13.97 | 35.819 | 600* | 16.44 | 36.217 | 600* | 14.93 | 35.965 | 595** | 4.88 | 34.988 |
| 680 | 12.25 | 35.567 | 700 | 14.51 | 35.898 | 695 | 12.78 | 35.638 | 695 | 4.67 | 34.996 |
| $775^{*}$ | 9.60 | 35.248 | 800* | 12.52 | 35.581 | 795* | 10.13 | 35.288 | 795* | 4.46 | 35.000 |
| 870 | 7.73 | 35.093 | 900 | 10.02 | 35.276 | 895 | 8.05 | 35.115 | 890 | 4.26 | 34.989 |
| 965 | - | 35.052 | 1000* | 7.80 | 35.093 | 995* | 6.10 | 35.037 | 990* | 4.09 | 34.999 |
| 1155 | 4.87 | 35.003 | 1200 | 5.15 | 35.009 | 1195 | 4.79 | 35.006 | 1180 | 3,91 | 34.970 |
| 1340* | 4.54 | 35.023 | 1400* | 4.52 | 34.994 | 1395* | 4.41 | 35.019 | 1375* | 3.78 | 34.967 |
| 1390* | 4.31 | 34.994 | 1630* | 4.15 | 34.977 | 1630* | 3.99 | 34.977 | 1650* | 3.62 | 34.964 |
| 1665 | 3.90 | 34.974 | 1930 | 3.86 | 34.976 | 1925 | 3.74 | 34.980 | 1950 | 3.46 | 34.966 |
| 1935 |  | 34.973 | 2230* | 3.64 | 34.973 | 2205* | 3.54 | 34.981 | 2250* | 3.25 | 34.973 |
| 2210 | 3.59 | 34.987 | 2530 | 3.45 | 34.970 | 2480 | 3.34 | 34.972 | 2545 | 3.06 | 34.954 |
| 2490* | 3.40 | 34.968 | 2830* | 3.22 | 34.961 | 2755* | 3.11 | 34.960 | 2845 | 2.82 | 34.946 |
| 2860 | 3.095 | 34.955 | 3225 | 2.860 | 34.943 | 3145 | 2.805 | 34.945 | 3245 | 2.575 | 34.927 |
| 3235* | 2.795 | 34.988 ? | 3625* | 2.540 | 34.970 ? | 3555* | 2.540 | 34.930 | 3645* | 2.395 | 34.918 |
| 3610 | 2.515 | 34.923 | 4025 | 2.360 | 34.91 I | 3965 | 2.355 | 34.913 | 4045 | 2.310 | 34.911 |
| 3985* | 2.350 | 34.909 | 4425* | 2.320 | 34.904 | 4370* | 2.300 | 34.907 | 4445* | 2.300 | 34.900 |
| 4365 | 2.305 | 34.906 | 4825** | 2.315 | 34.896 | 4775* | 2.300 | 34.901 | 4845* | 2.300 | 34.901 |
| 4555 | 2.295 | 34.899 | 5025* | 2.290 | 34.891 | 5005* | 2.280 | 34.889 | 4925* | 2.295 |  |
| Station 892; 27 May; $37^{\circ} 01^{\prime}$ N. $64^{\circ} 02^{\prime}$ W.; Depth 4946 m . |  |  | Station 894; 28 May; $38^{\circ} 00^{\prime}$ N. $63^{\circ} 57^{\prime}$ W.; Depth 5018 m . |  |  | Station 896; 29 May; $39^{\circ} 00^{\prime}$ N. $63^{\circ} 56^{\prime}$ W.; Depth 4725 m. |  |  | Station 898; 29 May; $39^{\circ} 30^{\prime}$ N. $66^{\circ} 00^{\prime}$ W.; Depth 4338 m . |  |  |
| 0 | 22.64 | 36.495 | 0 | 21.06 | 36.487 | 0 | 23.35 | 36.225 | 0 | 18.02 | 35.580 |
| 50 | 20.49 | 36.515 | 50 | 20.72 | 36.559 | 45 | 22.22 | 36.222 | 50 | 12.06 | 35.165 |
| 100 | 19.11 | 36.561 | 100 | 19.14 | 36.584 | 90 | 19.32 | 36.341 | 100 | 11.55 | 35.310 |
| 200 | 18.30 | 36.529 | 200 | 18.30 | 36.545 | 175 | 16.89 | 36.208 | 200 | 9,71 | 35.222 |
| 300 | 18.02 | 36.506 | 300 | 18.12 | 36.542 | 260 | 13.77 | 35.733 | 300 | 7.96 | 35.077 |
| 400* | 17.68 | 36.444 | 400* | 18.02 | 36.518 | 340* | 11.67 | 35.375 | 400* | 6.07 | 35.016 |
| 500 | 17.10 | 36.326 | 500 | 17.70 | 36.469 | 420 | 10.17 | 35.274 | 500 | 5.17 | 35.014 |
| 595* | 15.79 | 36.107 | 600* | 16.64 | 36.256 | 500* | 5.53 | 35.096 | 600* | 4.81 | 35.010 |
| 695 | 13.69 | 35.776 | 700 | 14.94 | 35.972 | 575 | 6.78 | 35.012 | 700 | 4.57 | 35.010 |
| 795* | 10.98 | 35.397 | 800* | 12.70 | 35.646 | 645* | 5.66 | 35.282? | $80{ }^{*}$ | 4.35 | 35.003 |
| 895 | 8.73 | 35.148 | 895 | 10.47 | 35.338 | 720 | 5.13 | 35.012 | 900 | 4.17 | 35.002 |
| 995* | 6.90 | 35.046 | 995* | 7.96 | 35.109 | 790* | 4.80 | 35.016 | 1000* | 4.00 | 34.980 |
| 1195 | 5.09 | 35.022 | 1195 | 5.29 | 35.028 | 950 | 4.43 | 34.994 | 1200 | 3.87 | 34.970 |
| 1395* | 4.49 | 35.001 | 1395* | 4.57 | 35.021 | 1115* | 4.16 | 34.988 | 1400* | 3.71 | 34.966 |
| 1570* | 4.12 | 34.984 | 1620** | 4.10 | 34.990 | 1380* | 3.84 | 34.966 | 1600* | 3.57 | 34.963 |
| 1865 | 3.79 | 34.969 | 1920 | 3.79 | 34.985 | 1660 | 3.64 | 34.965 | 1800 | 3.41 | 34.966 |
| $2160{ }^{*}$ | 3.60 | 34.967 | 2215* | 3.57 | 34.976 | 1950* | 3.46 | 34.968 | 2000** | 3.24 | 34.965 |
| 2455 | 3.42 | 34.971 | 2510 | 3.43 | 34.980 | 2240 | 3.30 | 34.972 | 2300 | 3.08 | 34.951 |
| 2745* | 3.19 | 34.959 | 2805* | 3.20 | 34.975 | 2540* | 2.98 | 34.953 | 2600* | 2.85 | 34.948 |
| 3040 | 2.920 | 34.948 | 3205 | 2.860 | 34.953 | 2840 | 2.790 | 34.942 | 2900 | 2.520 | 34.924 |
| 3435 | 2.570 | 35.002? | 3600 | 2.570 | 35.001 ? | 3145* | 2.560 | 34.931 | 3200 | 2.360 | 34.914 |
| 3825 | 2.365 | 34.914 | 3995 | 2.380 | 34.920 | 3455 | 2.345 | 34.916 | 3500 | 2,280 | 34.907 |
| 4215* | 2.305 | 34.908 | 4395* | 2.315 | 34.909 | 3870* | 2.285 | 34.914 | 3800* | 2.240 | 34.900 |
| 4610* | 2.300 | 34.903 | 4790* | 2.310 | 34.901 | 4285 | 2.245 | 34.901 | 4100 | 2.215 | 34.893 |
| 4855* | 2.305 | 34.894 | 4990* | 2.315 | 34.905 | 4500* | 2.265 | 34.897 | 4315* | 2.215 | 34.869 |


| Depth, meters | Tem-pera${ }^{\text {ture, }}$ | $\underset{\%}{\text { Salinity, }}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | Depth, meters | Tem-pera${ }^{\text {ture, }}$ | $\underset{\%}{\text { Salinity, }}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\begin{gathered} \text { Salinity, } \\ \% \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Station 899; 29 May; $39^{\circ} 00^{\prime}$ N. $66^{\circ} 00^{\prime}$ W.; Depth 4649 m . |  |  | Station 901; 30 May ; $38^{\circ} 00^{\prime}$ N. $65^{\circ} 54^{\circ} \mathrm{W} . ;$ Depth 4844 m . |  |  | Station 903; 30 May ; $36^{\circ} 59^{\prime}$ N. $66^{\circ} 02^{\prime}$ W.; Depth 5024 m . |  |  | Station 905; 31 May; $36^{\circ} 02^{\prime}$ N. $66^{\circ} 04^{\prime} \mathrm{W}$; Depth 4857 m . |  |  |
| 0 | 17.03 | 34.941 | 0 | 25.95 | 36.320 | 0 | 24.16 | 36.4 |  | 22.37 | 36.526 |
| 50 | 12.91 | 35.301 | 45 | 25.93 | 36.323 | 50 | 21.50 | 36.550 | 50 | 19.39 | 36.565 |
| 100 | 11.99 | 35.376 | 90 | 23.06 | 36.556 | 100 | 19.25 | 36.578 | 100 | 18.25 | 36.517 |
| 195 | 10.17 | 35.268 | 175 | 20.53 | 36.630 | 200 | 18.20 | 36.547 | 195 | 17.82 | 36.493 |
| 295 | 7.71 | 35.077 | 255 | 18.49 | 36.460 | 300 | 18.04 | 36.530 | 295 | 16.83 | 36.306 |
| 395* | 5.96 | 35.014 | 335* | 14.87 | 35.972 | 400* | 17.78 | 36.488 | 390* | 14.61 | 35.916 |
| 490 | 5.08 | 34.995 | 415 | 13.27 | 35.738 | 500 | 16.94 | 36.315 | 490 | 12.86 | 35.647 |
| 590* | 4.69 | 34.994 | 490* | 10.83 | 35.322 | 600* | 15.19 | 36.023 | 590* | 10.84 | 35.365 |
| 690 | 4.44 | 34.993 34 | 560 | 9.38 | 35.194 35 | 700 | 13.38 | 35.737 35.711 | 685 | 8.22 | 35.117 |
| 785* | 4.40 | 34.985 | 635* | 7.64 | 35.040 | 800 | 11.01 | 35.411 | 785* | 6.58 | 35.054 |
| 885 | 4.21 | 34.983 | 705 | 6.68 | 35.041 | 900 | 8.55 | 35.118 | 885 | 5.72 | 35.028 |
| 985** | 4.00 | 34.978 | 775* | 5.75 | 35.010 | $1000^{*}$ | 6.96 | 35.069 | 980* | 4.99 | 35.011 |
| 1185 | 3.83 | 34.970 | 925 | 4.83 | 35.000 | 1200 | 4.99 | 35.016 | 1175 | 4.50 | 35.030 |
| 1385* | 3.70 | 34.959 | 1085* | 4.43 | 34.998 | 1400** | 4.38 | 34.998 | 1375* | 4.20 | 35.002 |
| 1525* | 3.60 | 34.963 | 1185* | 4.28 | 34.996 | 1635* | 4.04 | 34.979 | 1545** | 3.96 | 34.992 |
| 1825 | 3.44 | 34.971 | 1465 | 3.93 | 34.980 | 1930 | 3.77 | 34.968 | 1840 | 3.66 | 34.974 |
| 2120** | 3.28 | 34.959 | 1765* | 3.72 | 34.977 | 2225* | 3.55 | 34.965 | 2135* | 3.48 | 34.972 |
| 2420 | 3.05 | 34.954 | 2070 | 3.59 | 34.974 | 2525 | 3.38 | 34.966 | 2425 | 3.26 | 34.958 |
| 2715* | 2.83 | 34.936 | 2365* | 3.38 | 34.971 | 2820** | 3.16 | 34.959 | 2720** | 3.01 | 34.955 |
| 3015 | 2.575 | 34.924 | 2650 | 3.175 | 34.962 | 3215 | 2.820 | 34.938 | 3015 | 2.785 | 34.944 |
| 3315* | 2.400 | 34.920 | 3040* | 2.850 | 34.947 | 3615** | 2.500 | 34.924 | 3410** | 2.475 | 34.922 |
| 3615 | 2.305 | 34.906 | 3440 | 2.570 | 34.935 | 4010 | 2.355 | 34.911 | 3810 | 2.330 | 34.917 |
| 4015* | 2.270 | 34.897 | 3850* | 2.355 | 34.919 | 4405* | 2.325 | 34.906 | 4210** | 2.285 | 34.909 |
| 4415 | 2.260 | 34.895 | 4270** | 2.290 | 34.910 | 4890*** | 2.310 | 34.910 | 4625** | 2.260 | 34.898 |
| 4615* | 2.250 | 34.893 | 4475* | 2.280 | 34.902 | 4930** | 2.335 | 34.887 | 4835** | 2.185 | 34.884 |
|  |  |  |  |  |  |  |  |  |  |  |  |
| Station 900; 30 May ; $38^{\circ} 30^{\prime}$ N. $66^{\circ} 01^{\prime}$ W.; Depth 4678 m . |  |  | Station 902; $30 \mathrm{May} ;$$37^{\circ} 30^{\prime} \mathrm{N} 66^{\circ} 00^{\prime} \mathrm{W}$; $37^{\circ} 30^{\prime}$ N. $66^{\circ} 00^{\prime} \mathrm{W}$.Depth 4961 m. |  |  | Station 904; 31 May; $36^{\circ} 29^{\prime}$ N. $65^{\circ} 59^{\prime}$ W.; Depth 4899 m . |  |  | Station 906; 31 May ; $35^{\circ} 32^{\prime} \mathrm{N} .65^{\circ} 58^{\prime} \mathrm{W}$. ; Depth 4699 m . |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| 0 | 17.01 | 34.394 |  |  |  | 0 | 21.90 | 36.547 | 0 | 22.66 | 36.534 |
| 50 | 13.33 | 34.990 | 0 | 24.69 | 36.333 | 50 | 20.19 | 36.580 | 50 | 20.24 | 36.509 |
| 100 | 12.06 | 35.311 | 45 | 23.68 | 36.526 | 100 | 18.67 | 36.536 | 100 | 18.65 | 36.516 |
| 200 | 10.70 | 35.295 | 90 | 22.36 | 36.665 | 200 | 18.12 | 36.523 | 195 | 18.07 | 36.516 |
| 300 | 8.40 | 35.076 | 185 | 19.33 | 36.575 3650 | 300 400 | 17.84 17 | 36.486 $\mathbf{3 6} 375$ | 290* | 17.68 | 36.450 36.293 |
| $400 *$ 500 | 6.80 5.47 | 34.991 34.984 | 275 370 | 18.32 17 | 36.520 36508 | $400 *$ | 17.33 | 36.375 <br> 36.19 | 385* | 16.87 | 36.293 |
| 500 600 | 5.47 4.98 | 34.984 34.971 | 370* | 17.95 | 36.508 36.439 | ${ }^{500}$ | 15.93 | 36.129 35 | ${ }^{480}{ }^{\circ}$ | 15.25 | 36.011 35.689 |
| 700 | 4.63 | 34.974 | 560* | 16.35 | 36.212 | 700 | 11.16 | 35.746 35.413 | 670 | 13.15 10.64 | 35.689 35.347 |
| 800 | 4.41 | 34.960 | 655 | 14.32 | 35.883 | 800* | 8.64 | 35.140 | 765* | 8.68 | 35.147 |
| 900 | 4.30 | 34.997 | 755* | 12.12 | 35.555 | 900 | 6.82 | 35.044 | 855 | 7.03 | 35.071 |
| 1000* | 4.14 | 34.993 | 850 | 10.19 | 35.310 | 1000* | 5.59 | 35.022 | 950* | 5.78 | 35.022 |
| 1200 | 3.95 | 34.987 | 950* | 7.86 | 35.121 | 1200 | 4.60 | 35.002 | 1135 | 4.86 | 35.007 |
| 1400 | 3.83 | 34.985 | 1150 | 5.24 | 35.026 | 1400* | 4.25 | 34.996 | 1315* | 4.47 | 35.026 |
| 1680** | 3.61 | 34.971 | 1350* | 4.38 | 34.975 | 1550* | 3.98 | 34.973 | 1525* | 4.03 | 34.993 |
| 1980 | 3.43 | 34.964 | 1630* | 4.09 | 34.977 | 1850 | 3.73 | 34.966 | 1800 | 3.66 | 34.972 |
| $2880^{*}$ | 3.20 | 34.958 | 1930 | 3.81 | 34.972 | 2150** | 3.53 | 34.972 | $2100{ }^{\text {2 }}$ | 3.47 | 34.981 |
| 2580 | 2.99 | 34.947 34.937 | 2230** | 3.57 3 3 | 34.977 | 2450 | 3.39 3.39 | 34.968 | 2385 | 3.23 | 34.974 |
| ${ }^{2880}{ }^{\text {a }}$ |  |  |  | 3.38 3 | 34.970 | $2750{ }^{*}$ | 3.15 | 34.963 | $2670{ }^{\text {2 }}$ | 2.975 | 34.959 |
| 3175 $3475 *$ | 2.560 2.385 | 34.923 <br> 34.920 | 2930** | 3.050 2710 | 34.956 | 3050 | 2.855 | 34.941 | 2955 | 2.775 | 34.946 |
| ${ }^{3475 *}$ | 2.385 2 | 34.920 34.909 |  | 2.710 2.440 | 34.936 | ${ }^{34550}{ }^{\text {a }}$ | 2.520 | 34.925 | $3250{ }^{\circ}$ | 2.580 | 34.933 |
| 3875 ${ }_{\text {4275 }}$ | 2.300 | 34.909 34.900 | $3730^{*}$ 4125 | 2.440 2.325 | 34.910 34.916 | 3850 4250 | 2.345 2.300 | 34.912 34.901 | 3540 39350 | 2.410 2.320 | 34.921 34.911 |
| 4575* | 2.245 | 34.896 | 4525* | 2.300 | 34.905 | 4650 | 2.300 | 34.899 | 4335 | 2.295 | 34.904 |
| 4660* | 2.210 | 34.875 | 4920* | 2.310 | 34.903 | 4850** | 2.301 | 34.895 | 4530** | 2.290 | 34.901 |



| Depth, meters | Tem-рега${ }^{\circ} \mathrm{C}$ 䠉, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%_{0}}{\text { Salinity, }}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\substack{\text { Salinity }}}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Station 915; 5 June; $37^{\circ} 06^{\prime}$ N. $65^{\circ} 14^{\prime}$ W.; Depth 4963 m. |  |  | Station 917; 6 June; $36^{\circ} 43^{\prime} \mathrm{N} .65^{\circ} 00^{\prime} \mathrm{W}$.; Depth 4961 m. |  |  | Station 919; 8 June; $36^{\circ} 31^{\prime} \mathrm{N} .64^{\circ} 16^{\prime} \mathrm{W}$; Depth 4952 m. |  |  |
| 0 | 25.26 | 36.312 | 0 | 22.57 | 36.482 | 0 | 23.09 | 36.29 |
| 50 | 23.40 | 36.503 | 50 | 20.14 | 36.399 | 50 | 18.56 | 36.421 |
| 95 | 20.93 | 36.631 | 100 | 18.22 | 36.419 | 100 | 17.69 | 36.355 |
| 190 | 18.33 | 36.527 | 195 | 16.32 | 36.184 | 195 | 15.85 | 36.081 |
| 285 | 18.01 | 36.515 | 295 | 15.07 | 35.946 | 295 | 14.23 | 35.815 |
| 375* | 17.60 | 36.433 | $395 *$ | 13.44 | 35.699 | 390* | 12.83 | 35.626 |
| 465 | 16.26 | 36.172 | 495 | 11.49 | 35.458 | 485 | 11.14 | 35.413 |
| 555* | 14.45 | 35.865 | $590^{*}$ | 9.51 | 35.219 | 580* | 9.26 | 35.196 |
| 645 | 12.54 | 35.601 | 690 | 7.77 | 35.095 | 675 | 7.54 | 35.089 |
| 735* | 10.44 | 35.326 35. | 790* | 6.34 | 35.040 | 770** | 6.23 | 35.039 |
| 825 | 8.47 | 35.131 | 890 | 5.52 | 35.025 | 870 | 5.45 | 35.022 |
| $910^{*}$ | 6.81 | 35.060 | 985** | 4.78 | 34.997 | 965* | 5.04 | 35.028 |
| 1085 | 5.10 | 35.020 | 1185 | 4.45 | 35.005 | 1155 | 4.45 | 35.003 |
| 1260* | 4.54 | 34.999 | 1380* | 4.16 | 34.987 | 1345** | 4.15 | 34.987 |
| 1470 | 4.09 | 34.979 | 1575* | 3.92 | 34.985 | 1480* | 3.99 | 34.981 |
| 1750 | 3.77 | 34.962 | 1860 | 3.69 | 34.971 | 1775 | 3.75 | 34.969 |
| 2025** | 3.60 | 34.974 | $2150{ }^{*}$ | 3.52 | 34.970 | 2070** | 3.57 | 34.968 |
| 2310 | 3.47 | 34.969 | 2445 | 3.36 | 34.971 | 2365 | 3.45 | 34.970 |
| 2595* | 3.27 | 34.965 | $2735{ }^{*}$ | 3.15 | 34.958 | $2660^{*}$ | 3.22 | 34.961 |
| 2990 | 2.950 | 34.952 | 3125 | 2.865 | 34.947 | 3060 | 2.880 | 34.948 |
| 3390* | 2.635 | 34.935 | 3515* | 2.585 | 34.927 | 3450** | 2.585 | 34.933 |
| 3800 | 2.390 | 34.914 | 3910 | 2.385 | 34.916 | 3845 | 2.360 | 34.918 |
| $4600^{*}$ | 2.300 | 34.906 | 4700** | 2.385 | 34.900 34.900 | 4640** | 2.395 2.295 | 34.916 34.901 |
| 4800** | 2.305 | 34.901 | 4895* | 2.290 | 34.898 | 4840* | 2.290 | 34.897 |
|  |  |  |  |  |  |  |  |  |
| Station 916; 5 June; $37^{\circ} 06^{\prime}$ N. $64^{\circ} 50^{\prime} \mathrm{W}$.; Depth 4986 m . |  |  | Station 918; 7 June; $36^{\circ} 29^{\prime}$ N. $64^{\circ} 39^{\prime}$ W.; Depth 4918 m. |  |  | Station 920: 8 June; $36^{\circ} 35^{\prime}$ N. $63^{\circ} 57^{\prime} \mathrm{W}$;; Depth 4942 m. |  |  |
|  | 22.70 | 36.459 |  |  |  |  | 24.51 |  |
| 50 | 18.82 | 36.421 | 0 | 23.23 | 36.435 | 50 | 19.24 | 36.550 |
| 95 | 17.82 | 36.392 | 50 |  | 36.775 | 95 | 18.48 | 36.509 |
| 190 | 16.26 | 36.177 | 100 | 17.84 | 36.755 | 190 | 17.58 | 36.406 |
| $285{ }^{\text {2 }}$ | 14.64 | 35.881 | 195 | 16.10 | 36.433 36.179 | 285 375 | 16.81 | 36.262 |
| 380* | 12.90 | 35.638 | 295 | 14.96 | 36.179 <br> $\mathbf{3 5 . 6 9}$ | 375* | 15.63 | 36.050 |
| ${ }_{575}$ | 11.38 | 35.459 | 395* | 13.33 | 35.696 | 465 | 13.97 | 35.813 |
| $570^{*}$ | 9.32 | 35.207 | 495 | 11.32 | 35.435 | 555* | 12.03 | 35.534 |
| 665 | 7.79 | 35.087 | 590* | 9.08 | 35.174 | 645 | 9.96 | 35.272 |
| 760* | 6.27 | 35.034 | 690 | 7.71 | 35.091 | 730* | 8.30 | 35.120 |
| 855 | 5.38 | 35.008 | 790* | 6.26 | 35.033 | 820 | 7.18 | 35.057 |
| 950 | 4.79 | 34.983 | 890 | 5.39 | 35.016 | 910** | 6.10 | 35.027 |
| 1140 | 4.48 | 35.005 | 985* | 4.91 | 35.011 | 1090 | 4.95 | 35.025 |
| 1330** | 4.21 | 34.993 | 1185 | 4.50 | 35.008 | 1275* | 4.36 | 34.996 |
| 1565* | 3.92 | 34.978 | 1385* | 4.16 | 34.988 | 1365* | 4.21 | 34.991 |
| 1845 | 3.69 3.64 | 34.968 | 1550* | 3.92 | 34.984 | 1625 | 3.88 | 34.973 |
| 2125** | 3.54 | 34.972 34.970 | 1840 | 3.70 | 34.970 | 1895* | 3.68 3.57 | 34.975 |
| 2405 | 3.41 <br> 3.085 | 34.970 34.966 | ${ }_{21350}$ | 3.52 | 34.969 | 2165 | 3.57 | 34.981 |
| ${ }_{3165} 278$ | 3.085 2.775 | 34.966 34.947 | 2430 | 3.36 | 34.968 | 2440* | 3.41 | 34.973 |
| ${ }_{3165} 316{ }^{\text {a }}$ | 2.775 2.510 | 34.947 34.923 | 2720** | 3.140 | 34.956 34.943 | 2815 <br> 3185 | 3.135 | 34.964 |
| ${ }_{3955}{ }^{\text {35 }}$ | 2.510 | 34.923 34.918 | 3115* | 2.825 2.50 | 34.943 | $3185 *$ 3565 | 2.780 | 34.945 |
| 4340** | 2.295 | 34.918 34.904 | 3505 3895 | 2.390 | 34.915 | 3940******* | 2.485 2.355 | 34.925 |
| 4740* | 2.305 | 34.902 | 4275* | 2.305 | 34.912 | 4315 | 2.300 | 34.907 |
| 4940* | 2.300 | 34.902 | 4645* | 2.280 | 34.903 | 4510* | 2.280 | 34.901 |


| Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\substack{\text { Salinity, } \\ \%}}{ }$ | Depth, meters | Tem: perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | Depth, meters | Tem perature, C | $\underset{\%}{\text { Salinity, }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Station 921: 11 June; $35^{\circ} 59^{\prime}$ N. $65^{\circ} 00^{\prime}$ W.; Depth 5015 m . |  |  | Station 922; 12 June; $36^{\circ} 16^{\prime} \mathrm{N} .5^{\circ} 17^{\prime} \mathrm{W}$; Depth 4960 m . |  |  | Station 923; 13 June; $35^{\circ} 47^{\prime}$ N. $65^{\circ} 17^{\prime} \mathrm{W}$.; Depth 4933 m . |  |  |
| 0 | 24.94 | 36.323 | ${ }_{4}^{0}$ | 24.67 23.63 | 36.358 36.422 |  | 21.91 | 36.510 |
| 50 | 24.93 | 36.310 | 90 | 20.50 | 36.523 | 50 | 20.48 | 36.566 |
| 100 | 22.86 | 36.650 | 180 | 18.51 | 36.541 | 100 | 19.09 | 36.588 |
| 200 | 19.54 | 36.593 | 270* | 18.15 | 36.525 | 200 | 18.31 | 36.540 |
| 295 | 18.43 | 36.542 | 365 | 17.93 | 36.490 | 295 | 18.10 | 36.521 |
| 395* | 17.95 | 36.472 | 460* | 17.56 | 36.428 | 390* | 18.01 | 36.513 |
| 490 | 17.41 | 36.392 | 555 | 16.84 | 36.293 | 490 | 17.83 | 36.501 |
| 590* | 16.33 | 36.217 | 650* | 15.13 | 35.992 | 585* | 16.65 | 36.257 |
| 685 | 14.44 | 36.896 35.8 | 745 | 13.18 | 35.989 35 | 680 | 14.81 | 35.950 |
| 780* | 12.21 | 35.565 | 845 | 10.34 | 35.298 | 775* | 12.94 | 35.659 |
| 880 | 9.87 | 35.270 | 940* | 8.44 | 35.109 | 875 | 10.48 | 35.334 |
| 975* | 8.05 | 35.121 | 1140 | 5.41 | 35.031 | 970* | 8.27 | 35.111 |
| 1165 | 5.32 | 35.021 | 1335** | 4.53 | 35.003 | 1160 | 5.61 | 35.064 |
| 1350* | 4.60 | 35.008 | 1585* | 4.16 | 34.996 | 1355* | 4.64 | 35.014 |
| 1545* | 4.23 | 34.995 | 1880 | 3.77 | 34.968 | 1460* | 4.41 | 35.007 |
| 1830 | 3.29 3.97 | 34.976 | 2180** | 3.53 | 34.970 | 1740 | 3.92 | 34.981 |
| 2120** | 3.67 | 34.973 | 2480 | 3.52 | 34.968 | 2020* | 3.71 | 34.975 |
| 2505 | 3.42 | 34.963 34.956 | 2880** | 3.05 | 34.959 34.942 | ${ }_{2385}$ | 3.56 | 34.975 |
| 2895* | 3.090 | 34.956 | 3275 | 2.710 | 34.942 | 2585* | 3.30 | 34.967 |
| ${ }_{3280}$ | 2.765 | 34.938 | 3675* | 2.440 | 34.925 | 2960 | 2.975 | 34.948 |
| 3665* | 2.495 | 34.920 | 4080 | 2.325 | 34.913 | 3340* | 2.640 | 34.937 |
| 4050 | 2.355 | 34.913 |  | 2.290 | 34.907 | 3725 | 2.420 | 34.920 |
| 4435** | 2.315 | 34.919 34 | 4885* | 2.300 | 34.901 34.895 |  | 2.310 | 34.912 |
| -4820***********) | 2.315 2.335 | 34.900 34.900 | 4960** | 2.310 | 34.895 Mud |  | 2.290 2.280 | 34.899 34.898 |

## CHAIN CRUISE 12-1960



| Depth, meters | Tem: perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | $\begin{gathered} \mathrm{O}_{2} \\ \mathrm{ml} / \mathrm{l} . \end{gathered}$ | Depth meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | $\begin{gathered} \mathrm{O}_{2} \\ \mathrm{ml} / \mathrm{l} . \end{gathered}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{S a l i n i t y,}$ | $\begin{aligned} & \mathrm{O}_{2} \\ & 31 / 1 . \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Station 143; 9 April; $42^{\circ} 59^{\prime} \mathrm{N}$. $56^{\circ} 30^{\prime} \mathrm{W}$.; Depth 3824 m . |  |  |  | Station 145; 9 April; $42^{\circ} 01^{\prime} \mathrm{N}$. $56^{\circ} 32^{\prime} \mathbf{W}$.; Depth 4711 m . |  |  |  | Station 147; 10 April; $41^{\circ} 01^{\prime} \mathrm{N}$ $56^{\circ} 29^{\prime}$ W.; Depth 5082 m . |  |  |  |
| 1 | 7.02 | 33.916 | 6.88 | 1 | 11.93 | 35.259 | 5.96 | 1 | 12.07 | 35.090 | 6.02 |
| 25 | 7.09 | 33.976 | 6.86 | 25 | 11.92 | 35.258 | 6.00 | 48 | 12.26 | 35.446 | 5.74 |
| 50 | 7.18 | 34.117 | 6.66 | 50 | 11.92 | 35.268 | 6.03 | 94 | 12.40 | 35.505 | 5.49 |
| 99 | 8.53 | 34.720 | 4.93 | 99 | 13.12 | 35.634 | 5.61 | 140 | 12.43 | 35.518 | 5.48 |
| 149* | 7.25 | 34.741 | 4.45 | 149* | 12.44 | 35.492 | 5.78 | 185 | 12.47 | 35.527 | 5.39 |
| 198 | 7.11 | 34.849 | 4.14 | 198 | 12.45 | 35.532 | 5.41 | 272 | 12.44 | 35.600 | 5.25 |
| 297* | 6.07 | 34.903 | 4.48 | 298* | 11.84 | 35.465 | 4.50 | 354 | 9.49 | 35.247 | 3.38 |
| 396 | 5.28 | 34.933 | 4.99 | 397 | 8.77 | 35.118 | 3.50 | 432 | 7.37 | 34.972 | 3.98 |
| 496* | 4.74 | 34.938 | 5.69 | 496* | 7.03 | 35.017 | 4.07 | 509* | 6.28 | 34.929 | 4.26 |
| 595 | 4.57 | 34.957 | 5.73 | 595 | 5.65 | 34.994 | 4.90 | 586 | 5.83 | 34.985 | 4.64 |
| 694* | 4.47 | 34.968 | 5.78 | 694* | 4.78 | 34.938 | 5.55 | 660* | 5.22 | 35.000 | 5.05 |
| 793 | 4.22 | 34.960 | 5.91 | 794 | 4.55 | 34.964 | 5.68 | 736 | 4.88 | 34.997 | 5.28 |
| 892* | 4.19 | 34.968 | 5.90 | 893* | 4.53 | 34.987 | 5.81 | 815* | 4.69 | 34.999 | 5.42 |
| 991 | 4.09 | 34.971 | 6.06 | 992 | 4.39 | 34.992 | 5.96 | 975* | 4.36 | 35.001 | 5.78 |
| 1090* | 3.98 | 34.970 | 6.06 | 1190 |  | 34.979 | 6.07 | 1382* | 3.89 | 34.973 | 6.06 |
| 318* | 5.640 | 34.859 | 4.44 | 1310* | 3.930 | 34.966 | 6.17 | 1678 | 3.57 | 34.963 | 6.12 |
| 518 | 4.765 | 34.939 | 5.41 | 1510 | 3.795 | 34.964 | 6.24 | 1976 | - | 34.975 | 6.10 |
| 814* | 4.255 | 34.965 | 5.90 | 1710** | 3.665 | 34.961 | 6.23 | 2272 | 3.29 | 34.961 | 6.06 |
| 1111 | 4.010 | 34.968 | 5.98 | 2010 | 3.475 | 34.959 | 6.23 | 2668** | 3.06 | 34.951 | 6.07 |
| 1409* | 3.745 | 34.958 | 6.26 | 2310* | 3.310 | 34.960 | 6.18 | 3069** | 2.69 | 34.937 |  |
| 1807 | 3.545 | 34.955 | 6.19 | 2710 | 3.075 | 34.950 | 6.17 | 3465* | 2.400 | 34.914 | 6.30 |
| 2204* | 3.315 | 34.957 | 6.03 | $3110^{*}$ | 2.725 | 34.934 | 6.20 | 3861 | 2.315 | 34.909 | 6.30 |
| 2604 | 3.020 | 34.944 | 6.38 | 3510 | 2.455 | 34.921 | 6.46 | 4257** | 2.300 | 34.902 | 6.02 |
| 3002* | 2.725 | 34.936 | 6.53 | 3910** | 2.300 | 34.910 | 6.42 | 4658 | 2.300 | 34.901 | 6.19 |
| 3403 | 2.380 | 34.918 | 6.19 | 4310 | 2.275 | 34.903 | 6.30 | 5059* | 2.310 | 34.894 | 6.01 |
| 3806* | 2.265 | 34.914 | 6.19 | 4710** | 2.245 | 34.895 | 6.12 |  |  |  |  |
| Station 144; 9 April; $42^{\circ} 30^{\prime} \mathrm{N}$. $56^{\circ} 31^{\prime}$ W.; Depth 4340 m . |  |  |  | Station 146; 9 April; $41^{\circ} 29^{\prime} \mathrm{N}$. $56^{\circ} 34^{\prime}$ W.; Depth 4949 m. |  |  |  |  |  |  |  |
| 5 | 3.67 | 32.773 | 7.82 | 3 | 12.34 | 35.363 | 5.93 | Station 148; 10 April; $40^{\circ} 28^{\prime} \mathrm{N}$. $56^{\circ} 30^{\prime}$ W.; Depth 5157 m . |  |  |  |
| 25 | 5.78 | 33.601 | 7.29 | 28 | 12.43 | 35.404 | 5.81 |  |  |  |  |
| 49 | 6.96 | 34.112 | 6.42 | 53 | 12.42 | 35.422 | 5.82 |  |  |  |  |
| 99 | 8.75 | 34.684 | 5.47 | 103 | 12.55 | 35.549 | 5.60 |  |  |  |  |
| 148* | 8.48 | 34.912 | 4.08 | 153* | 12.65 | 35.588 | 5.31 | 1 | 13.52 | 35.653 | 5.82 |
| 198 | 7.75 | 34.916 | 4.22 | 203 | 12.72 | 35.611 | 4.97 | 49 | 13.62 | 35.705 | 5.66 |
| 296* | 6.02 | 34.832 | 4.37 | 303* | 10.81 | 35.345 | 3.26 | 98 | 13.52 | 35.721 | 5.52 |
| 395 | 5.25 | 34.885 | 4.92 | 403 | 8.59 | 35.102 | 3.26 | 147 | 13.25 | 35.676 | 5.31 |
| 494* | 4.97 | 34.941 | 5.32 | 503* | 6.53 | 34.959 | 4.27 | 196* | 12.64 | 35.560 | 5.29 |
| 593 | 4.67 | 34.954 | 5.75 | 603 | 5.25 | 34.911 | 4.99 | 295 | 10.97 | 35.373 | 3.38 |
| $693 *$ | 4.46 | 34.964 | 5.75 | 703* | 5.07 | 34.973 | 5.26 | 392 | 8.99 | 35.147 | 3.25 |
| 793 | 4.28 | 34.962 | 5.97 | 803 | 4.83 | 35.001 | 5.32 | 490 | 7.17 | 35.036 | 3.96 |
| 893* | 4.23 | 34.965 | 5.92 | 903* | 4.59 | 34.997 | 5.55 | 588 | 6.30 | 35.040 | 4.51 |
| 995 | 4.12 | 34.971 | 5.84 | 1003 | 4.43 | 34.992 | 5.77 | 686 | 5.20 | 34.983 | 5.19 |
| 1098* | 3.99 | 34.963 | 6.00 | 1203* | 4.07 | 34.979 | 6.00 | 784* | 4.83 | 34.993 | 5.49 |
| 1144* | 3.91 | 34.956 | 6.27 | 1324* | 3.92 | 34.974 | 6.02 | 882 ${ }^{\text {98* }}$ | 4.57 | 35.000 | 5.61 |
| 1430 | 3.70 | 34.956 | 6.18 | 1521 | 3.76 | 34.964 | 6.11 | 980** | 4.41 | 34.994 | 5.61 |
| 1719* | 3.56 | 34.957 | 6.05 | 1815* | 3.59 | 34.958 | 6.10 | 1176** | 4.09 | 34.978 | 5.98 |
| 2012 | 3.44 | 34.959 | 6.11 | 2109 | 3.40 | 34.956 | 6.12 | 1407* | 3.89 | 34.971 | 6.04 |
| 2306** | 3.27 | 34.955 | 6.20 | 2403* | 3.20 | 34.953 | 6.18 | 1698 | 3.67 | 34.966 | 6.18 |
| 2597 | 3.07 | 34.950 | 6.06 | 2698 | 2.99 | 34.950 | 6.12 | 1989* | 3.51 | 34.968 | 6.07 |
| 2889** | 2.805 | 34.937 | 6.17 | 3087 | 2.68 | 34.932 | 6.12 | 2280 | 3.37 | 34.962 ? | 6.09 |
| 3181 | 2.555 | 34.923 | 6.23 | 3475 | 2.48 | 34.916 | 6.13 | 2668* | 3.12 | 34.953 | 6.10 |
| 3474* | 2.355 | 34.909? | 6.20 | 3863* | 2.34 | 34.907 | 6.12 | 3056** | 2.79 | 34.939 | 6.17 |
| 3774 | 2.260 | 34.915 | 6.16 | 4374 | 2.28 | 34.902 | 6.12 | 3444 | 2.53 | 34.923 | 6.14 |
| 4156* | 2.230 | 34.901 | 6.16 | 4891* | 2.26 | 34.894 | 6.00 | 3832 | 2.36 | 34.908 | 6.13 |


| Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | $\begin{gathered} \mathrm{O}_{2} \\ \mathrm{ml} / \mathrm{l} . \end{gathered}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%_{0}}{\text { Salinity, }}$ | $\begin{gathered} \mathrm{O}_{2} \\ \mathrm{ml} / \end{gathered}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\begin{gathered} \text { Salinity, } \\ \%_{\infty} \end{gathered}$ | $\begin{gathered} \mathrm{O}_{2} \\ \mathrm{ml} / \mathrm{l} \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Station 149; 10 April; $40^{\circ} 00^{\prime} \mathrm{N}$. $56^{\circ} 28^{\circ}$ W.; Depth 5210 m . |  |  |  | Station 151; 11 April; $39^{\circ} 00^{\prime} \mathrm{N}$. $56^{\circ} 30^{\prime}$ W.; Depth 5285 m . |  |  |  | Station 153; 11 April; $37^{\circ} 56^{\prime} \mathrm{N}$. $56^{\circ} 32^{\prime}$ W.; Depth 5258 m . |  |  |  |
| 1 | 13.91 | 35.670 | 5.97 | 1 | 18.55 | 36.384 | 5.12 | 1 | 18.67 | 36.446 | 5.29 |
| 47 | 13.69 | 35.669 | 5.83 | 35 | 18.44 | 36.389 | 4.97 | 50 | 18.63 | 36.452 | 5.25 |
| 90 | 13.28 | 35.667 | 5.47 | 71 | 17.99 | 36.463 | 5.04 | 100 | 17.98 | 36.495 | 4.90 |
| 131 | 13.21 | 35.658 | 5.54 | 107 | 17.64 | 36.441 | 5.06 | 150 | 17.86 | 36.496 | 5.07 |
| 166 | 13.05 | 35.632 | 5.60 | 143* | 17.64 | 36.447 | 5.20 | 200* | 17.87 | 36.496 | 5.08 |
| 237 | 13.32 | 35.677 | 5.41 | 218 | 17.58 | 36.430 | 5.12 | 299 | 17.56 | 36.421 | 4.72 |
| 296 | 13.02 | 35.658 | 5.46 | 294* | 17.48 | 36.420 | 5.11 | 399* | 17.36 | 36.420 | 4.89 |
| 350 | 12.27 | 35.615 | 5.25 | 372 | 17.11 | 36.405 | 4.89 | 499 | 16.48 | 36.232 | 4.37 |
| 402 | 10.26 | 35.383 | 3.33 | 450 | 15.84 | 36.259 | 4.29 | 599* | 14.32 | 35.867 | 3.82 |
| 441 | 8.82 | 35.158 | 3.18 | 528 | 14.21 | 35.773 | 4.33 | 699 | 12.39 | 35.574 | 3.58 |
| 488* | 7.27 | 35.063 | 3.63 | 607* | 13.22 | 35.716 | 5.10 | 798* | 10.50 | 35.322 | 3.17 |
| 549 | 6.25 | 35.028 | 4.08 | 687 | 11.85 | 35.530 | 3.80 | 898 | 8.30 | 35.113 | 3.52 |
| 610* | 5.59 | 34.991 | 4.65 | 767* | 10.28 | 35.354 | 3.32 | 998* | 6.55 | 35.037 | 4.35 |
| 756 | 4.95 | 35.003 | 5.25 | 924 | 6.74 | 35.015 | 4.03 | 1198 | 4.90 | 35.000 | 5.45 |
| 1410* | 3.92 | 34.970 | 6.12 | 1093* | 5.33 | 35.011 | 5.12 | 1261* | 4.76 | 35.007 | 5.68 |
| 1710 | 3.69 | 34.961 | 6.18 | 1380 | 4.46 | 35.000 | 5.74 | 1559 | 4.15 | 34.985 | 5.99 |
| 2010 | 3.55 | 34.963 | 6.12 | 1668* | 4.05 | 34.981 | 6.03 | 1857* | 3.87 | 34.973 | 6.16 |
| 2410 | 3.29 | 34.960 | 6.11 | 2053 | 3.75 | 34.970 | 6.13 | 2155 | 3.67 | 34.972 | 6.19 |
| 2810* | 3.03 | 34.950 | 6.10 | 2438* | 3.58 | 34.968 | 6.17 | 2453* | 3.51 | 34.966 | 6.14 |
| 3210 | 2.75 | 34.934 | 6.12 | 2826** | 3.29 |  |  | 2850 | - | 34.959 | 6.18 |
| 3610* | 2.485 | 34.917 | 6.09 | 3213* | 3.01 | 34.950 | 6.10 | 3247* | 2.855 | 34.944 | 6.19 |
| 4010 | 2.355 | 34.906 | 6.16 | 3700 | 2.59 | 34.928 | 6.19 | 3744 | 2.510 | 34.923 | 6.19 |
| 4410* | 2.305 | 34.898 | 6.12 | 4193* | 2.37 | - | 6.28 | 4240** | 2.350 | 34.911 | 6.21 |
| 4810 | 2.295 | 34.892 | 6.11 | 4695 | 2.32 | 34.901 | 6.11 | 4737 | 2.315 | 34.904 | 6.26 |
| 5210* | 2.310 | 34.889 | 6.06 | 5200* | 2.30 | 34.892 | 6.02 | 5233* | 2.255 | 34.886 | 5.95 |
| Station 150; 10 April; $39^{\circ} 28^{\prime} \mathrm{N}$. $56^{\circ} 23^{\prime}$ W.; Depth 5252 m . |  |  |  | Station 152; 11 April; $38^{\circ} 32^{\prime} \mathrm{N}$. $56^{\circ} 33^{\prime}$ W.; Depth' 5268 m . |  |  |  | Station 154; 12 April; $37^{\circ} 22^{\prime} \mathrm{N}$. $56^{\circ} 32^{\prime}$ W.; Depth 5267 m . |  |  |  |
| 1 | 17.19 | 36.138 | 5.19 | 1 | 18.10 | 36.499 | 5.20 | 1 | 17.75 | 36.482 | 4.99 |
| 43 | 16.95 | 36.122 | 4.89 | 41 | 18.07 | 36.498 | 5.26 | 47 | 17.75 | 36.480 | 5.20 |
| 86 | 16.47 | 36.116 | 4.40 | 83 | 17.74 | 36.489 | 5.20 | 94 | 17.76 | 36.483 | 5.18 |
| 129 | 16.28 | 36.191 | 3.96 | 127 | 17.68 | 36.491 | 5.22 | 141 | 17.65 | 36.489 | 5.28 |
| 172* | 14.93 | 35.845 | 4.41 | 170 | 17.69 | 36.490 | 5.19 | 189 | 17.59 | 36.463 | 5.07 |
| 257 | 13.92 | 35.761 | 4.84 | 260 | 17.68 | 36.485 | 5.35 | 286 | 17.41 | 36.414 | 5.01 |
| 342* | 13.11 | 35.653 | 5.24 | 352* | 17.64 | 36.475 | 5.13 | 385* | 17.17 | 36.369 | 4.75 |
| 424 | 12.69 | 35.587 | 5.00 | 446 | 17.49 | 36.450 | 5.04 | 485 | 16.06 | 36.137 | 4.17 |
| 503* | 10.70 | 35.358 | 3.28 | 542* | 17.28 | 36.407 | 4.91 | 585** | 14.21 | 35.851 | 3.82 |
| 582 | 8.80 | 35.137 | 3.31 | 640 | 15.57 | 36.054 | 4.09 | 683 | 12.12 | 35.552 | 3.66 |
| 658 | 7.54 | 35.064 | 3.72 | 738* | 13.82 | 35.783 | 3.68 | 782* | 9.44 | 35.208 | 3.26 |
| 736 | 6.27 | 35.025 | 4.47 | 837 | 10.83 | 35.370 | 3.28 | 880 | 7.13 | 34.992 | 4.07 |
| 815* | 5.58 | 35.017 | 5.01 | 938* | 8.57 | 35.125 | 3.40 | 979** | 5.10 | 34.855 | 5.11 |
| 974 | 4.74 | 35.005 | 5.56 | 1142** | 5.475 | 35.022 | 5.03 | 1176* | 4.94 |  | 5.45 |
| 1377* | 4.09 | 34.983 | 6.05 | 1378* | 4.58 | 34.996 | 5.76 | 1420** | 4.40 | 35.012 | 5.82 |
| 1658 | 3.80 | 34.969 | 6.34 | 1675 | 4.07 | 34.980 | 6.10 | 1715 | 3.99 | 34.982 | 6.05 |
| 1940* | 3.65 | 34.969 | 6.23 | 2069* | 3.75 | 34.965 | 6.13 | 2009* | 3.73 | 34.972 | 6.21 |
| 2318 | 3.42 | 34.966 | 6.14 | 2465 | 3.49 | 34.967 | 6.13 | 2406 | 3.53 | 34.977 | 6.12 |
| 2697* | 3.18 | 34.958 | 6.17 | 2859 |  | 34.957 | 6.10 | 2802* | 3.23 | 34.965 | 6.09 |
| 3082* | 2.87 | 34.944 | 6.14 | 3257* | 2.87 | 34.942 | 6.20 | 3201 | 2.88 | 34.944 | 6.10 |
| 3463* | 2.54 | 34.927 | 6.18 | 3656* | 2.58 | 34.926 | 6.19 | 3599** | 2.540 | 34.929 | 6.06 |
| 3846 | 2.36 | 34.915 | 6.16 | 4055 | 2.41 | 34.917 | 6.13 | 3997 | 2.40 | 34.918 | 6.14 |
| 4226* | 2.285 | 34.905 | 6.14 | 4455* | 2.325 | 34.904 | 6.12 | 4397* | 2.31 | 34.907 | 6.11 |
| 4621 | 2.29 | 34.901 | 6.13 | 4865 | 2.310 | 34.899 | 6.11 | 4802 | 2.29 | 34.899 | 6.11 |
| 5024* | 2.31 | 34.899 | 6.13 | 5268* | 2.29 | 34.887 | 5.96 | 5208* | 2.27 | 34.890 | 6.05 |


| Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | Salinity. \% | $\underset{\mathrm{ml} / \mathrm{l}}{\mathrm{O}_{2}}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | Salinity, $\%$ | $\underset{\mathrm{O}}{\mathrm{O}} \mathrm{~m} / \mathrm{l}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%_{0}}{\text { Salinity, }}$ | $\begin{gathered} \mathrm{O}_{2} \\ \mathrm{ml} / \mathrm{l} \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Station 155; 12 April; $37^{\circ} 01^{\prime} \mathrm{N}$, $56^{\circ} 31^{\prime}$ W.; Depth 5338 m . |  |  |  | Station 157; 12 April; $35^{\circ} 01^{\prime} \mathrm{N}$. $56^{\circ} 26^{\circ}$ W.; Depth 5499 m. |  |  |  | Station 159; 13 April; $33^{\circ} 02^{\prime} \mathrm{N}$ $56^{\circ} 30^{\circ}$ W.; Depth 5489 m . |  |  |  |
| 1 | 17.57 | 36.461 | 5.32 | 1 | 18.22 | 36.473 | 5.50 | 1 | 19.58 | 36.669 | 5.22 |
| 49 | 17.58 | 36.459 | 5.29 | 48 | 18.20 | 36.476 | 5.38 | 50 | 19.47 | 36.686 | 5.26 |
| 99 | 17.60 | 36.459 | 5.28 | 97 | 17.96 | 36.512 | 5.26 | 100 | 19.15 | 36.663 | 5.03 |
| 148 | 17.55 | 36.471 | 5.20 | 145 | 17.89 | 36.507 | 5.32 | 1.50 | 18.52 | 36.530 | 5.13 |
| 197* | 17.56 | 36.472 | 5.20 | 195 | 17.89 | 36.506 | 5.28 | 200** | 18.43 | 36.522 | 5.08 |
| 296 | 17.20 | 36.398 | 4.98 | 294 | 17.81 | 36.488 | 5.05 |  |  |  |  |
| 394* | 16.77 | 36.309 | 5.07 | 395* | 17.58 | 36.4862 | 5.01 | 300 400 | 18.13 17.55 | 36.481 36.408 | 5.01 4.71 |
| 493* | 15.29 13.57 | 36.013 35.693 | 4.71 4.89 | 496******** | 17.23 15.56 | 36.407 36.060 | 4.79 4.19 | 500 | 17.56 | 36.408 36.234 | 4.71 |
| 690 | 11.75 | 35.496 | 3.50 | 697 | 13.50 | 35.677 | 4.17 | 600* | 14.78 | 35.937 | 4.13 |
| 788 | 9.14 | 35.186 | 3.45 | 795* | 11.50 | 35.455 | 3.36 | 700 | 12.82 | 35.667 | 3.91 |
| 887 | 6.55 | 34.892 | 3.80 | 889 | 9.33 | 35.209 | 3.38 | 800* | 10.94 | 35.456 | 3.72 |
| 985* | 5.80 | 34.959 | 4.78 | $981 *$ | 7.73 | 35.132 | 3.98 | 900 1000 | 8.55 | 35.209 | 3.74 |
| 1182 | 4.99 | 35.020 | 5.45 | 1171\% | 6.10 | 35.123 | 4.82 | 1000* | 7.19 | 35.153 | 4.37 |
| $3^{*}$ | 4.54 |  | 5.74 | 1359 | 6.10 | 35.096 | 5.25 | 1200 | 5.61 | 35.120 | 5.04 |
| 1642 | 4.12 | 35.000 | 6.21 | 1474* | 4.89 | 35.085 | 5.49 |  |  |  |  |
| 1940* | 3.77 | 34.973 | 6.20 | 1765 | 4.24 | 35.038 | 5.82 | 1597* | 4.10 | 34.999 | 6.04 |
| 2239 | 3.63 | 34.980 | 6.11 | 2153* | 3.85 | 35.022 | 5.86 | 1896 | 3.63 | 34.972 | 6.17 |
| 2537** | 3.46 | 34.971 | 6.11 | 2541 | 3.49 | 34.999 | 5.89 | 2295* | 3.46 | 34.974 | 6.10 |
| 2935* | 3.09 | 34.959 | 6.07 | 2929* | 3.14 | 34.964 | 5.99 | 2695 | 3.27 | 34.977 | 5.98 |
| 3333* | 2.780 | 34.945 | 6.19 | 3324* | 2.78 | 34.942 | 6.10 | 3094 | 2.98 | 34.954 | 5.92 |
| 3831 | 2.430 | 34.918 | 6.17 | 3725* | 2.530 | 34.926 | 6.09 | 34 | 2.6 | 34.932 | 6.11 |
| 4328** | 2.325 | 34.907 | 6.13 | 4119 | 2.390 | 34.927 | 6.06 | 3892 | 2.445 | 34.918 | 6.06 |
| 4826 | 2.300 | 34.901 | 6.10 | 4514** | 2.310 | 34.903 | 6.07 | 4291 | 2.340 | 34.909 | 6.00 |
| 5325* | 2.260 | 34.883 | 5.94 | 4910 | 2.295 | 34.898 | 6.07 | 4691** | 2.265 | 34.891 | 5.98 |
|  |  | 34.883 |  | $5410^{*}$ | 2.250 |  |  | 5090 | 2.120 | 34.868 | 5.79 |
|  |  |  |  |  |  |  | 5. | 5489* | 2.130 | 34.856 | Mud |
| Station 156; 12 April; $35^{\circ} 59^{\prime} \mathrm{N}$. $56^{\circ} 28^{\prime}$ W.; Depth 5280 m . |  |  |  | Station 158; 13 April; $33^{\circ} 58^{\prime} \mathrm{N}$. $56^{\circ} 26^{\circ}$ W.; Depth 5459 m . |  |  |  | Station 160; 14 April; $33^{\circ} 00^{\prime} \mathrm{N}$. $54^{\circ} 26^{\prime}$ W.; Depth 5572 m. |  |  |  |
| 1 | 17.91 | 36.468 | 5.31 | 1 | 19.04 | 36.588 | 5.19 | 1 | 19.50 | 36.525 | 5.26 |
| 49 | 17.93 | 36.472 | 5.32 | 50 | 18.62 | 36.577 | 5.31 | 48 | 19.00 | 36.582 | 5.24 |
| 98 | 17.90 | 36.506 | 5.18 | 100 | 18.41 | 36.547 | 5.03 | 96 | 18.58 | 36.515 | 5.25 |
| 147 | 17.88 | 36.504 | 5.13 | 149 | 18.14 | 36.521 | 5.01 | 144 | 18.38 | 36.506 | 5.24 |
| 196 | 17.90 | 36.504 | 5.12 | 199 | 17.95 | 36.507 | 5.03 | 191* | 18.24 | 36.473 | 5.38 |
| 294 | 17.90 | 36.500 | 5.06 | 299 | 17.59 | 36.428 | 4.96 | 287 | 18.22 | 36.496 | 5.08 |
| 393* | 17.86 | 36.496 | 5.06 | 398* | 16.93 | 36.306 | 4.42 | 383* | 17.76 | 36.434 | 4.61 |
| 492 | 17.77 | 36.479 | 5.01 | 498 | 15.44 | 36.074 | 4.41 | 480 | 17.29 | 36.368 | 4.52 |
| 591* | 17.30 | 36.371 | 4.77 | 597* | 14.04 | 35.862 | 4.09 | 576* | 15.93 | 36.125 | 4.21 |
| 690 | 15.80 | 36.103 | 4.30 | 697 | 11.80 | 35.528 | 3.72 | 673 | 13.93 | 35.811 | 4.05 |
| 790* | 14.01 | 35.813 | 4.05 | 796* | 10.00 | 35.326 | 3.54 | $770{ }^{*}$ | 11.42 | 35.464 | 3.51 |
| 890 | 11.45 | 35.459 | 3.46 | 896 | 8.05 | 35.187 | 3.85 | 867 | 9.015 | 35.219 | 3.54 |
| 990* | 8.96 | 35.162 | 3.44 | 995* | 6.71 | 35.138 | 4.37 | 964* | 7.45 | 35.139 | 4.00 |
| 1190 | 5.61 | 35.021 | 4.99 | 1194* | 5.64 | 35.125 | 5.06 | 1160* | 5.83 | 35.115 | 5.13 |
|  | 4.80 | 35.007 | 5.59 | 1393 | 4.79 | 35.070 | 5.54 | 1361* | 5.135 | 35.117 | 5.39 |
| 1592* | 4.33 | 34.996 | 5.75 | 1687* | 4.10 | 35.018 | - | 1673* | 4.04 | 34.995 | 6.02 |
| 1891 | 3.92 | 34.975 | 6.09 | 1984 | 3.80 | 35.013 | 5.60 | 1966 | 3.75 | 34.988 | 6.05 |
| 2189* | 3.69 | 34.968 | 6.13 | 2282* | 3.45 | 34.989 | 5.61 | 2259* | 3.54 | 34.992 | 6.00 |
| 2488 | 3.49 | 34.971 | 6.12 | 2678 | 3.22 | 34.975 | 5.95 | 2646 | 3.22 | 34.976 | 5.95 |
| 2886** | 3.21 | 34.859 | 6.12 | 3075 | 2.97 | 34.955 | - | 3038 | 2.95 | 34.954 | 5.99 |
| 3284 |  | 34.943 | 6.14 | 3472* | 2.71 | 34.937 |  | 3430* | 2.65 | 34.938 | 6.02 |
| 3682* | 2.54 | 34.923 | 6.16 | 3869* | 2.510 | 34.923 | 6.07 | 3826* | 2.380 | 34.915 | 6.03 |
| 4080 | 2.365 | 34.913 | 6.34 | 4266 | 2.36 | 34.918 | 6.05 | 4223 | 2.310 | 34.910 | 6.04 |
| 4478* | 2.290 | 34.902 | 6.19 | 4662* | 2.29 | 34.896 | 6.07 | 4620** | 2.21 | 34.888 | 5.90 |
| 4876 | 2.28 | 34.894 | 6.04 | 5059 | 2.165 | 34.877 | 6.04 | 5024 | 2.17 | 34.880 | 5.85 |
| 5274** | 2.275 | 34.884 | - | 5456* | 2.15 | 34.866 | 5.83 | 5533* | 2.200 | 34.870 | 5.76 |




| Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\begin{gathered} \text { Salinity, } \\ \% \end{gathered}$ | $\begin{gathered} \mathrm{O}_{\mathbf{2}} \\ \mathrm{ml} / \mathrm{l} . \end{gathered}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | $\begin{gathered} \mathrm{O}_{2} \\ \mathrm{ml} / \mathrm{l} . \end{gathered}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\begin{gathered} \text { Salinity, } \\ \% \end{gathered}$ | $\begin{gathered} \mathrm{O}_{2} \\ \mathrm{ml} / \mathrm{l} . \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Station 173; 17 April; $41^{\circ} 28^{\prime} \mathrm{N}$. $54^{\circ} 30^{\prime}$ W.; Depth 4868 m . |  |  |  | Station 175; 18 April; $42^{\circ} 29^{\prime} \mathrm{N}$. $54^{\circ} 26^{\prime}$ W.; Depth 4749 m . |  |  |  | Station 177; 18 April; $43^{\circ} 17^{\prime} \mathrm{N}$ $54^{\circ} 32^{\prime}$ W.; Depth 4281 m . |  |  |  |
| 1 | 10.33 | 34.903 | 6.41 | 1 | 5.76 | 33.565 | 7.62 | 1 | 6.22 | 33.687 | 7.11 |
| 25 | 12.23 | 35.450 | 5.93 | 25 | 9.52 | 34.778 | 6.25 | 25 | 8.00 | 34.337 | 6.56 |
| 50 | 12.36 | 35.491 | 5.87 | 50 | 10.38 | 35.032 | 6.12 | 49 | 9.17 | 34.687 | 6.39 |
| 100 | 12.39 | 35.502 | 5.75 | 101 | 11.43 | 35.298 | 5.84 | 98 | 11.07 | 35.192 | 5.83 |
| 150* | 12.48 | 35.530 | 5.64 | 151* | 11.93 | 35.440 | 5.40 | 148* | 11.35 | 35.306 | 5.65 |
| 200 | 12.53 | 35.564 | 5.45 | 201 | 11.62 | 35.442 | 5.11 | 197 | 11.34 | 35.346 | 5.28 |
| $300 *$ | 11.92 | 35.446 | 5.44 | 302 | 10.18 | 35.233 | 3.83 | 295* | 8.61 | 35.082 | 3.60 |
| 400 | 9.69 | 35.223 | 3.36 | 402 | 7.65 | 34.964 | 3.94 | 394 | 6.49 | 34.905 | 4.31 |
| $500{ }^{*}$ | 6.52 | 34.858 | 4.27 | 502 | 6.79 | 34.903 | 4.73 | 492* | 5.20 | 34.869 | 5.11 |
| 600 | 5.83 | 34.957 | 4.70 | 602 | 5.14 | 34.931 | 5.20 | 590 | 4.96 | 34.924 | 5.40 |
| $700{ }^{*}$ | 4.85 | 34.925 | 5.52 | 703* | 4.05 | 34.858 | 6.20 | 689** | 4.58 | 34.945 | 5.69 |
| 800 | 4.73 | 34.969 | 5.56 | 803 | 4.48 | 34.968 | 5.82 | 787 | 4.35 | 34.941 | 5.89 |
| 900* | 4.47 | 34.971 | 5.82 | 904* | 4.14 | 34.941 | 6.10 | 886********* | 4.20 | 34.937 | 6.08 |
| 1000** | 4.34 | 34.984 | 5.90 | 1004* | 4.08 | 34.952 | 6.12 | 984* | 4.18 | 34.960 | 6.12 |
| 1200* | 4.08 | 34.972 | 6.05 | 1205* | 4.01 | 34.975 | 6.11 | 1181* | 3.94 | 34.951 | 6.15 |
| 1358* | 3.89 | 34.970 | 6.47 | 1341* | 3.95 | 34.968 | 6.40 | 1348* | 3.81 | 34.951 | 6.20 |
| 1555 | 3.78 | 34.963 | 6.20 | 1539 | 3.78 | 34.962 | 6.18 | 1543 | 3.72 | 34.952 | 6.33 |
| 1848* | 3.64 | 34.958 | 6.22 | 1837** | 3.57 | 34.959 | 6.32 | 1836** | 3.62 | 34.955 | 6.33 |
| 2143 |  | 34.968 | 6.21 | 2135 | - | 34.960 | 6.27 | 2225 | 3.40 | 34.959 | 6.22 |
| 2439* | 3.32 | 34.958 | 6.19 | 2433** | 3.24 | 34.955 | 6.05 | 2614* | 3.095 | 34.954 | 6.20 |
| 2831** | 2.920 | 34.953 | 6.19 | 2731********** | 3.01 | 34.947 | 6.07 | 3006 | 2.745 | 34.938 | 6.30 |
| 3224** | 2.635 | 34.933 | 6.25 | 3128** | 2.670 | 34.951 | 6.01 | 3394* | 2.445 | 34.922 | 6.27 |
| 3610 | 2.395 | 34.918 | 6.30 | 3525 | 2.380 | 34.917 | 6.29 | 3781 | 2.280 | 34.908 | 6.27 |
| 3986* | 2.295 | 34.908 | 6.22 | 3922* | 2.260 | 34.913 | 6.10 | 4168* | 2.250 | 34.903 | 6.36 |
| 4364 | 2.270 | 34.902 | 6.16 | 4320 | 2.255 | 34.902 | 6.206.34 |  |  |  |  |
| 4724 | 2.265 | 34.895 | 6.11 | 4717* 2.275 |  |  |  |  |  |  |  |
| Station 174; 18 April; $42^{\circ} 02^{\prime} \mathrm{N}$. $54^{\circ} 32^{\prime}$ W.; Depth 4718 m. |  |  |  | Station 176; 18 April; $42^{\circ} 55^{\prime} \mathrm{N}$. $54^{\circ} 18^{\prime}$ W.; Depth 4537 m . |  |  |  | Station 178; 18 April; $43^{\circ} 39^{\prime} \mathrm{N}$. $54^{\circ} 29^{\prime}$ W.; Depth' 3617 m . |  |  |  |
|  |  |  |  |  |  | $\begin{aligned} & 34.321 \\ & 34.728 \end{aligned}$ | $6.68$$6.37$ |  |  |  |  |
| 15 | 7.78 | 34.057 | 6.83 | 25 | 9.36 |  |  |  |  |  |  |
| 25 | 7.87 | 34.178 | 6.82 | 50 | 10.32 | 34.974 | 6.03 | 1 | 4.92 | 33.258 | 7.37 |
| 50 | 10.05 | 34.788 | 6.44 | 100 | 12.31 | - | 5.53 | 25 | 4.79 | 33.259 | 7.48 |
| 100 | 12.73 | 35.520 | 5.65 | 150* | 11.67 | 35.387 | 5.34 | 50 | 6.26 | 33.905 | 6.77 |
| 151* | 12.10 | 35.404 | 5.46 | 199 | 11.37 | 35.361 | 5.18 | 100 | 7.89 | 34.671 | 4.70 |
| 201 | 11.69 | 35.414 | 4.52 | 299* | 7.79 | 34.881 | 4.12 | 149* | 7.11 | 34.720 | 4.52 |
| 302* | 9.14 | 35.163 | 4.21 | 399 | 6.77 | 34.947 | 4.16 | 195 | 7.20 | 34.858 | 4.18 |
| 402 | 6.74 | 34.928 | 4.18 | 499* | 5.67 | 34.918 | 4.74 | 284* | 5.81 | 34.837 | 4.55 |
| 503 | 5.99 | 34.957 | 4.68 | 598 | 4.79 | 34.909 | 5.42 | 371 | 5.04 | 34.831 | 5.05 |
| 603 | 5.09 | 34.941 | 5.29 | 698* | 4.60 | 34.913 | 5.67 | 453 | 4.74 | 34.859 | 5.32 |
| 704* | 4.69 | 34.942 | 5.61 | 798 | 4.39 | 34.953 | 5.86 | 533 | 4.50 | 34.903 | 5.69 |
| 804 | 4.52 | 34.967 | 5.90 | 897* | 4.12 | 34.936 | 6.10 | 608* | 4.40 | 34.927 | 5.77 |
| 905* | 4.385 | 34.975 | 5.97 | 997* | 4.09 | 34.950 | 6.11 | 685 | 4.20 | 34.929 | 5.87 |
| 1005* | 4.22 | 34.975 | 5.89 | 1196* | 3.990 | 34.960 | 6.21 | 760* | 4.00 | 34.917 | 6.28 |
| 1206* | 4.04 | 34.974 | 6.09 | 1416* | 3.80 | 34.955 | 6.27 | 839 | 4.035 | 34.934 | 6.21 |
| 1407* | 3.86 | 34.962 | 6.29 | 1614 | 3.72 | 34.956 | 6.27 | 1002* | 3.80 | 34.919 | 6.18 |
| 1608 | 3.86 3.80 | 34.959 | 6.26 | 1813* | 3.60 | 34.957 | 6.22 | 1400* | 3.79 | 34.950 | 6.34 |
| 1809* | 3.57 | 34.956 | 6.27 | 2109 | 3.480 | 34.958 | 6.23 | 1600 | 3.72 | 34.953 | 6.20 |
| 2110 | - 3.9 | 34.963 | 6.23 | 2406** | 3.31 | 34.962 | 6.20 | 1800** | 3.61 | 34.948 | 6.32 |
| 2412* | 3.29 | 34.962 | 6.17 | 2703* | 3.075 | 34.951 | 6.25 | 2100 | 3.43 | 34.952 | 6.26 |
| $2714^{*}$ | 3.05 | 34.950 | 6.25 | 3000* | 2.85 | 34.941 | 6.22 | 2400* | 3.26 | 34.952 | 6.28 |
| $3116^{*}$ | 2.76 | 34.937 | 6.23 | 3297 | 2.63 | 34.933 | 6.33 | 2700 | 3.00 | 34.944 | 6.28 |
| 3518 | 2.46 | 34.919 | 6.32 | 3693 | 2.39 | 34.916 | 6.33 | 3000* | 2.65 | 34.934 | 6.40 |
| $3920^{*}$ | 2.30 | 34.907 | 6.27 | 4089 | 2.295 | 34.908 | 6.29 | 3300 | 2.39 | 34.921 | 6.40 |
| 4321 | 2.27 | 34.903 | 6.30 | 4484* | 2.29 | 34.905 | 6.27 | 3600* | 2.235 | 34.910 | 6.32 |



| Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | $\underset{\mathrm{ml} / \mathrm{l}}{\mathrm{O}}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\begin{gathered} \text { Salinity, } \\ \% \end{gathered}$ | $\begin{gathered} \mathrm{O}_{2} \\ \mathrm{ml} / \mathrm{l} . \end{gathered}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%_{0}}{\text { Salinity, }}$ | $\underset{\mathrm{ml} / \mathrm{l} .}{\mathrm{O}_{2}}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Station 187; 20 April; $42^{\circ} 20^{\prime} \mathrm{N}$. $52^{\circ} 33^{\prime}$ W.; Depth 4022 m . |  |  |  | Station 189; 20 April; $41^{\circ} 30^{\prime} \mathrm{N}$. $52^{\circ} 30^{\prime}$ W.; Depth 5075 m . |  |  |  | Station 191; 21 April; $40^{\circ} 32^{\prime} \mathrm{N}$ $52^{\circ} 43^{\prime}$ W.; Depth' 5190 m . |  |  |  |
| 1 | 5.93 | 33.489 | 7.43 | 1 | 10.31 | 34.533 | 6.72 | 1 | 17.06 | 36.340 | 5.19 |
| 25 | 5.33 | 33.523 | 7.47 | 25 | 11.57 | 35.189 | 6.85 | 25 | 17.10 | 36.334 | 5.21 |
| 50 | 5.16 | 33.568 | 7.18 | 50 | 11.96 | 35.300 | 5.96 | 50 | 17.10 | 36.333 | 5.15 |
| 100 | 4.21 | 34.017 | 6.42 | 100 | 12.53 | 35.512 | 5.78 | 100 | 16.88 | 36.302 | 4.90 |
| 150 | 4.92 | 34.551 | 5.38 | 150 | 12.62 | 35.587 | 5.52 | 150 | 16.48 | 36.228 | 4.61 |
| 200 | 4.83 | 34.666 | 5.44 | 200 | 11.98 | 35.458 | 5.54 | 200 | 14.93 | 35.943 | 4.10 |
| 299* | 4.23 | 34.747 | 5.72 | 300** | 9.05 | 35.092 | 3.78 | 299* | 13.35 | 35.682 | 4.64 |
| 399 | 4.28 | 34.850 | 5.85 | 400 | 6.74 | 34.873 | 4.31 | 399 | 11.30 | 35.416 | 4.53 |
| 499* | 4.45 | 34.940 | 5.84 | 500* | 5.74 | 34.921 | 4.75 | 499 | 7.92 | 35.000 | 3.79 |
| 599 | 4.54 | 34.990 | 5.67 | 600 | 4.87 | 34.910 | 5.48 | 599 | 6.54 | 35.030 | 4.33 |
| 699* | 4.17 | 34.953 | 6.20 | 700* | 4.59 | 34.933 | 5.78 | 699* | 4.93 | 34.933 | 5.38 |
| 798 | 4.00 | 34.941 | 6.15 | 800 | 4.54 | 34.975 | 5.82 | 798 | 4.35 | 34.895 | 5.72 |
| 898* | 4.04 | 34.956 | 6.08 | 900** | 4.39 | 34.976 | 5.96 | 898* | 4.39 | 34.954 | 5.91 |
| 998 | 4.03 | 34.971 | 5.99 | 1000 | 4.24 | 34.975 | 6.07 | 998 | 4.35 | 34.978 | 5.82 |
| 1198* | 3.94 | - | 6.07 | 1200* | 4.065 | 34.976 | 6.09 | 1197* | 4.090 | 34.973 | 6.08 |
| 1321 | 3.82 | 34.970 | 6.12 | 1379 | 3.87 | 34.963 | 6.19 | 1406 | 3.94 | 34.975 |  |
| 1519 | 3.67 | 34.963 | 6.14 | 1679 | 3.60 | 34.948 | 6.31 | 1707 | 3.66 | 34.961 | 6.24 |
| 1718* | 3.56 | 34.966 | 6.13 | 1978** | 3.51 | 34.962 | 6.30 | 2008* | 3.49 | 34.958 | 6.19 |
| 1916 | 3.41 | 34.958 | 6.28 | 2278 | 3.31 | 34.951 | 6.26 | 2410 | 3.28 | 34.959 | 6.17 |
| 2214* | 3.26 | 34.959 | 6.19 | 2677* | 3.03 | 34.944 | 6.36 | 2811* | 2.970 | 34.948 | 6.09 |
| 2512 | 2.98 | 34.944 | 6.24 | 3077 | 2.70 | 34.934 | 6.30 | 3213 | 2.655 | 34.933 | 6.15 |
| 2810* | 2.715 | 34.935 | 6.24 | 3477** | 2.450 | 34.917 | 5.95 | 3614* | 2.435 | 34.921 | - |
| 3108 | 2.505 | 34.926 | 6.07 | 3876 | 2.320 | 34.908 | 6.05 | 4016 | 2.341 | 34.907 | 6.13 |
| 3406* | 2.300 | 34.913 | 6.06 | 4276** | 2.270 | 34.897 | 5.94 | 4409* | 2.290 | 34.904 | 6.35 |
| 3704 | 2.215 | 34.902 | 6.30 ? | 4675 | 2.250 | 34.892 | 6.04 | 4800 | 2.280 | 34.895 | 6.10 |
| 4002* | 2.230 | 34.903 | 6.30 ? | 5075* | 2.245 | 34.882 | 6.12 | 5190* | 2.285 | 34.890 | 6.12 |
| Station 188; 20 April; $42^{\circ} 00^{\prime} \mathrm{N}$. $52^{\circ} 30^{\prime}$ W.; Depth 4493 m. |  |  |  | Station 190; 20 April; $41^{\circ} 01^{\prime} \mathrm{N}$. $52^{\circ} 32^{\prime}$ W.; Depth 4916 m. |  |  |  | Station 192; 21 April; $40^{\circ} 00^{\prime} \mathrm{N}$. $52^{\circ} 30^{\prime}$ W.; Depth 5247 m . |  |  |  |
| 5 | 5.96 | 33.320 | 7.35 | 5 | 9.52 | 34.267 | 6.84 | 1 | 14.57 | 35.900 | 5.99 |
| 25 | 5.42 | 33.516 | 7.18 | 25 | 13.64 | 35.663 | 6.05 | 51 | 14.43 | 35.892 | 5.69 |
| 50 | 6.41 | 34.045 | 6.65 | 50 | 12.99 | 35.540 | 5.81 | 101 | 14.33 | 35.872 | 5.62 |
| 100 | 9.54 | 34.895 | 5.65 | 100 | 10.98 | 35.181 | 5.30 | 151 | 13.64 | 35.746 | 5.12 |
| 150 | 9.41 | 35.051 | 4.03 | 150* | 11.25 | 35.298 | 5.30 | 201* | 13.24 | 35.680 | 5.13 |
| 199 | 7.35 | 34.795 | 4.60 | 200 | 11.09 | 35.298 | 5.08 | 302 | 11.18 | 35.386 | 3.61 |
| 298* | 5.18 | 34.698 | 5.10 | 300* | 8.73 | 35.013 | 3.89 | 403* | 8.94 | 35.139 | 3.40 |
| 396 | 4.78 | 34.810 | 5.40 | 400 | 7.35 | 34.958 | 4.10 | 504 | 7.13 | 35.001 | 4.05 |
| 494 | 4.78 | 34.931 | 5.48 | 500 | - | 34.998 | 4.35 | 604* | 5.13 | 34.826 | 5.13 |
| 590 | 4.68 | 34.970 | 5.72 | 600 | 5.51 | 35.008 | 5.15 | 705 | 5.18 | 34.975 | 5.23 |
| 687* | 4.315 | 34.957 | 5.93 | $700^{\circ}$ | 4.99 | 35.007 | 5.43 | 806* | 4.91 | 35.004 | 5.46 |
| 784 | 4.475 | 35.004 | 5.85 | 798 | 4.64 | 34.994 | 5.69 | 906 | 4.72 | 35.011 | 5.70 |
| 882* | 4.25 | 34.980 | 6.00 | 892* | 4.44 | 34.991 | 5.78 | 1007** | 4.50 | 35.004 | 5.89 |
| 980 | 4.065 | 34.967 | 6.12 | 986 | 4.30 | 34.991 | 5.88 | 1208 | 4.19 | 34.996 | 6.15 |
| 1176* | 3.790 | 34.949 | 6.24 | 1169* | 4.065 | 34.979 | 6.02 | 1410 | 3.98 | 34.984 | 6.15 |
| 1406 | 3.70 | 34.947 | 6.31 | 1334** | 3.945 | 34.972 | 6.07 | 1634 | 3.79 | 34.978 | 6.30 |
| 1606 | 3.62 | 34.955 | 6.26 | 1635 | 3.68 | 34.963 | 6.19 | 1832 | 3.64 | 34.973 | 6.13 |
| 1807* | 3.46 | 34.948 | 6.33 | 1936* | 3.53 | 34.962 | 6.24 | 2129** | 3.43 | 34.967 | 6.16 |
| 2108 | 3.31 | 34.950 | 6.31 | 2237 | 3.36 | 34.961 | 6.16 | 2426 | 3.25 | 34.961 | 6.17 |
| $2410^{*}$ | 3.155 | 34.947 | 6.30 | 2538** | 3.09 | 34.945 | 6.41 | 2822** | 2.965 | 34.955 | 6.09 |
| 2711 | 2.91 | 34.939 | 6.28 | 2838 | 2.875 | 34.941 | 6.19 | 3218 | 2.705 | 34.935 | 6.14 |
| 3012* | 2.700 | 34.933 | 6.19 | 3240* | 2.530 | 34.924 | 6.21 | 3614** | 2.470 | 34.918 | 6.12 |
| 3313 | 2.51 | 34.922 | 6.19 | 3641 | 2.33 | 34.907 | 6.13 | 4010 | 2.34 | 34.908 | 6.24 |
| $3715{ }^{\circ}$ | 2.310 | 34.909 | 6.24 | 4042** | 2.270 | 34.899 | 6.14 | 4406** | 2.28 | 34.899 | 6.16 |
| $4092{ }^{\text {4 }}$ | 2.25 | 34.900 34.902 | 6.29 | 4443******* | 2.255 | 34.897 $\mathbf{3 4} 890$ | 6.08 | 4802 ${ }^{\text {5198* }}$ | 2.27 | 34.894 | 6.17 |
| 4464* | 2.250 | 34.902 | 6.30 | 4844* | 2.255 | 34.890 | 6.07 | 5198* | 2.27 | 34.889 | 6.05 |



| Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | $\begin{gathered} \mathrm{O}_{\mathrm{l}} \\ \mathrm{ml} / \mathrm{l} \end{gathered}$ | Depth, meters |  | $\underset{\%}{\text { Salinity, }} \underset{\%}{ }$ | $\underset{\operatorname{mil}}{\mathrm{O}_{2}}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Station 199; 23 April; $36^{\circ} 00^{\prime} \mathrm{N}$. $52^{\circ} 34^{\prime}$ W.; Depth 5335 m . |  |  |  | Station 201; 23 April; $33^{\circ} 58^{\prime} \mathrm{N}$. $52^{\circ} 24^{\prime}$ W.; Depth' 5554 m . |  |  |  |
| 1 | 17.74 | 36.488 | 5.59 | 1 | 18.76 | 36.570 | 5.41 |
| 47 | 17.72 | 36.476 | 5.50 | 50 | 18.73 | 36.576 | 5.33 |
| 94 | 17.72 | 36.489 | 5.18 | 100 | 18.26 | 36.511 | 5.06 |
| 141 | 17.66 | 36.478 | 5.18 | 150 | 18.01 | 36.490 | 5.02 |
| 188* | 17.67 | 36.481 | 5.40 | 200* | 17.86 | 36.470 | 4.89 |
| 282 | 17.56 | 36.460 | 5.01 | 299 | 17.68 | 36.443 | 4.97 |
| 376* | 17.28 | 36.402 | 4.99 | 399 |  | 36.362 | 4.69 |
| 469 | 16.81 | 36.286 | 4.69 | 499 | 16.48 | 36.232 | 4.63 |
| 562* | 15.63 | 36.076 | 4.32 | 599* | 14.85 | 35.933 | 4.26 |
| 652 | 14.51 | 35.926 | 4.55 | 699 | 13.03 | 35.689 | 3.87 |
| 742* | 13.33 | 35.743 <br> 35.449 | 4.33 | 798* | 10.40 | 35.324 35158 | 3.48 |
| 827 | 11.20 | 35.449 | 3.83 | 898 | 8.55 | 35.158 | 3.68 |
| 911 | 8.36 | 35.214 | 3.78 | 998* | 6.79 | 35.057 | 4.34 |
| 1075 | 6.16 | 35.118 | 4.81 | 1198 | 5.23 | 35.056 | 5.73 |
| 1231* | 5.705 | 35.099 | 5.31 | 1397 | - | 35.034 | 5.78 |
| 1532* | 4.37 | 35.011 | 5.87 | 1154* | 5.62 | 35.082 | 5.13 |
| 1832 | 3.92 | 34.986 | 6.01 | 1540 | 4.24 | 35.005 | 5.76 |
| 2132* | 3.63 | 34.975 | 6.08 | 1924** | 3.80 | 34.992 | 6.01 |
| 2533 | 3.41 | 34.977 | 6.12 | 2309 | 3.49 | 34.982 | 5.67 |
| 2933** | 3.040 | 34.958 | 6.01 | 2694 | 3.15 | 34.964 | 5.71 |
| 3333 | 2.725 | 34.939 34917 | ${ }_{6} 6.03$ | 3136** | 2.820 | 34.943 | 5.96 |
| 3734 4134 | 2300 | 34.917 34.903 | 5.88 | 3537 | 2.555 | 34.922 | 5.89 |
|  | 2.300 | 34.903 34.897 | 6.21 6.01 | 3938** | 2.367 | 34.910 | 6.21 |
| 4935 | 2.195 | 34.882 | 5.91 | 4339 ${ }_{\text {473** }}$ | 2.302 2.229 | 34.899 34.886 | 6.00 5.89 |
| 5335 | 2.240 | 34.877 | Mud | $\begin{aligned} & 4739 * \\ & 5140 \\ & 5541^{*} \end{aligned}$ | 2.1902.240 | 34.886 34.876 | 5.88 |
|  |  |  |  |  |  | 34.876 |  |
| Station 200; 23 April; $34^{\circ} 58^{\prime} \mathrm{N}$. $52^{\circ} 30^{\prime}$ W.; Depth' 5466 m. |  |  |  | Station 202; 24 April; $33^{\circ} 00^{\prime} \mathrm{N}$. $52^{\circ} 27^{\prime}$ W.; Depth 5285 m . |  |  |  |
| 1 | 17.55 | 36.441 | 5.50 | 1 | 20.12 | 36.709 | 5.20 |
| 50 | 17.51 | 36.441 | 5.68 | 46 | 20.15 | 36.712 | 5.18 |
| 100 | 17.51 | 36.445 | 5.23 | 93 | 19.82 | 36.674 | 5.13 |
| 150 | 17.39 | 36.428 | 5.12 | 140 | 19.07 | 36.564 | 4.88 |
| 200* | 17.38 | 36.427 | 5.05 | 188* | 18.25 | 36.492 | 4.71 |
| 300 | 17.31 | 36.412 | 5.02 | 286 | 17.55 | 36.411 | 4.63 |
| 400 |  | 36.287 | 4.47 | 386* | 16.96 | 36.320 | 4.55 |
| 500 | 14.97 | 35.973 $\mathbf{3 5}$ | 3.98 | 487* | 15.75 | 36.118 <br> 3504 | 4.45 |
| 598* | 13.24 | 35.700 | 4.08 | $587 *$ | 14.38 | 35.904 | 4.35 |
| 696 | 10.92 | 35.396 | 3.59 | 687 | 12.86 | 35.687 | 4.12 |
| 794* | 8.53 | 35.147 | 3.35 | $789{ }^{*}$ | 10.75 | 35.440 | 3.78 |
| ${ }^{891}{ }^{\text {a }}$ | 7.28 | 35.118 35 | 4.11 | 889 | 9.13 | 35.284 | 3.77 |
| 991* | 6.24 | 35.085 | 4.42 | 989* | 7.79 | 35.239 | 4.08 |
| 1193 | 4.995 | 35.048 | 5.48 | 1190 | 5.87 | 35.133 | 5.01 |
| 1394* | 4.55 | 35.045 | 5.84 | 1392 | 4.90 | 35.077 | 5.57 |
| 1568* | 4.275 | 35.019 | 5.92 | 1685* | 4.32 | 35.047 | 5.89 |
| 1862 | 3.88 | 34.999 | 6.01 | 2086 | 3.63 | 34.990 | 6.07 |
| 2156* | 3.60 | 34.982 | 6.02 | 2387* | 3.35 | 34.990 | 6.05 |
| 2548 | 3.26 | 34.963 | 6.01 | 2685 | 3.16 | 34.971 | 5.99 |
| 2940** | 2.93 | 34.953 | 6.01 | 2986* | 2.95 | 34.956 | 6.02 |
| 3335 | 2.60 |  | 6.00 | 3283 | 2.74 | 34.940 | 6.09 |
| 3732** | 2.405 | 34.913 | 6.02 | 3680 | 2.500 | 34.920 | 6.07 |
| 4129 | 2.30 | 34.899 | ${ }_{5}^{6.02}$ | 4080 | 2.34 | 34.907 | 6.01 |
| 4526** | 2.24 | 34.896 | 5.96 5.87 | 4480** | 2.21 | 34.887 34 | 5.94 |
| 53925** | 2.19 2.220 | 34.883 34.876 | 5.87 5.78 | 4881* | 2.16 2.18 | 34.876 34.871 | 5.85 5.79 |
|  |  |  |  |  |  |  |  |



| Depth, meters | Tem-pera${ }^{\text {ture, }} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\underset{\%}{\text { Salinity, }}$ | Depth, meters | Tem-pera${ }^{\circ} \mathrm{C}$ (ure, | $\begin{gathered} \text { Salinity, } \\ \% \end{gathered}$ | Depth, meters | Tem-perature, ${ }^{\circ} \mathrm{C}$ | $\begin{gathered} \text { Salinity, } \\ \% \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Station 214; 14 May; $39^{\circ} 41^{\prime}$ N. $61^{\circ} 26^{\prime} \mathrm{W}$.; |  |  | Station 217; 15 May; $40^{\circ} 41^{\prime}$ N. $61^{\circ} 18^{\prime}$ W.; <br> Depth - |  |  | Station 220; 15 May ; <br>  |  |  | Station 222; 19 May; $36^{\circ} 58^{\prime}$ N. $61^{\circ} 31^{\prime} \mathbf{W .}$; Depth 4998 m. |  |  |
| 0 | 21.39 | 36.549 | 1 | 23.58 | 36.352 | 0 | 21.42 | 35.992 |  | 22.19 | 36.490 |
| 50 | 20.67 | 36.622 | 50 | 20.09 | 36.579 | 50 | 18.02 | 35.901 | 50 | 22.10 | 36.498 |
| 95 | 19.45 | 36.574 | 95 | 18.78 | 36.547 | 95 | 13.39 | 35.266 | 95 | 21.31 | 36.545 |
| 145 | 18.54 | 36.535 | 145 | 18.15 | 36.530 | 145 | 13.32 | 35.576 | 145 | 20.37 | 36.591 |
| 195 | 18.11 | 36.493 | 190 | 17.93 | 36.492 | 195 | 10.68 | 35.047 | 195 | 19.24 | 36.559 |
| 290 | 17.87 | 36.472 | 290 | 17.91 | 36.512 | 290 | 10.86 | 35.341 | 290 | 18.21 | 36.486 |
| 390* | 17.58 | 36.421 | 385* | 17.08 | 36.339 35.851 | 390* | 8.58 | 35.120 3509 | 390* | 17.49 | 36.397 |
| 485 | 16.86 | 36.284 | 470 | 14.26 | 35.851 | 485 | 6.79 | 35.009 | 485 | 16.09 | 36.163 |
| 580 | 15.35 | 36.037 | 550* | 11.58 | 35.460 | 580** | 5.41 | 34.943 | 585* | 14.28 | 35.858 |
| 675 | 13.10 | 35.694 | 630 | 9.19 | 35.155 | 680 | 5.05 | 34.970 | 680 | 11.83 | 35.493 |
| 770* | 10.40 | 35.319 | 715* | 7.22 | 35.071 | 775* | 4.59 | 34.951 | 780* | 9.69 | 35.237 |
| 870 | 8.55 | 35.143 | 805 | 6.01 | 35.016 | 875 | 4.57 | 34.989 | 875 | 7.47 | 35.071 |
| 965** | 6.26 489 | 35.021 35010 | 8990* | 5 | 34.993 34 | 970** | 4.32 | 34.977 | 970** | 5.81 | 35.012 |
| 11345* | 4.89 4.37 | 35.010 34.994 | 1070 ${ }_{125}$ | 4.58 4.215 | 34.998 34.988 | 1165 $1360^{*}$ | 4.08 3.90 | 34.962 34.968 | 1160 $1355^{*}$ | 4.82 4.38 | 35.015 35.005 |
|  |  |  |  |  |  |  |  |  | 1530 | 4.19 | 34.991 |
|  |  |  |  |  |  |  |  |  | 1810* | 3.79 | 34.970 |
| Station 215; 14 May;$40^{\circ} 01^{\prime} \mathrm{N} .1^{\circ} 21^{\prime} \mathrm{W}$; $40^{\circ} 01^{\prime}$ N. $61^{\circ} 21^{\prime}$ W.; |  |  | Station 218; 15 May ; $41^{\circ} 00^{\prime}$ N. $61^{\circ} 16^{\prime}$ W.; Depth - |  |  |  |  |  | 2090 | 3.62 | 34.971 |
|  |  |  |  |  |  | 2365* | 3.44 | 34.972 |
|  |  |  |  |  |  | 2645 | 3.23 | 34.966 |
|  |  |  |  |  |  | 2925 | 3.01 | 34.952 |
|  |  |  |  |  |  |  |  |  |  |  |  | 3485 | 2.54 | 34.931 |
|  | 21.64 | 36.555 |  |  |  | 5 | 23.89 | 36.355 |  |  |  | 3860 |  | 34.915 |
| 50 | 19.68 | 36.553 <br> 36558 |  |  |  | 50 | 20.88 | 36.567 36.578 |  |  |  | ${ }^{4635}$ | 2.295 | 34.908 |
| 100 | 18.96 | 36.558 3658 | 95 | 19.62 | 36.578 <br> 3658 |  |  |  | 4605* | 2.31 | 34.903 |
| 150 | 18.31 | 36.526 | 145 | 18.32 | 36.523 |  |  |  |  |  |  |
| 200 | 18.13 | 36.536 | 195 | 17.95 | 36.509 |  |  |  |  |  |  |
| ${ }_{395}{ }^{295}$ | 17.93 17.83 | 36.504 36.496 | ${ }^{290}{ }^{\text {38* }}$ | 16.86 14.94 | 36.301 <br> 35.937 <br> 3.4 |  |  |  |  |  |  |
| 495 | 17.08 | 36.341 | 480 | 11.45 | 35.437 | Station 221; 19 May; <br> $37^{\circ} 30^{\prime}$ N. $61^{\circ} 28^{\prime}$ W.; Depth 5079 m . |  |  | Station 223; 19 May; $36^{\circ} 29^{\prime} \mathrm{N} .61^{\circ} 38^{\prime} \mathrm{W}$Depth 4771 m. |  |  |
| 590 | 15.20 | 36.004 | 575 | 9.08 | 35.170 |  |  |  |  |  |  |
| 685 | 12.30 | 35.563 | 665 | 6.85 | 35.047 |  |  |  |  |  |  |
|  | 9.44 | 35.190 35 | $750{ }^{75}$ | 5.55 | 34.995 |  |  |  |  |  |  |
| 880 | 7.60 5.72 | 35.097 35.016 | 835 ${ }^{810^{*}}$ | 5.03 4.75 | 35.000 35.007 | 1 | 20.98 |  |  |  |  |
| ${ }_{1170}^{1370 *}$ | 4.66 | 35.001 | 1055 | 4.36 | 34.993 | 50 | 20.23 | 36.554 | 45 | 20.20 | 36.421 |
|  | 4.210 | 34.984 | 1185* | 4.21 | 35.003 | 95 | 19.12 | 36.543 | 90 | 18.10 | 36.393 |
|  |  |  |  |  |  | 145 | 18.50 | 36.537 | 135 | 17.52 | 36.397 |
|  |  |  |  |  |  | 195 | 18.25 18.05 | 36.517 36.515 | 180 270 | 16.77 15.27 | 36.260 $\mathbf{3 5} 9$ |
| $\begin{aligned} & \text { Station } 216 ; 14 \mathrm{May} ; \\ & 40^{\circ} 20^{\prime} \mathrm{N} .61^{\circ} 19^{\prime} \mathrm{W} . ; \\ & \text { Depth } \end{aligned}$ |  |  | Station 219; 15 May; $41^{\circ} 20^{\prime}$ N. $61^{\circ} 14^{\prime}$ W.; Depth - |  |  | 390 | 17.87 | 36.485 | 360* | 13.66 | 35.700 |
|  |  |  | 585 | 17.74 | 36.474 | 450 | 12.61 | 35.569 |  |  |  |
|  |  |  | 585 | 16.45 | 36.210 | 540 | 11.10 | 35.386 |  |  |  |
|  |  |  | $\begin{aligned} & 680 \\ & 775^{*} \\ & \hline 7^{2} \end{aligned}$ | 12.05 | 35.987 35 | 625 | 9.46 | 35.210 |  |  |  |
|  |  |  |  |  |  |  | 10.21 | 35.298 | 800 | 6.68 | 35.048 |
| so | 22.95 | 36.414 36.590 | 50 | 23.56 | 36.332 36.523 | 970** | 7.91 | 35.088 | 885** | 6.04 | 35.064 34.999 |
| 100 | 18.88 | 36.551 | 95 | 20.99 | 36.587 | ${ }_{1165}{ }^{136}$ | 5.32 4.62 | 35.027 35.010 | 1065 1260 | 4.85 4.38 | 34.999 <br> $\mathbf{3 4}$ |
| 145 | 18.18 | 36.515 | 145 | 17.95 | 36.334 | $1360^{*}$ | 4.62 | 35.010 | 1260* | 4.38 | 34.995 |
| 196 | 17.97 | 36.509 | 195 | 16.46 | 36.219 | 1530 | 4.40 | 35.005 | 1460** | 4.03 | 34.980 |
| 295 | 17.91 | 36.514 | 290 | 14.48 | 35.861 | 1820** | 3.93 | 34.982 | 1735 | 3.85 | 34.970 |
| 390* | 17.34 | 36.397 | 390* | 11.13 | 35.360 | 2105 | 3.69 | 34.970 | 2010** | 3.63 | 34.968 |
| 490 | 15.13 | 36.000 | 485 | 9.39 | 35.190 | 2390* | 3.54 | 34.970 | 2280 | 3.44 | 34.967 |
| 585 | 12.56 | 35.607 | 580* | 7.47 | 35.085 | 2680 | 3.32 | 34.966 | 2545** | 3.23 | 34.962 |
| 680 | 9.39 | 35.221 | 680 | 5.97 | 35.019 | 2965 | 3.07 | 34.956 | 2825 | 3.00 | 34.950 |
| 775* | 7.36 | 35.045 35036 | 780* | 5.20 4.70 | 35.009 34.991 | 3255 3540 | 2.83 2.61 | 34.947 34.933 | 3100 $3380 *$ | 2.76 <br> 2.53 <br> 2.36 | 34.939 34.925 |
| 875 <br> 970 <br> 18 | 5.99 5.22 | 35.036 35.035 | 875 <br> 975 <br>  <br> 1 | 4.70 4.48 | 34.991 34.988 | 3540 3925 | 2.61 | 34.933 34.917 | $3380 *$ 3770 | 2.53 2.36 | 34.925 34.911 |
| 1160 | 4.51 | 34.998 | 1170 | 4.48 | 34.977 <br> 4.978 | 4305** | 2.32 | 34.909 | 4165 | 2.29 | 34.902 |
| 1350** | 4.14 | 34.980 | 1370* | 3.98 | 34.978 | 4690** | 2.33 | 34.908 | 4565* | 2.28 | 34.896 |





| Depth, meters | Tem-pera${ }^{\text {ture, }}$ C | $\underset{\% 0}{\text { Salinity, }}$ | Depth, meters | Tempera ture, ${ }^{\circ} \mathrm{C}$ | $\begin{gathered} \text { Salinity, } \\ \% \end{gathered}$ | Depth, meters | $\begin{aligned} & \text { Tem- } \\ & \text { pera- } \\ & \text { ture, } \\ & { }^{\text {o }} \text {, } \end{aligned}$ | $\begin{gathered} \text { Salinity, } \\ \% \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Station 250; 14 June; $39^{\circ} 01^{\prime}$ N. $65^{\circ} 00^{\prime} \mathrm{W}$.; Depth - |  |  | Station 251; 14 June; $38^{\circ} 30^{\prime}$ N. $65^{\circ} 04^{\prime}$ W.; Depth - |  |  | Station 252; 14 June: $38^{\circ} 00^{\prime}$ N. $65^{\circ} 00^{\prime} \mathrm{W}$.; Depth - |  |  |
| 1 | 19.98 | 35.386 | 1 | 18.37 | 34.861 ? |  | 19.65 | 35.194 |
| 95 | 11.85 | 35.143 | 100 | 13.67 | 35.546 | 95 | 12.74 | 35.274 |
| 190 | 10.86 | 35.277 | 195 | 10.09 | 35.278 | 190 | 11.72 | 35.352 |
| 285 | 9.07 | 35.160 | 295 | 7.61 | 35.096 | 285 | 11.07 | 35.429 |
| 375* | 6.91 | 34.994 | 395* | 5.86 | 35.004 | 380* | 9.09 | 35.162 |
| 470 | 6.12 | 35.045 | 490 | 5.31 | 35.014 | 475 | 7.33 | 35.102 |
| 560 | 5.36 | 35.016 | 590 | 4.88 | 34.995 | 575 | 6.11 | 35.033 |
| 655 | 4.89 | 35.034 | 685 | 4.56 | 35.000 | 670 | 5.34 | 35.013 |
| 745* | 4.64 | 35.004 | 785 | 436 | 34.990 | 765 | 5.07 | 34.989 |
| 840 | 4.36 | 34.996 | 885 | 4.23 | 34.981 | 865 | 4.67 | 34.994 |
| $940^{*}$ | 4.25 | 34.991 | 980* | 4.13 | 34.982 | 965* | 4.49 | 35.001 |


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