REPORT

ON

HYDROGRAPHICAL INVESTIGATIONS

IN THE

NORTH SEA AND FAEROE–SHETLAND CHANNEL DURING THE YEAR 1906.

BY

A. J. ROBERTSON, D.Sc.

CONTENTS

(With 14 Plates.)

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PART I. HYDROGRAPHICAL.

Introductory Remarks.

All the Scottish hydrographical cruises during the past year have been carried out by the "Goldseeker," and the workers on board are to be congratulated on the unvarying success which has attended their joint efforts. The observations have for the most part been taken by Dr. A. Bowman and Mr. Smith, who, together with Captain Murray, have successfully carried through the work on almost every occasion, often in the face of considerable difficulties. During 1906, the arrangements for carrying on the work have been somewhat changed. The cruises in the Faeroe-Shetland Channel were carried out as usual in June and August. Along the lines of stations extending eastwards from the Moray Firth and Firth of Forth, it has, however, been thought sufficient to take observations at two-monthly intervals, instead of once a month as in 1905, while more numerous investigations have been made at those stations lying between Scotland and Shetland. Additional stations have also been worked in the northern and north-western area of the North Sea, this cruise being undertaken at intervals of two months, by Norway and Scotland alternately. Other lines of stations, situated to the west of the Orkneys, were investigated in July and September, these latter observations being intended to supplement the observations obtained from the more northerly regions of the Faeroe-Shetland Channel (Fig. 1.) The valuable work carried on by the Captains of various

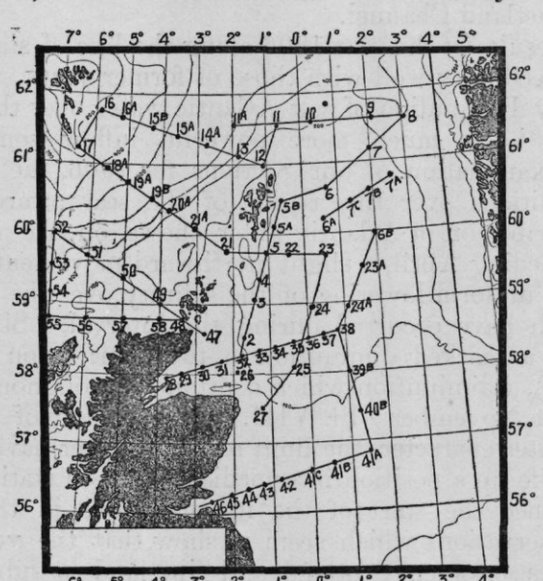


FIG. 1.—Scottish Hydrographic Stations, 1906. Scale 1:8,000,000.

passenger ships was continued throughout the year 1906, great assistance being thereby given in the interpretation of the seasonal variations in temperature over the North Sea area.

Apparatus and Methods.

The apparatus employed was for the most part similar to that described in connection with the work of the previous years. Some interesting experiments have been carried out with drift bottles, weighted so as to float just clear of the sea bottom. A large proportion of these bottles is being recovered, and it is hoped that the results when worked up may throw much additional light on what is at present known regarding the deep-water currents.

The Hydrography of the North Sea, 1906, Aberdeen to Shetland (Stations 26–56).

During 1906, observations along the line of stations extending from Aberdeen to Shetland were taken at more frequent intervals than in any previous year, and the material available from this region of the sea is, in consequence, even more complete than formerly. We have, in fact, six pictures of this important area, representing the existing hydrographical conditions during February, April, June, July, August and November of the year 1906. A study of these sections taken in order shows that the essential conditions of the waters found to hold good over this region of the sea in former years were again met with during 1906, in other words, the seasonal variations already established regarding the Atlantic inflow into the North Sea by way of the channels extending between Scotland and Shetland receive additional confirmation from these more recent results.

An examination of the sections in detail shows that towards the end of January (Pl. I. 1), when the first set of observations for the year was taken, the greater area of the sea between Scotland and Shetland was flooded by comparatively fresh water of less than 35·10 per mille salinity, and it was only on passing northwards towards Fair Isle that Atlantic water of high salinity was found. The character of the water underwent a more or less sudden change in the area lying between stations 3 and 4, and from this point northwards to Shetland, the salinity remained uniform at 35·3 per mille, a value corresponding to that of pure Atlantic water.

Two months later, the hydrographic conditions over this area had undergone a complete change, as a glance at the section for April at once shows (Pl. IX. 2). The whole area was then flooded by salt Atlantic water, which extended some 80 miles further southwards than in the previous February and which even entered inside the Moray Firth, resulting in a considerable increase in the salinity of the waters in that area.

We are here dealing with the powerful inflow of salt Atlantic water which the results of the past three years have led us to believe takes place sometime in late spring or early summer, and which, in the light of the experience of four consecutive years, may now be looked upon as a well-established, normal, seasonal variation, brought about in some way by the relative distribution during the preceding months of the various waters in the region of the Faeroe-Shetland Channel.

So far, then, the results of the year 1906 along the line of stations between Aberdeen and Shetland agree exceedingly well with those of former years. In each case, there has been a somewhat scanty distribution of salt Atlantic water over this area at the beginning of the year, followed by a much more powerful inflow some three months later. Proceeding with the examination of our Sections for 1906, the next in order represents the hydrographic conditions over this region of the sea towards the middle of June (Pl. III. 1). The distribution of Atlantic water shows, on the whole, only a very small difference from the preceding April, a slight northward movement of the 35·25 isohaline, combined with a small uniform lowering of the salinity over the whole area, marking the principal changes which have occurred during the interval. Six weeks later, however, there had taken place a marked diminution in the distribution of salt water over this area (Pls. IV. 1, VI. 1), a diminution which continued throughout the succeeding months, till towards the end of November (Pl. VIII. 1) this region of the sea had once again assumed its normal winter character, the limit of 35·25 water having retreated northwards towards Shetland to take up a position intermediate between stations 4 and 5.

We thus have, since the start of the investigations in the summer of 1902, a continuous series of observations which seem to show that the volume of Atlantic water entering the North Sea between Scotland and Shetland is subject to regular seasonal variation, a maximum inflow in spring, followed by a gradual diminution throughout the summer and autumn months to a minimum in the following winter, making up the normal yearly cycle of changes. Taking all the material available into consideration, it would appear that the strong spring influx sets in towards the middle of March and continues till well on in June, the actual maximum probably occurring sometime in April.

A study of the November section for 1906 (Pl. VIII. 1) shows that the strong influx of Atlantic water which flooded a large area of the North Sea during the previous winter has not been repeated, so that we are more than ever entitled, in the light of the evidence for the past five winters, to consider the phenomenon of 1905 as an entirely abnormal one, brought about by unusual hydrographic conditions and unlikely to recur unless these conditions again become favourable to its development.

North-Western Area of the North Sea (Stations 27–23 &c.).

For this important area of the North Sea, we have six sections representing the hydrographic distribution during 1906, these sections showing the conditions existing in February, April, June, July, September and November of that year. In the beginning of February, the greater part of this area north of station 25, was flooded by pure Atlantic water, and the temperature at all stations was practically constant from surface to bottom (Pl. I. 2). The distribution of Atlantic water of high salinity was then, in fact, somewhat more extensive than at the corresponding season of the previous years. Ten weeks later, by the middle of April, water of 35·25 per mille had extended considerably nearer Scotland, its southward limit then lying midway between stations 25 and 27 (Pl. IX. 3). The water in the more northerly part of the section had, moreover, begun to separate into the two layers commonly met with over this area of the sea during summer and autumn, viz. an upper layer of warm water, surmounting a bottom layer of considerably lower temperature. Two months later, this top and bottom separation had become much more marked, the salinity of the surface waters being then of a somewhat lower value, consequent on the westward extension of Continental coast water, which normally sets in during early summer, having reached that area of the sea (Pl. III. 2). As stated in a former report, the seasonal variations in the movement of this fresh coastal water over the surface of the sea have probably an important bearing on fishery questions, these offshore and inshore currents determining to a large extent the distribution of pelagic eggs and larvae over a considerable area of the North Sea basin.

The next section, that for July 1906, shows the hydrographic conditions over the north-western area, but along a line which trends some thirty miles nearer the continental coast. This section extends from station 27 situated in Buchan Deep to station 7*a*, lying midway between the North of Shetland and Norway, and gives a most complete picture of the distribution of the various waters over that area during the summer of 1906 (Pl. IV. 3). Near the coast of Scotland, in the neighbourhood of station 27, we have warm and moderately fresh water of a salinity indicating Atlantic water diluted to a certain extent with North Sea water and water from the Scottish Coast. Passing northwards and eastwards, we find on reaching station 25 that the whole area was flooded by pure Atlantic water of a uniform salinity of 35·25 per mille, there being, however, a marked tendency for a division of the water into top and bottom layers of different temperature. Northwards of station 25, this separation became much more pronounced, resulting in a complete division of the water into two layers, the lower of which, extending from about 50 metres downwards, was some 5°C. colder than the surface waters. The hydrographic conditions over the more northerly part of this area during the summer of 1906 showed, in fact, surface layers containing a considerable admixture of fresh, warm, Continental coast water, overlying large masses of cooled Atlantic water, water, that is, which had reached these latitudes at a former period and had afterwards become cooled down by contact with surrounding colder waters. The lowering of surface salinity gradually became more pronounced on passing northwards from station 25, till the value at station 7*a* had sunk slightly below 35 per mille. The surface water at this station must, accordingly, have at that time contained a considerable proportion of fresh water from the Continental coast.

When observations were next made over this area some six weeks later, in September, several changes had already set in (Pl. VI. 3). The Continental coast water had apparently begun to move eastwards, as evidenced by moderate high surface salinities even at the more easterly stations. The layers of cold salt bottom water were still found over the greater part of the north-western area, extending as nearly as far southwards as station 25. The drop in temperature from 40 to 60 metres depth at station 23 was very marked, amounting to close upon 5° Centigrade, while the salinity showed a slight corresponding variation on passing from the one water-layer into the other.

Towards the end of November, the cold bottom water was much more limited in area, the normal winter mixing and renewing having apparently set in by that time (Pl. VIII. 2). Its presence was, however, still quite marked in the neighbourhood of station 23, where the

temperature from 70 metres downwards remained constant at 6°·5 Centigrade. The salinity over the whole area was then nearly constant at 35·2 per mille, except for a thin bottom layer of slightly higher value, which extended northwards from station 25.

Comparing the sections for 1906 with those of former years, we find that except for certain minor differences which occur in the hydrographic distribution from time to time, they agree remarkably well together. The main seasonal variations found to occur in one year are repeated in the next, and as in the case of the more westerly line of stations extending from Aberdeen to Shetland, we may now regard the changes taking place over this area from season to season as normal and well established, and as likely to recur regularly in future years. Take, as an example, the case of the seasonal distribution of the fresh Continental coast water. Evidence extending over four years furnishes a more or less precise knowledge of the seasonal movements of this important body of water. We now know that during the winter months, when the Baltic is ice-bound, the distribution of coastal water is particularly scanty and almost entirely limited to the immediate neighbourhood of the Continental coast. But with the melting of the ice in spring the Baltic stream increases in volume and flows northwards as an inshore current along the coast of Norway. With a rising of the temperature in early summer, the density of this fresh-water stream becomes lower and lower, and it spreads slowly westward over the North Sea as a surface current, being confined to the upper layers and prevented from mixing with the underlying water by means of its low density. The material obtained during the past four years furnishes a more or less precise indication of the westward distributive extent of this fresh-water flow at any particular season, so that we can now determine the time of its most extensive distribution over any particular area, with all the consequent resulting phenomena, believed to be of great importance in regard to fishery problems.

Or consider again the question of the cold bottom water commonly met with over this region during the summer and autumn months. Briefly stated, since the start of the investigations in 1902, we have found the north-western area of the North Sea to be completely flooded, during late winter and spring, by Atlantic water of uniform temperature and salinity, the only hydrographic change taking place during that time being a gradual cooling-down of the waters as a whole. With the coming of summer, however, a complete separation of the waters into top and bottom layers takes place, the temperature of the deeper waters remaining constant throughout summer and autumn, while the upper layers continue to follow the customary laws of heating and cooling. Towards the beginning of winter, the cold bottom layers begin to change, being apparently partly renewed by convection-mixing with the surface layers and partly swept out by fresh supplies of Atlantic water entering the North Sea. One result of this, as stated in a former report, is that the bottom waters over this area acquire their maximum temperature towards the close of the year, sometime in November or December.

As a result of the four years' material, we now know, with a greater or less degree of accuracy, the limits of this cold bottom water during summer and autumn, a very important point in relation to fishery questions. We know also that it disappears from certain parts of the sea at the beginning of winter, being then apparently swept out and renewed by fresh supplies of Atlantic water from the westward. But what we cannot at present state with certainty is the precise nature of its origin. The question has been already fully discussed in the report for 1904–5 and unfortunately there is no fresh knowledge available which will enable us to add to the explanations there given. Whether the yearly supply is derived from Atlantic water which has entered the North Sea during the previous winter or whether it belongs to a still earlier date, having reached the north-western area by way of the Norwegian Sea, is a matter which has still to be decided. It had been hoped that analyses showing the proportion of dissolved oxygen in the surface and bottom layers from season to season might have greatly assisted in the solution of this important problem, but unfortunately owing to considerable difficulties experienced with the apparatus employed, it has not been found possible to throw additional light on the subject. A recently-published paper by Fridtjof Nansen* on "Northern Waters" promises to help to elucidate the matter but more evidence is required before any definite conclusion can be arrived at.

Western Area of North Sea (Stations 28–38, 38–41*a*, 41*a*–46).

During the year 1906, it has been found sufficient to work the stations over this area every alternate month, instead of monthly, as formerly, and along the Moray Firth line of stations, observations have been taken from every second station only. Along the

other two lines, viz., the one extending eastwards from the Firth of Forth, and the one connecting the most easterly point on these two lines respectively, the position and number of the stations have been somewhat changed. The connecting line has been altered in direction so as to pass across a more easterly area of the North Sea, and the Firth of Forth line of stations has been lengthened accordingly. The material available furnishes us with five sets of three sections each, representing the hydrographic conditions existing over this area during February, May, August, October and December, 1906.

Considering first the more northerly line of stations and taking the sections in order, the first represents the hydrographic distribution outside the Moray Firth towards the middle of February, 1906 (Pl. I. 4). At the most westerly station we have, as might be expected, water of low salinity, indicating a considerable proportion of fresh water from the Scottish coast. The salinity gradually increased on passing towards Norway, and from station 34 eastwards to station 38 we find the whole area flooded by water of 35·25 per mille, which marks the southward flow of Atlantic water into the North Sea. When the next observations were taken ten weeks later, the volume of 35·25 water had somewhat decreased, and there was a distinct indication of the presence of Continental Coast water in the more easterly part of the section, the water of maximum salinity passing station 34 in the form of a wedge, bounded on either side by slightly fresher water. The separation into surface and bottom temperature layers, commonly met with during the summer months in the easterly part of this section, was just beginning to take place at station 38 when the May observations were taken (Pl. II. 2). The section for August (Pl. V. 1) shows this separation at a later stage, when the waters were divided into two sharply-defined strata, prevented from mixing by reason of their great difference in density. The presence of coastal water was still shown by a slight lowering of the surface salinity at station 38, where there was found an upper warm layer of 35·16 per mille, surmounting much colder bottom water of 35·28 salinity.

The observations taken some eight weeks later show that considerable changes had taken place in the hydrographic conditions during the interval (Pl. VII. 1). Over the whole area, the upper layers were now composed of water of comparatively low salinity, the surface values at stations 34, 36 and 38 rising only very little above 35 per mille. Underlying this fresh surface layer, there was still found the usual cold bottom water of high salinity, which was, however, much more limited in area than in the preceding August, the normal winter mixing and renewing already referred to having evidently begun to take place. Two months later, towards the middle of December, this high density water had shifted still furthur eastwards and was then only visible at station 38, the most easterly point in the section.

Comparing the 1906 observations with those of the previous year, we observe that the more important changes shown in the one year are repeated in the next, although certain minor differences, such as the large proportion of fresh water in the surface layers during last October, are found to exist. As previously explained, this region of the sea provides an excellent means of studying the seasonal distribution of three waters of widely different character, viz., the inflowing Atlantic Stream, the surface flow of Continental coast water and the movements of the more or less sluggish cold bottom water, the precise origin of which cannot at present be determined with certainty. As the result of the work of the past two years, we may conclude that the greater part of this area of the sea is normally flooded, during the winter and spring months, by water of high salinity and uniform temperature from surface to bottom, the salinity of the water in the more easterly part of the section corresponding to that of pure Atlantic water, and marking the southward flow of the Atlantic Stream into the North Sea. Later in the year, the waters over a considerable part of the section begin to separate into two layers of widely-different temperature, while fresh water from the Continental coast begins to creep westwards and to appear at the most easterly stations. With the coming af autumn and winter, the fresh surface water once more recedes towards the coast of Norway, while a process of mixing and renewing, rendered easier by the lowering of the temperature of the surface waters, begins to take place. This renewing becomes more and more vigorous onwards till the close of the year, resulting finally in a complete equalisation of temperature from surface to bottom over the whole area.

The next sections to be considered are those representing the hydrographic conditions along a line of stations, situated some hundred miles east of the Aberdeenshire coast and running nearly parallel to it, approximately in the meridian of 1° E. The stations along this section are four in number (38, 39*b*, 40*b* and 41*a*) and lie slightly nearer the Continental coast than the corresponding ones investigated during 1904–5.

The hydrographic distribution over the more northerly part of this area usually agrees pretty closely with that existing at the more easterly stations in the Moray Firth section. Thus, in February 1906, the Atlantic inflow which flooded the latter section from station 34 eastwards cut this vertical section in the neighbourhood of station 40*b*, these two stations marking respectively the approximate westward and southward limits of the Atlantic inflow over that region of the sea during February 1906 (Pl. I. 5). As might be expected, the salinity showed a gradual falling-off on passing southward along the section, the value at station 41*a* being still, however, as high as 35·16 per mille. Three months later, the presence of Continental coast water had begun to make itself felt along this section, the surface salinity showing a slight decrease at all stations (Pl. II. 3). The temperature of the bottom water was under 6° C. over the whole area, and the water of highest salinity was found in the bottom layers at stations 38 and 39*b*, where its value was slightly over 35·2 per mille.

The next section, that for August 1906, shows conditions similar to those already described in connection with the Moray Firth line of stations (Pl. V. 2). We again have a wedge of salt Atlantic water, reaching to the surface in the region between stations 38 and 39*b*, and bounded on either side by water of lower salinity, on the north by Atlantic water slightly diluted by Continental coast water, and on the south by typical North Sea water of 35 per mille. This section for August brings out two points very clearly, viz., that the Atlantic flow in the southward movement bends round and away from the Scottish coast, and that the Baltic overflow, in spreading westwards over the surface of the North Sea, has a slight northward motion imparted to it by the rotation of the earth. Its effect was, in consequence, more marked at station 38 than at station 39*b*, the latter point, although lying slightly nearer the Continental coast, being evidently outside the direct flow of the fresh-water current. During August, the temperature of the bottom water decreased on passing southwards, the coldest water being found at station 41*a*, where it was some half-degree lower than at station 38.

The section for October (Pl. VII. 1) showed, in common with the more northerly one extending eastwards from the Moray Firth, a considerable decrease of salinity over the whole area, the distribution of salt Atlantic water over that area being then particularly scanty. Two months later, towards the middle of December (Pl. VIII. 4), the whole region was once more flooded by water of 35·2 per mille and upwards, although 35·25 water existed only in the most northerly part of the section and there only in the deeper layers. The two December sections for this area (Pl. VIII. 3, 4) still show a small mass of cold bottom water of 7° C. and under, the southward limit of which then extended only as far as Station 39*b*. It is worthy of note that while this low temperature still existed in the bottom layers at Stations 38 and 39*b*, the water at Stations 40*b* and 41*a* had acquired a uniform value at all depths, this being due, in a certain degree at least, to the shallower nature of the sea at these latter stations, which allowed of a more rapid and complete mixing of the surface and bottom layers by means of convection currants.

The remarks given above in discussing the seasonal changes along the Moray Firth line of stations hold good also in connection with the area of the sea now being considered. These two vertical sections are specially valuable as affording an accurate indication of the westward and southward seasonal limits of the waters of various origin normally present in this region of the sea. Thus by combining the two sections for any particular month, we are enabled to see at a glance the volume of salt Atlantic water passing southwards along this area and to determine with a certain degree of accuracy the boundary of its westward extension towards the Scottish coast. We are also enabled to define the westward and southward limits of the cold salt bottom water and of the fresh warm coastal water present at any particular time in this region of the sea, and to compare from season to season their relative abundance with that of the inflowing supplies from the Atlantic.

The sections extending eastwards from the Firth of Forth will next be shortly considered. As might naturally be expected, the salinity usually shows a gradual increase on passing eastwards away from the Scottish coast, the maximum salinity being generally found at the most easterly station. This condition does not, however, hold good during the summer months, when, on account of the westward movement of fresh Continental coast water, the water of maximum salinity is found somewhere in the middle of the section. The greatest proportion of salt water over this area was, therefore, found towards the beginning (Pl. I. 3) and end (Pl. VIII. 5) of the year, when the salinity of the two most easterly stations corresponded with that of fairly pure Atlantic water. During August (Pl. V. 3), on the other hand, when the Continental coast water appeared to have had its most extensive westward distribution, the salinity

hardly rose above 35 per mille at any point along this section, the surface value at station 41*a*, the most easterly point, only reaching 34·99. The temperature of the water in the deeper layers showed, during the summer and autumn months, a marked falling-off on passing from the Firth of Forth eastwards (cf. Pls. II. 4, V. 3, VII. 3), the maximum differences in August and October 1906 amounting to some 5° Centigrade. In common with the cold bottom water found at the more northerly stations, the temperature over this area normally assumes its maximum value towards the close of the year, the bottom temperature at station 41*a* being some 1·5° C. higher during December 1906 than at any other time of the year. From December (Pl. VIII. 5) onwards till April, the temperature over this area apparently remains quite uniform from surface to bottom, the only change taking place during that time being a gradual cooling down of the water as a whole to a minimum sometime in March or April.

HYDROGRAPHY OF THE NORTH SEA BETWEEN SHETLAND AND NORWAY DURING 1906.

During the past year, a new line of stations (5*b*–7*a*), running from the north of Shetland towards Norway in a due easterly direction, has been worked by Scotland on three occasions, viz., in April, July and the beginning of September, and the resulting sections, taken in conjunction with those obtained from the older line of stations (6, 7 and 8) during April and September, furnish an interesting series of pictures of the hydrographical changes taking place over that area during the summer and autumn of 1906.

The first sections to be considered, those for the middle of April (Pl. II. 1), show that the entire region of the sea extending some 100 miles eastwards from Shetland was then flooded, at all depths, by pure Atlantic water of 35·3 per mille and upwards. At station 7*a*, the eastward limit of the more southerly line of stations, no falling-off whatever in the salinity was shown, so that Continental coast water was then mainly confined to the inshore regions near the coast of Norway. Its influence had, however, begun to make itself felt between stations 7 and 8 in the more northerly section (Pl. IX, 1), the surface salinity at station 8 being then as low as 34·18 per mille.

The next section, representing the conditions over this area towards the end of July (Pl. IV. 2), shows that this fresh coastal water had in the meantime extended somewhat farther westwards, resulting in a marked lowering of the surface salinity at station 7*a*, where the value was then just under 35 per mille. This decrease of salinity was entirely confined to the uppermost 30 metres, the bottom regions being still flooded by salt Atlantic water of 35·28 per mille. The hydrographic distribution showed, in fact, a thin surface layer of warm fresh Continental coast water surmounting a layer of much colder and salter Atlantic water, the changes in temperature and salinity shown on passing from the one water-layer into the other being very marked at about 30 metres depth.

At the beginning of September, the influence of coastal water was shown as far westwards as station 6, situated only some 30 miles east of the Shetland coast (Pl. VI. 2). Its distribution was at that time probably near its annual maximum, the greater part of the northern area of the North Sea being then covered by a thin surface layer extending to a depth of about 30 metres. While its effect on the salinity was not very marked along the more southerly line of stations, it produced a marked diminution over the area to the immediate northward, the surface salinity at station 8 falling as low as 31·35 per mille.

Observations from the area of the sea during the last four years show that the distribution of Continental coast water over the North Sea area is most certainly subject to seasonal variation, and although its volume and distributive extent may vary somewhat from year to year, yet its movements appear to be controlled and governed by the same natural laws. As we have already seen, its distribution during the earlier part of the year is very limited and its effect is then mainly confined to the inshore waters near the Norwegian coast. While this is partly due to the diminished Baltic outflow during the winter months, the chief factor to be taken into account is the very low temperature at that season of the waters in the immediate neighbourhood of the Continental coast.

This assists the action of convection currents in bringing about a more or less complete mixing of the fresh surface layers with the underlying salter water, so that the effect of coastal water is then almost entirely confined within the area of the deep channel off the Norwegian coast. On the approach of summer, the temperature of the Baltic water rises, its density in consequence becomes less, so that its immediate mixing by convection currents is no longer possible and it spreads out over the North Sea as a thin surface layer. From the changes in temperature and salinity at various points during summer and autumn, we are enabled to follow its westward movement away from the Continental coast, to determine more or less accurately its season of maximum distribution

and finally to observe the retrograde movement which begins to take place later on in the year and continues till well on in the following winter. As already stated, these offshore and inshore movements of coastal water, which appear to be subject to seasonal variation and to be co trolled by the same natural laws are probably of extreme importance in connection with the distribution of eggs and larvae over the northern area of the North Sea. A complete understanding of these seasonal changes may accordingly be expected to throw light on some intricate fishery problems, notably that in connection with the migration of the herring.

Hydrography of the Entrance from the North Sea to the Norwegian Sea during 1906.

The line of stations (11*a*-8) situated in the area at the entrance from the North Sea to the Norwegian Sea has now been extended to include a new station 11*a*, situated within the deep channel some 50 miles north-west of Shetland. Observations were taken over that region on two occasions during the summer of 1906, and sections have been drawn showing the hydrographical conditions existing there during April and September.

The first section to be considered is that representing this region of the sea towards the middle of April (Pl. IX. 4). As might be expected, the western part shows conditions very similar to those commonly existing in the Faeroe–Shetland Channel, viz., surface layers of salt water marking the northward flow of the Atlantic stream, and bottom layers of cold, dense water, marking the southward movement of Norwegian Sea water towards the Faeroe–Shetland Channel. At the more easterly stations, 8 and 9, there were the usual indications of Continental coast water, as shown by the decreased temperature and salinity in the surface layers.

As already mentioned, the lowering of salinity at station 8 was very marked in the beginning of September, when the surface value fell as low as 31·35 per mille (Pl. X. 2). The greater part of the section was then, however, flooded in the surface by water of high salinity, indicating the northward flow of the Atlantic stream towards the Norwegian Sea. A slight lowering of the salinity in the upper layers was probably due to the presence of surface water from the Norwegian Sea, which at that time apparently moved southwards into the regions north of the Faeroe–Shetland Channel. The bottom layers in the western part of the section were, as usual, composed of the cold water from the Norwegian Sea basin which normally floods the deeper regions north of the Faeroe-Shetland Channel and which extends as far southwards as the Wyville–Thomson ridge.

Hydrography of the Faeroe–Shetland Channel during April—June, 1906.

We now pass on to a consideration of the sections dealing with the hydrographical conditions existing in the neighbourhood of the Faeroe–Shetland Channel during the summer of 1906. From the material available, sections have been drawn showing the distribution of temperatures and salinities in the northern and southern sections of the Channel for June and August (Pls. XI., XII.), and also over a more southerly area in the North Atlantic for July and September (Pls. XIII., XIV.). The section across the entrance from the Norwegian Sea to the North Sea has, as already stated, been extended into the deep water north of the Faeroe–Shetland Channel, and the sections over that area for April and August ought to materially assist us in understanding the seasonal changes going on in this important region of the sea.

Taking the sections in order, the first is that already alluded to representing the hydrographic conditions during April over the region some 50 miles north of Shetland, which constitutes, as it were, the boundary between the North Sea and the Norwegian Sea (Pl. IX. 4). The western part of this section was then flooded to a depth of about 250 metres with pure Atlantic water of high salinity, marking the eastern limit, during that month, of the northward-flowing Atlantic Stream on its way towards the Norwegian Sea. Underlying this surface flow of northward-moving water there was again found, from a depth of 500 metres downwards, the usual cold bottom water of 34·94 salinity, water which passes southwards from the Norwegian Sea basin towards the Wyville–Thomson ridge.

The next sections, drawn from observations taken in the Faeroe–Shetland Channel during June, give two complete pictures of the conditions existing in the northern and southern areas towards the middle of that month (Pl. XI.). An examination of the two sections at once reveals some striking differences. Thus the southern area was then apparently largely flooded by salt Atlantic water of 35·3 per mille and upwards, while along

the parallel line of stations, some 70 miles to the northward, no water of so high a degree of saltness was found. The most highly saline water present over the northerly area was, moreover, exceedingly limited in extent, and was exclusively confined to the Shetland side of the Channel. The conditions existing in the Faeroe-Shetland Channel during June 1906 were, in fact, very similar to those found to hold good during August of the two preceding years. The explanation then given was that this apparently anomalous distribution of salt Atlantic water was entirely due to its direction of flow across channel, so that the southern section passes *along* the direction of the stream and the northern section *across* it. The Atlantic stream thus apparently entered the Faeroe-Shetland Channel during June 1906 by passing *south* of the Faeroes, and preserved a north-easterly direction of flow in crossing towards Shetland, so that a section across the southern area of the channel gives an exaggerated idea of its actual volume. On nearing the eastern side of the Channel its direction apparently changed into a more northerly one, so that its waters crossed the northern section close to the Shetlands.

The deeper layers of the Channel were, as usual, composed of cold Norwegian Sea water of less than 35 per mille salinity, the bottom temperature during that part reaching as low as −0·9 Centigrade. Owing to the more limited distribution of Atlantic water in the northern regions of the Channel, the effects of this underlying water reached very near the surface, giving rise to an apparent division of the Atlantic Stream into two branches. The surface temperature and salinity were, in consequence of this peculiar distribution of Atlantic and Norwegian Sea water, of minimum value in the central regions of the Channel.

JUNE 1906.

—	Station 15*b*.		Station 15*a*.		Station 14*a*.	
Depth.	Temp.	S.‰	Temp.	S.‰	Temp.	S.‰
0	8·75	35·26	8·55	35·19	8·75	35·26
100	6·80	35·19	5·47	35·05	6·79	35·19
250	6·54	35·19	1·76	34·92	5·79	35·12

As stated in dealing with the report for 1904-5, it seems likely that this peculiar distribution in the northern regions of the Channel is not, as has sometimes been supposed, due to a real division of the Atlantic Stream by a cold-water wedge from below, but is simply caused by the more or less winding flow of the Atlantic water in crossing the Channel towards the Shetlands, so that its effect is less marked at some points in the northern section than at others. This would account for the lowering of temperature and salinity at station 15*a*, which, in June 1906, was apparently situated just outside the main flow, and where, accordingly, the influence of the cold, fresh, underlying Norwegian Sea water would become of more effect.

HYDROGRAPHY OF THE NORTH ATLANTIC, JULY 1906.

The observations taken in the North Atlantic some three weeks later (in the beginning of July) illustrate some points of interest (Pl. XIII.). The flow of the Atlantic Stream towards the regions of the Faeroe-Shetland Channel had evidently altered somewhat in direction since the previous observations, and was now running in a more northerly direction than was the case a month previously. Its eastward limit over this area was now marked by stations 50 and 56, and its waters appeared to pass quite close to the Hebrides and to flow towards Shetland in an almost north-easterly direction. Westwards of the line joining these two stations, the whole section was flooded at all depths by warm Atlantic water of high salinity, the temperature and salinity at 1000 metres depth being 8° Centigrade and 35·3 per mille respectively. These numbers are in marked contrast to the values found some fifty miles northward in the regions of the Channel, where the bottom is normally flooded by very cold water of some 34·9 per mille salinity. The difference is, of course, determined by the Wyville-Thomson ridge which, while allowing of the northward flow of the surface waters of the Atlantic Stream, completely bars the southward progress of the cold bottom water proceeding from the Norwegian Sea basin.

Hydrography of the Faeroe–Shetland Channel, August 1906.

The next sections to be considered are those representing the conditions of the waters in the Faeroe–Shetland Channel towards the close of August 1906 (Pl. XII.). The observations for that month show that the Atlantic Stream still preserved the more northerly direction of flow assumed by it in the beginning of July. A glance at the sections for June and August will make this point clear. In considering the hydrographical conditions of this area in June, we concluded from a study of the two sections that the Atlantic stream then entered the channel south of the Faeroes flowing in an easterly direction towards Shetland. These conditions no longer held good, however, when the August observations were taken The water of maximum salinity was then equally distributed in both the northern and southern regions of the channel and was, moreover, entirely confined to the Shetland side leading to the increase of salinity north of Shetland (Station 12) which is further illustrated in Pl. III. 3, 4. We may thus assume that the Atlantic stream no longer entered in an easterly direction of flow, but that it passed northwards or north-eastwards from the vicinity of the Hebrides and crossed both sections of the channel close to the eastern side. The distribution of Norwegian Sea water was also very similar in both sections during this month, this condition being in marked contrast to that for the preceding June, when, on account of the more extensive Atlantic distribution along the southern area of the channel, its effect was much more pronounced in the more northerly regions. During August, there appeared to be, in fact, a southward movement at all depths of water from the Norwegian Sea into the central and western areas of the channel, the values of temperature and salinity showing a considerable falling-off on passing westwards outside the flow of the Atlantic stream.

The observations taken at the same time some 40 miles north of Shetland, along a parallel section crossing the entrance from the Norwegian Sea to the North Sea, show some points of further interest (Pl. X. 1). The surface of the sea to a depth of about 50 metres was then flooded by water of slightly reduced salinity, indicating, evidently, a small dilution of the salt Atlantic water with surface water from the Norwegian Sea. The proportion of Norwegian Sea water present was not, however, sufficient to lower the temperature to any marked extent ; the volume of this surface water was, however, considerable, and extended eastwards nearly to station 9, situated some 100 miles off the Norwegian coast. Underlying this upper layer of warm and fairly pure Atlantic water there was found water of the same degree of salinity as in the more easterly part of the Faeroe-Shetland Channel, this mass of 35·3 per mille water, some 250 metres in thickness, marking the northward flow of the Atlantic Stream on its way towards the Norwegian Sea. The bottom water over this area was similar to that present in the more southerly regions of the channel and consisted of the usual cold, heavy water from the Norwegian Sea basin.

The last sections for the year are those constructed from observations taken in the North Atlantic area towards the middle of September (Pl. XIV.). The distribution of salt Atlantic water over this region was then more limited than when the previous investigations were carried out two months previously. The section including stations 49 to 52 was again, however, largely flooded by salt Atlantic water, which extended eastwards nearly to station 51. The deeper stations in this section, being situated south of the Wyville-Thomson ridge, were as usual flooded at all depths by pure Atlantic water, the temperature and salinity values at 800 metres being 8°·1 Centigrade and 35·3 per mille respectively. Additional observations were taken, during the cruise, along a line of stations some 20 miles to the northward of the section last considered, and situated just beyond the Wyville–Thomson ridge. A glance at the two sections illustrates the well-known importance of this submarine barrier in determining the hydrographic distribution over this area, more especially in relation to the waters present in the deeper layers. Station 52, as we have just seen, was then flooded at all depths by warm Atlantic water of high salinity, the value at 800 metres depth being as high as 35·3 per mille. Station 52*d*, on the other hand, lying to the immediate northward of the Wyville–Thomson ridge, showed an entirely different hydrographical condition, the whole area from 400 metres downwards being flooded by cold Norwegian Sea water of less than 35 per mille, similar to that found in the deeper layers of the Faeroe–Shetland Channel.

The limits of the distribution of 35·3 per mille water along the three sections investigated leads us to suppose that the Atlantic Stream was during that month flowing over this area in an almost easterly direction towards the North Sea, and it was apparently only at a later stage that its direction of flow changed into a north-easterly one, so that it crossed the Faeroe–Shetland Channel close to Shetland, and subsequently cut the more northerly section at the entrance to the Norwegian Sea.

Summary.

The work in connection with the International Investigation of the North Sea and surrounding waters has now been proceeding for upwards of four years, and during that time much interesting and valuable information has been acquired regarding the seasonal distribution and relative abundance of the different waters normally present in these regions. Sufficient evidence is now available to enable us to consider several of the hydrographic changes which have been found to take place during that time within the North Sea area as well-established seasonal ones which are likely to be repeated in future years. Partly owing to the absence of winter observations, it is, however, at present difficult to say whether the hydrographical changes in the region of the Faeroe–Shetland Channel are really subject to seasonal variation or not.

The results of the Scottish investigations may shortly be summarised as follows :— Large volumes of Atlantic water are constantly streaming northwards as a surface current through the Faeroe–Shetland Channel into the Norwegian Sea. The most extensive distribution in and around the regions of the channel appears to take place some time in late spring or early summer, and the volume, direction and rate of flow of this salt Atlantic Stream are subject to considerable variation from season to season and from year to year. The volume of Atlantic water streaming northwards through the channel does not appear to be governed or controlled by any fixed and definite laws, but rather to be subject to the influence of irregular pulsations, which appear to come and go without any visible determining cause. The direction of flow of the Atlantic Stream varies from a more or less northerly one to a due easterly one, and in the latter case the current enters the channel to the immediate south of the Faeroes and preserves into eastward course till quite close to the Shetland side of the Channel. The velocity in the surface layers appears to average some 12–16 miles per 24 hours, so that the actual volume of Atlantic water passing northwards into the Norwegian Sea must be enormous. The main branch of the Atlantic Stream is almost invariably situated in the Shetland side of the channel, where its waters normally extend to a depth of some 300–400 metres.

Along the bottom of the Channel, cold, dense Norwegian Sea water is constantly pressing southwards towards the Wyville–Thomson ridge. That this water is not actually stagnant is shown by the small changes in temperature which take place from time to time even in the deepest layers, but its rate of progress is apparently very slow and probably averages only some 2 or 3 miles per day.

The Atlantic Stream, in its northward passage towards the Norwegian Sea, throws out offshoots of salt water which enter the North Sea through the channels south of Shetland. The volume of this inflow varies greatly from time to time and appears to be subject to periodical increase and decrease dependant on the seasons. A particularly scanty salt-water distribution at the beginning of the year is normally followed by a vigorous Atlantic inflow which increases to a maximum towards the middle of April, when the whole north-western area of the North Sea becomes flooded by water of high salinity. Throughout May and June, this powerful Atlantic influx apparently continues with but slightly abated vigour.

From that season onwards, however, a gradual falling-off sets in, water of high salinity recedes farther and farther northwards towards Shetland, and a minimum is finally reached towards the middle of winter, when the distribution of Atlantic water over this area of the sea becomes extremely limited. The only exception to this apparently normal yearly cycle of changes was experienced during the winter of 1905, when the hydrographical conditions indicated an extensive inflow of Atlantic water, corresponding to that usually found to exist at the season of maximum distribution. This strong salt-water winter influx was, however, apparently entirely abnormal in character, being probably brought about by an unusual arrangement of atmospheric conditions, and may, accordingly, be regarded as unlikely to be repeated regularly in future years.

Another problem on which much light has been thrown during the International scheme of work is the seasonal variation in the movements of fresh coastal water over the surface of the North Sea area. During late spring, we normally find the greater part of the northern and north-western areas of the North Sea flooded at all depths by salt Atlantic water. But with the coming of summer heat, we find Scottish coastal water on the one hand and fresh Continental coast water on the other gradually creep out over the surface of the sea and encroach on the dominion previously occupied entirely by water of high salinity. We thus have, during the summer and autumn months, a large area of the North Sea flooded by a thin surface layer of warm, brackish water, surmounting thicker masses of much colder and salter Atlantic water, the two water-strata being prevented

from mixing by reason of their great difference in density. On the approach of winter, the coastal waters once more recede backwards towards the inshore regions, leaving the North Sea area largely flooded with water of uniform high salinity at all depths. These coastal waters probably have their most extensive distribution during the month of August, when their influence on the hydrographical conditions over the North Sea is very pronounced. The information obtained throughout the past four years shows that their movements take place regularly from one year to another, and we are now entitled to class this cycle of changes in the category of those subject to seasonal variation and as likely to be repeated regularly from year to year.

During the summer and autumn months a large portion of the North Sea basin is normally flooded, in the deeper layers, by thick masses of cold, dense water, of a salinity which shows it to have been originally of Atlantic origin. Whether this water is derived directly from the Atlantic inflow of the previous winter, having then entered the North Sea south of Shetland and become cooled down by contact with the surrounding colder waters, or whether it is Atlantic water of an earlier date which has reached these latitudes by way of the Norwegian Sea, is a question very difficult to determine. We can, however, determine with a greater or less degree of accuracy the changes which its limits undergo from season to season, a very important matter when considered from the point of view of our fisheries.

As already stated, the relative seasonal distribution of the waters of various character normally present within the North Sea area, viz., the inflowing salt Atlantic water, carrying in solution an abundant supply of oxygen and bearing in suspension a plentiful food supply, the slowly-moving coastal water which largely determines the distribution of pelagic eggs and larvae, and the cold, dense, more or less stagnant bottom Atlantic water of a somewhat earlier date is of great interest and importance in connection with fishery problems, and any fresh evidence tending to throw additional light on this question will be welcomed accordingly.

PART II.—HYDRODYNAMICAL.

Hydrodynamical Treatment of the Conditions of the Faeroe–Shetland Channel during the Summer of 1906.

In order to arrive at some indication of the velocity and direction of flow of the various waters normally present in the region of the Faeroe–Shetland Channel during the past summer, calculations, based on the differences of density of the water as present at the various stations, have been made in as many different ways as possible. The method of carrying out these calculations and of applying the results obtained has been already fully explained in former reports. It may, however, be here stated that the values found represent, not the actual velocities of the current at various depths but the *differences* in rate of flow on passing from the surface downwards, and the maximum values, as has already been explained, are given when the calculations are made along lines vertical to the direction of flow. By finding these velocity-differences in as many different ways as possible we can, accordingly, arrive at a more or less accurate indication of the direction of movement of the waters in question. And in the deeper regions of the sea, as in the neighbourhood of the Faeroe–Shetland Channel, we may, moreover, assume that the bottom waters move only very slowly and so obtain a fair idea of the actual rate of flow of the surface current.

Calculations based on these lines have been made for the Faeroe—Shetland Channel stations in June and August, and also for those situated in the immediate neighbourhood of the North Atlantic for July and September. In reference to calculations carried out across Channel (east to west), positive values indicate that the lighter water was present at the more easterly station ; negative values, for calculations made under similar conditions, indicate that the lighter water was found at the more westerly station. Where the differences of velocity were estimated along the Channel (north to south), positive values show that the density of the water was greater at the more northerly station, negative values that it was greater at the more southerly one. In regard to the values obtained from sections in the North Atlantic, the same rules regarding density have been adhered to in determining whether the results found should be tabulated as positive or negative.

FAEROE–SHETLAND CHANNEL, JUNE 1906.

Velocity difference from	Calculated between Stations along Northern Section.											
	16*a*-16.		15*b*-16*a*.		15*a*-15*b*.		14*a*-15*a*.		13*a*-14*a*.		12-13*a*.	
0–30 metres ...	—		—		0·06	cm/sec	—		—		0·40	cm/sec
0–40 „ ...	0·54	cm/sec	−0·75	cm/sec	0·06	„	0·26	cm/sec	0·20	cm/sec	0·37	„
0–60 „ ...	—		—		0·04	„	—		—		—	
0–80 „ ...	—		—		—		—		—		0·19	„
0–100 „ ...	1·04	„	−1·20	„	− 0·75	„	1·71	„	1·31	„	0·13	„
0–200 „ ...	1·00	„	−0·80	„	− 3·52	„	5·31	„	2·29	„	—	
0–300 „ ...	—		—		—		—		3·71	„	—	
0–400 „ ...	—		—		—		12·92	„	6·08	„	—	
0–500 „ ...	—		—		−14·37	„	—		8·93	„	—	
0–600 „ ...	—		—		—		14·43	„	11·01	„	—	
0–700 „ ...	—		—		−15·96	„	—		—		—	
0–800 „ ...	—		—		—		14·26	„	—		—	
0–1200 „ ...	—		—		—		12·86	„	—		—	

FAEROE–SHETLAND CHANNEL, JUNE 1906.

Velocity difference from	Calculated between Stations along Southern Section.											
	17–18*a*.		18*a*-19*a*.		19*a*–19*b*.		19*b*–20*a*.		20*a*–21*a*.		21*a*-21.	
0–20 metres ...	—		—		—		+0·17	cm/sec	—		—	
0–30 „ ...	—		—		—		+0·13	„	—		—	
0–40 „ ...	1·24	cm/sec	0·15	cm/sec	0·78	cm/sec	−0·06	„	−0·53	cm/sec	−0·87	cm/sec
0–80 „ ...	—		—		—		—		—		−0·90	„
0–100 „ ...	1·15	„	0·50	„	2·80	„	−2·11	„	−0·85	„	—	
0–150 „ ...	—		0·80	„	—		−3·76	„	−1·12	„	—	
0–200 „ ...	—		0·90	„	6·43	„	—		—		—	
0–250 „ ...	—		0·65	„	—		—		—		—	
0–300 „ ...	—		0·23	„	—		—		—		—	
0–400 „ ...	—		—		18·42	„	—		—		—	

FAEROE–SHETLAND CHANNEL, JUNE 1906.

—	Calculated between Stations in Northern and Southern Section.											
	17*a*-19*a*.	13*a*-19*b*.	14*a*-18*a*.	14*a*-19*a*.	14*a*-19*b*.	14*a*-20*a*.	15*a*-18*a*.	15*a*-19*a*.	15*a*-19*b*.	15*b*-18*a*.	15*b*-19*a*.	15*b*-19*b*.
0–30 metres	+0·13 cm/sec	—	—	—	—	—	—	—	—	—	—	—
0–40 „	+0·12 „	0·41 cm/sec	0·12 cm/sec	0·24 cm/sec	0·58 cm/sec	0·53 cm/sec	0·26 cm/sec	0·39 cm/sec	0·71 cm/sec	+0·36 cm/sec	0·41 cm/sec	0·59 cm/sec
0–60 „	+0·05 „	—	—	—	—	—	—	—	—	—	—	—
0–100 „	−0·10 „	0·83 „	0·06 „	0·33 „	1·50 „	0·80 „	0·10 „	1·12 „	2·26 „	+0·42 „	0·65 „	1·46 „
0–150 „	—	—	0·00 „	—	—	1·02 „	—	—	—	—	—	—
0–200 „	−0·37 „	1·74 „	0·00 „	0·42 „	3·10 „	—	1·88 „	2·75 „	5·38 „	+0·20 „	0·68 „	2·72 „
0–250 „	—	—	0·04 „	—	—	—	—	—	—	+0·10 „	—	—
0–300 „	—	—	—	—	—	—	—	—	—	−0·04 „	0·09 „	—
0–350 „	—	—	0·25 „	—	—	—	4·42 „	—	—	−0·37 „	—	4·64 „
0–400 „	—	4·27 „	—	0·23 „	7·80 „	—	—	5·75 „	13·38 „	—	—	—
0–500 „	—	—	—	—	—	—	—	—	—	—	−2·08 „	—
0–550 „	—	—	—	—	—	—	—	6·20 „	—	—	—	—
0–600 „	−3·33 „	—	—	0·05 „	—	—	—	6·20 „	—	—	—	—
0–700 „	—	—	—	—	—	—	—	6·16 „	—	—	−2·98 „	—
0–800 „	—	—	—	−0·05 „	—	—	—	—	—	—	—	—
0–1000 „	—	—	—	−0·12 „	—	—	—	5·61 „	—	—	—	—

North Atlantic, July 1906.

Velocity difference from	50–51.	51–52.	52–53.	53–54.
0–20 metres	—	—	—	−0·05 cm/sec
0–30 „	—	—	—	+0·20 „
0–40 „	+0·26 cm/sec	−0·18 cm/sec	−0·13 cm/sec	+0·45 „
0–60 „	−0·01 „	0·00 „	—	—
0–100 „	−0·55 „	+0·50 „	−0·18 „	+1·53 „
0–180 „	—	—	—	+2·77 „
0–230 „	—	+0·82 „	—	—
0–250 „	—	—	+0·35 „	—
0–500 „	—	—	+0·78 „	—
0–750 „	—	—	+1·51 „	—
0–1000 „	—	—	+4·53 „	—

Faeroe–Shetland Channel, August 1906.

Velocity difference from	Calculated between Stations along Northern Section.					
	16*a*–16.	15*b*–16*a*.	15*a*–15*b*.	14*a*–15*a*.	13*a*–14*a*.	12–13*a*.
0–30 metres ...	—	—	+0·04 cm/sec	—	—	—
0–40 „ ...	+0·63 cm/sec	0·26 cm/sec	−0·02 „	1·10 cm/sec	0·20 cm/sec	+0·17 cm/sec
0–60 „ ...	—	—	—	—	—	—
0–80 „ ...	+0·15 „	—	—	—	—	+0·20 „
0–100 „ ...	—	1·67 „	−0·70 „	2·50 „	0·53 „	−0·02 „
0–120 „ ...	−0·96 „	—	—	—	—	—
0–150 „ ...	—	1·48 „	−0·70 „	—	—	—
0–200 „ ...	—	—	−0·60 „	3·90 „	1·26 „	—
0–270 „ ...	—	—	—	6·71 „	—	—
0–300 „ ...	—	—	—	15·70 „	2·57 „	—
0–400 „ ...	—	—	—	—	—	—
0–500 „ ...	—	—	—	—	6·97 „	—
0–600 „ ...	—	—	—	25·85* „	11·30† „	—
0–800 „ ...	—	—	—	32·50* „	—	—
0–1100 „ ...	—	—	—	43·70* „	—	—

* Values below 500 metres probably too high, owing to temperatures at station 14*a* being incorrectly taken (vide Tables).
† Value at 600 metres probably too low, for similar reasons (vide Tables, 14*a*).

Faeroe–Shetland Channel, August 1906.

Velocity difference from	Calculated between Stations along Southern Section.					
	17–18*a*.	18*a*–19*a*.	19*a*–19*b*.	19*b*–20*a*.	20*a*–21*a*.	21*a*–21.
0–30 metres ...	—	+0·25 cm/sec	—	—	−0·10 cm/sec	—
0–40 „ ...	0·63 cm/sec	+0·23 „	0·79 cm/sec	−0·32 cm/sec	−0·03 „	−0·24 cm/sec
0–60 „ ...	—	−0·04 „	—	—	—	−0·05 „
0–80 „ ...	—	—	—	—	+0·20 „	—
0–90 „ ...	—	—	—	—	—	+0·86 „
0–100 „ ...	2·23 „	−0·35 „	2·65 „	−3·36 „	—	—
0–125 „ ...	—	—	—	−5·45 „	+4·23 „	—
0–200 „ ...	—	−0·30 „	5·07 „	—	—	—
0–270 „ ...	—	—	9·70 „	—	—	—
0–300 „ ...	—	−2·00 „	—	—	—	—

Velocity, difference from.	Calculated between Stations in Northern and Southern Sections.														
	11*a*–12.	11*a*–13*a*.	11*a*–14*a*.	13*a*–19*a*.	13*a*–19*b*.	14*a*–18*a*.	14*a*–19*a*.	14*a*–19*b*.	14*a*–20*a*.	15*a*–18*a*.	15*a*–19*a*.	15*a*–19*b*.	15*b*–18*a*.	15*b*–19*a*.	15*b*–19*b*.
0— 40 metres	0·26 cm/sec	0·23 cm/sec	0·05 cm/sec	— 0·13 cm/sec	+0·12 cm/sec	—0·25 cm/sec	— 0·08 cm/sec	+0·23 cm/sec	0·12 cm/sec	0·19 cm/sec	0·37 cm/sec	+0·70 cm/sec	0·25 cm/sec	0–34 cm/sec	0·55 cm/sec
0— 80 „	—	—	—	—	—	—0·01 „	—	—	0·22 „	—	—	—	—	—	—
0— 100 „	0·57 „	0·88 „	0·35 „	— 0·23 „	+0·51 „	—0·04 „	— 0·21 „	0·85 „	—	0·86 „	0·81 „	1·92 „	0·56 „	0·29 „	1·14 „
0— 125 „	—	—	—	—	—	—	—	—	—0·69 „	—	—	—	—	—	—
0— 200 „	—	1·41 „	0·27 „	— 0·88 „	0·70 „	—0·61 „	— 0·64 „	—	—	0·92 „	0·93 „	—	—	—	—
0— 230 „	—	—	—	—	—	—	—	—	—	—	—	—	0·50 „	—0·10 „	2·34 „
0— 270 „	—	—	—	—	0·78 „	—	—	1·89 „	—	—	—	4·75 „	—	—	—
0— 300 „	—	—	—0·19 „	—	—	—	—	—	—	—	—	—	—	—	—
0— 340 „	—	—	—	—	—	—2·70 „	—	—	—	1·83 „	—	—	—	—	—
0— 400 „	—	2·24 „	—1·16 „	—	—	—	— 5·55 „	—	—	—	0·28 „	—	—	—	—
0— 500 „	—	—	—	—	—	—	—	—	—	—	+0·10 „	—	—	—	—
0— 600 „	—	1·70 „	—6·56 „	—10·88 „	—	—	— 9·65 „	—	—	—	—0·12 „	—	—	—	—
0— 800 „	—	—	—	—	—	—	—12·30 „	—	—	—	—0·35 „	—	—	—	—
0—1000 „	—	—	—4·21 „	—	—	—	—12·50 „	—	—	—	—0·62 „	—	—	—	—

Velocity, difference from.	50–51.	51–52.	51–51*a*.	51*a*–51*b*.	51*b*–52.	52*b*–52*a*.	52*a*–52.	52–52*c*.	52*c*–52*d*.	52*b*–52*d*.	52*d*–52*e*.	52*e*–52*f*.	52*f*–52*g*.	52*g*–52*h*.	52*d*–52*h*.	52*d*–52*g*.	51*b*–52*e*.
0— 40 metres ...	—0·32 cm/sec	1·05 cm/sec	0·55 cm/sec	—	—	—0·86 cm/sec	1·10 cm/sec	0·08 cm/sec	—	—	—	—	—	—	—	—	—
0— 50 „ ...	—	—	—	—	—	—	—	—	2·30 cm/sec	0·64 cm/sec	0·7 cm/sec	0·29 cm/sec	0·59 cm/sec	3·67 cm/sec	1·02 cm/sec	0·48 cm/sec	1·84 cm/sec
0— 60 „ ...	—	1·85 „	0·55 „	1·40 cm/sec	0·18 cm/sec	—	—	—	—	—	—	—	—	—	—	—	—
0— 100 „ ...	—	—	—	4·65 „	4·90 „	—1·25 „	6·15 „	—1·37 „	3·95 „	1·41 „	0·77 „	0·69 „	0·46 „	5·28 „	1·47 „	0·69 „	3·08 „
0— 115 „ ...	—0·50 „	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
0— 150 „ ...	—	—	—	—	—	—	—	—	—	—	—	—	—	6·40 „	2·11 „	—	—
0— 165 „ ...	—	5·19 „	—4·40 „	—	—	—	—	—	—	—	—	—	—	—	—	—	—
0— 200 „ ...	—	—	—	8·75 „	—	—	—	—	—	—	0·17 „	4·89 „	—	—	—	1·90 „	4·14 „
0— 355 „ ...	—	—	—	—	—	—	—	—	—	—	—	—	7·20 „	—	—	6·65 „	—
0— 400 „ ...	—	—	—	—	3·46 „	—	14·3 „	—3·77 „	19·7 „	—	—	20·7 „	—	—	—	—	—
0— 500 „ ...	—	—	—	—	—	—1·50 „	—	—	—	—	—1·95 „	—	—	—	—	—	—
0— 520 „ ...	—	—	—	—	—	—	—	—	—	12·92 „	—	—	—	—	—	—	—
0— 600 „ ...	—	—	—	—	—	—	—	+5·26 „	37·8 „	—	—	—	—	—	—	—	—
0— 800 „ ...	—	—	—	—	1·66 „	—	24·5 „	—	—	—	—	—	—	—	—	—	46·8 „
0—1100 „ ...	—	—	—	—	—	—	—	—	—	—	—3·64 „	—	—	—	—	—	—

Faeroe-Shetland Channel, June, 1906.

The density of the water present in the Faeroe-Shetland Channel during June, 1906, showed a gradual increase from the Shetland side towards the Faeroes, indicating a northward motion of the surface waters with a maximum velocity in the upper layers. In the eastern side of the channel, within the area of the Atlantic Stream, the values of velocity-difference were very small in the first few hundred metres, showing that the rate of flow showed only a slight falling-off in the uppermost layers. In the centre of the channel, on the other hand, where the influence of the Atlantic Stream was not so much felt, the values showed a more rapid decrease on passing from the surface downwards, the difference between the rate of flow at the surface and at 400 metres depth in the region between Stations 14*a* and 15*a* then amounting to as much as 13 cm. per second or about 7 miles in 24 hours. The variations from positive to negative in the values found from station to station seem to indicate that the direction of flow of the Atlantic Stream across channel was subject to considerable changes, so that at some points of its course, as in the region between Stations 15*a* and 15*b*, it seemed to be flowing in an almost south-easterly direction.

By considering the values found in the centre of the channel, we may arrive at an approximate value of the rate of flow of the surface water. Thus, in the region between Stations 19*a* and 19*b*, the velocity-difference from 0–400 metres amounted to about 18 cm. per second. If we assume that the Atlantic Stream was there following a due northerly course and that the rate of flow at 400 metres depth was very small, we arrive at the conclusion that Atlantic water was then passing through the channel with a surface velocity of 18 cm. per second, or some 10 miles in 24 hours. As we have already seen that the direction of flow was then not a northerly but a north-easterly one, and as it is almost certain that the water at 400 metres depth was then possessed of a considerable northward motion, this value is probably somewhat underestimated. Taking all things into consideration, we may conclude that the surface rate of flow of the Atlantic Stream on its passage through the Faeroe-Shetland channel towards the Norwegian Sea was, during June, 1906, some 12–14 miles per 24 hours.

North Atlantic, July, 1906.

As we might naturally expect, the velocity-differences calculated for the area south of the Wyville-Thomson ridge show results of quite a different nature. In the region of the Faeroe-Shetland channel, we normally find surface layers of northward-moving Atlantic water surmounting bottom layers of more or less sluggish water from the Norwegian Sea basin, and as the magnitude of the results obtained depend on the *falling-off* in the rate of flow of the waters on passing from surface downwards, we might naturally expect the velocity-differences there to be comparatively great. South of the Wyville-Thomson ridge, however, the Atlantic stream normally floods a large area from surface to bottom, so that the rate of flow is at all depths approximately the same, except for a slight decrease from surface downwards due to the friction of the various water-layers on those lying immediately beneath them. The results found over this area are, accordingly, very small, and are such as to indicate a northward or north-eastward movement of the waters with a velocity which showed only a small diminution from surface to bottom. In the region between stations 52 and 53, the rate of flow at 1000 metres depth was, in fact, only some 2·5 miles per day less than at the surface.

Faeroe-Shetland Channel August, 1906.

The water present over this area in August again showed a slight rise in density on passing westwards across the channel, except near the Faeroe side where it remained nearly constant. This seems to indicate the usual northward flow of Atlantic water in the eastern and central parts of the channel with a probable slow southward movement of water from the Norwegian Sea into the regions around the Faeroes. The rate of flow near the Shetland side was nearly constant in the first 300 metres, but showed a somewhat marked falling-off at greater depths. A glance at the northern section for that month shows that the Atlantic Stream then extended to a depth of about 300 metres in the Shetland side of the channel, and the sudden falling-off in the velocity of the current is seen to be due to the somewhat rapid change from Atlantic to Norwegian Sea water at

a depth of 300–400 metres. Owing to the apparently erroneous temperature and salinity results then obtained, due to imperfect closing of the water-bottle at depths below 500 metres, it is impossible to calculate the rate of flow of the Atlantic Stream during that month. It seems, however, to have been then somewhat greater than in the previous June, but the uncertainty of the data which we have to go upon renders this point somewhat doubtful.

North Atlantic, September, 1906.

As stated when dealing with this region of the seas from a hydrographical point of view, the Atlantic Stream during September, 1906, apparently crossed towards Fair Isle flowing in an almost easterly direction, only assuming a more northerly bent in the immediate southward of the Faeroe-Shetland Channel. The section connecting stations 52*b* and 52*d* appeared to cut across the Atlantic flow, so as to show a central wedge of salt water bounded on the southward by Atlantic water of slightly lower salinity and on the northward by a mixture of Atlantic water with water from the Norwegian Sea. As the Atlantic Stream appeared to cross this section almost vertically, we should naturally expect to find high values for the velocity-differences calculated for various depths at the stations along this line. The maximum values were shown over the area lying between stations 52*c* and 52*d*, where there was a falling-off from the surface to 600 metres of some 38 cm. per second. The water present at 600 metres depth at these stations was then Norwegian Sea water of low temperature and salinity, which was probably moving only very slowly and in a southward direction. If we assume that the bottom water was actually motionless, we arrive at the conclusion that the surface rate of flow of the Atlantic stream over that area was, during September, 1906, some 38 cms. per second or about 20 miles per day. If, on the other hand, the bottom water were not actually stagnant but possessed of a slow southward motion, this value will be somewhat too great. Taking all things into consideration, the actual surface velocity of the Atlantic stream would then probably be from 16–18 miles per day, a slightly higher rate of flow than that found in the region of the Faeroe-Shetland Channel during the previous June.

The values for the velocity-differences given from calculations made along the other two North Atlantic sections, viz., those extending eastwards nearly at right angles to the one just considered, were, as a rule, considerably less. This was partly due to the more extensive distribution of Atlantic water in the deeper layers (so that the rate of flow remained more uniform on passing from the surface downwards) and partly to the fact that the Atlantic stream did not then cross the sections vertically but more or less diagonally, for as has previously been explained, the maximum differences of velocity are shown where the calculations are made along lines perpendicular to the direction of flow of the current. The highest values in the more northerly section were shown between Stations 52*e* and 52*h*, the decrease of velocity from 0 to 400 metres in the region extending between Stations 52*e* and 52*f* then amounting to as much as 21 cm. per second, or about 12 miles in 24 hours. When it crossed this latter line of stations, the Atlantic stream appeared to have developed more of a north-easterly direction of flow and to be moving towards the eastern side of the Faeroe-Shetland Channel on its way towards the Norwegian Sea.

TABLES.

Station Sc. 2.

Latitude, 58° 36′ N. ; Longitude, 1° 46′ W.

Depth (Metres).	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′
—	1906, 23/i, 10h. 40m. a.m.—11h. 25m. a.m.					1906, 6/iv, 10h. 45m. p.m.—11h. 30m. p.m.				
0	7·15	35·05	27·46	64	0	6·05	35·32	27·79	28	0
10	7·29	35·05	27·43	65	645	6·26	35·32	27·79	32	300
20	7·29	35·05	27·43	65	1300	6·26	35·32	27·79	32	620
30	7·29	35·05	27·43	65	1955	6·24	35·32	27·79	32	940
50	7·30	35·05	27·43	65	3255	6·21	35·32	27·79	32	1580
70	7·30	35·05	27·43	66	4565	6·21	35·32	27·79	32	2320
96	7·31	35·05	27·43	67	6294	—	—	—	—	—
99	—	—	—	—	—	6·22	35·32	27·81	33	3263
—	1906, 12/vi, 3h. 15m. a.m.—4h. 15m. a.m.					1906, 19/vii, 1h. 5m. a.m.—2h. 25m. a.m.				
0	10·35	35·25	27·10	90	0	10·25	35·17	27·06	102	0
10	10·18	35·25	27·12	86	880	10·13	35·19	27·10	97	995
20	7·82	36·25	27·52	57	1595	10·11	35·21	27·12	95	1955
30	7·40	35·25	27·58	52	2140	10·10	35·21	27·12	95	2905
40	—	—	—	—	—	8·91	35·23	27·33	76	3760
50	6·99	35·25	27·63	47	3130	—	—	—	—	—
60	—	—	—	—	—	8·72	35·23	27·36	73	5250
70	6·98	35·25	27·63	47	4070	—	—	—	—	—
80	—	—	—	—	—	8·56	35·23	27·39	73	6710
90	6·97	35·25	27·63	47	5010	—	—	—	—	—
111	6·97	35·25	27·63	48	6007	—	—	—	—	—
112	—	—	—	—	—	8·41	35·23	27·41	71	9014
—	1906, 21/viii, 2h. 25m. p.m.					1906, 20/xi, 3h. 30m. a.m.				
0	11·35	35·09	26·81	127	0	9·65	35·12	27·11	96	0
10	11·21	35·09	26·83	124	1255	9·99	35·12	27·06	100	980
20	11·19	35·09	26·83	124	2495	10·01	35·12	27·06	100	1980
30	11·18	35·11	26·86	121	3720	10·01	35·12	27·06	100	2980
40	10·76	35·11	26·93	114	4895	10·01	35·12	27·06	100	3980
60	10·16	35·11	27·03	105	7085	10·01	35·12	27·06	101	5990
80	9·76	35·11	27·11	100	9135	—	—	—	—	—
87	—	—	—	—	—	10·01	35·12	27·06	102	8730
100	9·73	35·11	27·11	100	11135	—	—	—	—	—

Station Sc. 3.

Latitude, 59° 10′ N. ; Longitude, 1° 27′ W.

—	1906, 23/i, 3h. 25m. p.m.—4h. 5m. p.m.					1906, 7/iv, 3h. 45m. a.m.—4h. 30m. p.m.				
0	7·25	35·07	27·46	64	0	6·55	35·32	27·75	35	0
10	7·41	35·07	27·44	66	650	6·52	35·32	27·75	34	345
20	7·42	35·07	27·43	66	1310	6·52	35·32	27·75	34	685
30	7·45	35·07	27·43	66	1970	6·52	35·32	27·75	34	1025
40	7·47	35·07	27·43	66	2630	6·52	35·32	27·75	34	1365
60	7·52	35·07	27·42	67	3960	6·53	35·32	27·75	35	2055
84	—	—	—	—	—	6·53	35·32	27·75	35	2895
86	7·54	35·07	27·42	67	5702	—	—	—	—	—

STATION SC. 3—*continued.*

Latitude, 59° 10′ N.; Longitude, 1° 27′ W.—*continued.*

Depth (Metres).	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′
—	1906, 12/vi, 8h. a.m.—9h. a.m.					1906, 25/vii, 8h. 45m. p.m.—9h. 45m. p.m.				
0	8·45	35·26	27·43	67	0	10·05	35·23	27·14	94	0
10	7·80	35·26	27·53	57	620	9·84	35·23	27·18	89	915
20	7·62	35·26	27·56	54	1175	9·59	35·23	27·22	86	1790
30	7·59	35·26	27·56	54	1715	9·46	35·23	27·25	85	2645
40	7·58	35·26	27·56	54	2255	9·43	35·23	27·25	85	3495
60	7·57	35·26	27·56	55	3345	9·18	35·23	27·30	81	5155
80	7·57	35·26	27·56	55	4445	9·16	35·23	27·30	82	6785
102	7·57	35·26	27·56	56	5666	—	—	—	—	—
104	—	—	—	—	—	9·14	35·23	27·30	82	8753
—	1906, 21/viii, 7h. 10m. p.m.					1906, 20/xi, 8h. 30m. a.m.				
0	11·25	35·24	26·93	114	0	9·75	35·12	27·10	97	0
10	11·20	35·24	26·94	113	1135	10·09	35·12	27·04	102	995
20	10·50	35·24	27·08	100	2200	10·09	35·12	27·04	102	2015
30	10·42	35·24	27·09	99	3195	10·09	35·12	27·04	102	3035
40	10·32	35·24	27·10	97	4175	10·09	35·12	27·04	102	4055
60	10·22	35·24	27·12	96	6105	10·09	35·12	27·04	103	6105
84	—	—	—	—	—	10·09	35·12	27·04	104	8589
88	10·23	35·24	27·12	96	8793	—	—	—	—	—

STATION SC. 4.

Latitude, 59° 26′ N.; Longitude, 1° 20′ W.

—	1906, 23/i, 6h. p.m.—6h. 45m. p.m.					1906, 7/iv, 6h. 25m. a.m.—7h. 5m. a.m.				
0	7·45	35·30	27·62	50	0	6·25	35·32	27·79	32	0
10	7·56	35·30	27·60	50	500	6·40	35·32	27·77	33	325
20	7·56	35·30	27·60	50	1000	6·40	35·32	27·77	33	655
30	7·56	35·30	27·60	50	1500	6·40	35·32	27·77	33	985
40	7·51	35·30	27·61	50	2000	—	—	—	—	—
50	—	—	—	—	—	6·41	35·32	27·77	34	1655
60	7·47	35·30	27·62	51	3010	—	—	—	—	—
70	—	—	—	—	—	6·41	35·32	27·77	34	2335
89	7·44	35·30	27·62	51	4489	—	—	—	—	—
97	—	—	—	—	—	6·42	35·32	27·77	35	3266
—	1906, 12/vi, 11h. a.m.—1h. 30m. p.m.					1906, 25/vii, 5h. 50m. p.m.—6h. 55m. p.m.				
0	8·85	35·26	27·38	73	0	9·55	35·25	27·24	85	0
10	7·72	35·26	27·54	55	645	9·20	35·25	27·29	78	815
20	6·61	35·26	27·55	54	1190	8·96	35·25	27·34	75	1580
30	6·61	35·26	27·55	54	1730	8·92	35·25	27·35	74	2325
40	—	—	—	—	—	8·90	35·25	27·35	74	3065
50	6·61	35·26	27·55	55	2820	—	—	—	—	—
60	—	—	—	—	—	8·83	35·25	27·36	74	4545
70	6·61	35·26	27·55	55	3920	—	—	—	—	—
80	—	—	—	—	—	8·81	35·25	27·36	74	6025
89	6·61	35·26	27·55	55	4965	—	—	—	—	—
102	—	—	—	—	—	8·81	35·25	27·36	74	7653

STATION Sc. 4—*continued.*

Latitude, 59° 26′ N. ; Longitude, 1° 20′ W.—*continued.*

Depth (Metres).	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′
—	1906, 21/viii, 10h. p.m.					1906, 20/xi, 12h. 35m. p.m.				
0	10·55	35·26	27·08	100	0	8·85	35·21	27·31	76	0
10	10·58	35·26	27·08	100	1000	9·08	35·21	27·29	79	775
20	10·58	35·26	27·08	100	2000	9·08	35·21	27·29	79	1565
30	10·51	35·26	27·09	98	2990	9·08	35·21	27·29	79	2355
40	10·43	35·26	27·10	96	3960	—	—	—	—	—
50	—	—	—	—	—	8·82	35·21	27·34	76	3905
60	10·32	35·26	27·11	96	5880	—	—	—	—	—
70	—	—	—	—	—	8·75	35·21	27·35	76	5425
80	10·22	35·26	27·13	95	7790	—	—	—	—	—
96	—	—	—	—	—	8·75	35·21	27·35	76	7401
97	10·11	35·26	27·15	94	9396	—	—	—	—	—

STATION Sc. 5.

Latitude, 59° 40′ N. ; Longitude, 1° 14′ W.

—	1906, 4/ii, 5h. 55m. p.m.—6h. 45m. p.m.					1906, 7/iv, 9h. 5m. a.m.—9h. 50m. a.m.				
0	6·35	35·30	27·76	35	0	6·05	35·32	27·82	28	0
10	6·71	35·30	27·72	39	370	6·12	35·32	27·81	29	285
20	6·75	35·30	27·71	39	760	6·12	35·32	27·81	29	575
30	6·75	35·30	27·71	39	1150	6·10	35·32	27·81	29	865
40	6·76	35·30	27·71	39	1540	6·10	35·32	27·81	29	1155
60	6·77	35·30	27·71	39	2320	6·11	35·32	27·81	30	1745
80	6·78	35·30	27·71	40	3110	6·11	35·32	27·81	31	2345
103	6·78	35·30	27·71	41	4041	—	—	—	—	—
111	—	—	—	—	—	6·12	35·32	27·81	31	3290

—	1906, 12/vi, 3h. 20m. p.m.—4h. 15m. p.m.					1906, 25/vii, 3h. 10m. p.m.—4h. 10m. p.m.				
0	7·95	35·26	27·52	60	0	9·75	35·26	27·23	87	0
10	7·96	35·26	27·52	60	600	9·41	35·26	27·28	81	840
20	7·91	35·26	27·53	58	1190	9·24	35·26	27·31	77	1630
30	7·80	35·26	27·55	57	1765	9·21	35·26	27·31	77	2400
40	7·76	35·26	27·55	57	2335	9·19	35·26	27·32	77	3170
60	7·76	35·26	27·55	58	3485	9·16	35·26	27·32	77	4710
80	7·76	35·26	27·55	58	4645	9·03	35·26	27·35	77	6250
99	—	—	—	—	—	8·65	35·26	27·40	72	7665
101	7·77	35·26	27·55	59	5873	—	—	—	—	—

—	1906, 22/viii, 1h. 35m. a.m.					1906, 20/xi, 3h. 50m. p.m.				
0	11·05	35·27	27·00	106	0	8·75	35·25	27·37	72	0
10	11·12	35·27	26·99	108	1070	8·96	35·25	27·33	75	735
20	10·81	35·27	27·05	103	2125	8·96	35·25	27·33	75	1485
30	10·39	35·27	27·12	96	3120	8·96	35·25	27·33	75	2235
40	10·20	35·27	27·15	92	4060	8·96	35·25	27·33	75	2985
60	10·12	35·27	27·19	92	5900	8·96	35·25	27·33	76	4495
80	10·00	35·27	27·19	90	7720	8·96	35·25	27·33	77	6025
100	—	—	—	—	—	8·97	35·25	27·33	78	7575
103	9·12	35·27	27·34	76	9629	—	—	—	—	—

Station Sc. 5*a*.

Latitude, 60° 05′ N.; Longitude, 0° 48′ W.

Depth (Metres).	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′
—	1906, 7/iv, 4h. 10m. p.m.—5h. 50m. p.m.					1906, 13/vi, 2h. 30m. p.m.—3h. 25m. p.m.				
0	6·35	35·32	27·78	33	0	9·15	35.26	27·33	77	0
10	6·48	35·32	27·76	34	335	9·02	35·26	27·35	75	760
20	6·48	35·32	27·76	34	675	8·85	35·26	27·38	73	1500
30	6·45	35·32	27·76	34	1015	7·80	35·26	27·54	57	2150
50	6·39	35·32	27·77	34	1695	7·39	35·26	27·59	52	3240
70	6·32	35·32	27·78	34	2375	7·39	35·26	27·59	52	4280
90	6·33	35·32	27·78	35	3065	7·40	35·26	27·59	53	5330
113	6·33	35·32	27·78	35	3870	—	—	—	—	—
114	—	—	—	—	—	7·40	35·26	27·59	53	6602
—	1906, 23/vii, 8h. 30m. a.m.—9h. 15m. a.m.					1906, 22/viii, 9h. 35m. a.m.				
0	10·05	35·26	27·17	92	0	11·55	35·27	26·92	117	0
10	10·04	35·26	27·17	92	920	11·52	35·27	26·92	117	1170
20	9·99	35·26	27·18	90	1830	11·18	35·27	26·97	110	2305
30	9·95	35·26	27·19	90	2730	10·50	35·27	27·10	97	3340
40	9·94	35·26	27·19	90	3630	10·12	35·27	27·17	91	4280
50	—	—	—	—	—	9·52	35·27	27·28	82	5145
60	8·92	35·26	27·36	74	5270	—	—	—	—	—
70	—	—	—	—	—	9·03	35·27	27·35	74	6705
80	8·09	35·26	27·49	63	6640	—	—	—	—	—
90	—	—	—	—	—	8·81	35·27	27·40	72	8165
101	8·09	35·26	27·49	63	7963	—	—	—	—	—
110	—	—	—	—	—	8·81	35·27	27·40	72	9605
—	1906, 21/xi, 12h. 50m. a.m.					———				
0	9·05	35·26	27·34	76	0	—	—	—	—	—
10	9·42	35·26	27·29	81	785	—	—	—	—	—
20	9·42	35·26	27·29	81	1595	—	—	—	—	—
30	9·42	35·26	27·29	81	2405	—	—	—	—	—
40	9·42	35·26	27·29	81	3215	—	—	—	—	—
60	9·42	35·26	27·29	82	4845	—	—	—	—	—
80	9·42	35·26	27·29	83	6495	—	—	—	—	—
104	9·45	35·26	27·29	85	8511	—	—	—	—	—

Station Sc. 5*b*.

Latitude, 60° 05′ N.; Longitude, 0° 48′ W.

—	1906, 10/iv, 11h. 10m. a.m.—11h. 55m. a.m.					1906, 13/vi, 6h. 45m. p.m —7h. 45m. p.m.				
0	7·25	35·32	27·66	45	0	8·85	35·26	27·36	73	0
10	6·91	35·32	27·70	39	420	8·73	35·26	27·38	71	720
20	6·88	35·32	27·70	39	810	7·95	35·26	27·51	60	1375
30	6·82	35·32	27·71	38	1195	7·82	35·26	27·53	57	1960
40	6·76	35·32	27·72	38	1575	7·75	35·26	27·54	57	2530
60	6·72	35·32	27·72	38	2335	7·75	35·26	27·54	58	3680
80	6·72	35·32	27·72	38	3095	7·74	35·26	27·54	58	4840
100	6·66	35·32	27·73	38	3855	7·66	35·26	27·55	57	5990
134	6·66	35·32	27·73	38	5147	—	—	—	—	—
154	—	—	—	—	—	7·49	35·26	27·58	56	9041

STATION Sc. 5*b*—*continued.*

Depth (Metres).	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′
	Latitude, 60° 31′ N.; Longitude, 0° 35′ W.					Latitude, 60° 34′ N.; Longitude 0° 29′ W.				
—	1906, 23/vii, 12h. 15m. p.m.—1h. 20m. p.m.					1906, 22/viii, 1h. 55 p.m.				
0	10·75	35·26	27·05	104	0	10·85	35·29	27·05	103	0
10	10·41	35·26	27·11	97	1005	10·80	35·29	27·06	102	1025
20	10·32	35·26	27·12	95	1965	10·80	35·29	27·06	102	2045
30	10·11	35·26	27·16	92	2900	10·80	35·29	27·06	102	3065
40	9·98	35·26	27·18	90	3810	10·61	35·29	27·09	98	4065
60	9·85	35·26	27·21	89	5600	10·20	35·29	27·16	92	5965
80	9·39	35·26	27·28	83	7320	9·67	35·29	27·25	85	7735
100	9·15	35·26	27·33	79	8940	9·40	35·29	27·29	80	9385
140	—	—	—	—	—	9·17	35·29	27·34	77	12525
148	8·56	35·26	27·42	71	12540	—	—	—	—	—
	Latitude, 60° 31′ N.; Longitude, 0° 35′ W.									
—	1906, 21/xi, 5h. 25m. a.m.					——				
0	9·45	35·26	27·28	81	0	—	—	—	—	—
10	9·52	35·26	27·27	82	815	—	—	—	—	—
20	9·55	35·26	27·27	82	1635	—	—	—	—	—
30	9·55	35·26	27·27	82	2455	—	—	—	—	—
40	9·55	35·26	27·27	82	3275	—	—	—	—	—
60	9·52	35·26	27·27	83	4925	—	—	—	—	—
80	9·52	35·26	27·27	84	6595	—	—	—	—	—
100	9·53	35·26	27·27	85	8285	—	—	—	—	—
150	9·53	35·26	27·27	86	12560	—	—	—	—	—

STATION Sc. 6.

	Latitude, 60° 37′ N.; Longitude, 0° 29′ E.									
—	1906, 13/iv, 1h. 35m. p.m.—2h. 20m. p.m.					1906, 26/vii, 1h. 10m. p.m—2h. 5m. p.m.				
0	7·35	35·32	27·64	47	0	11·25	35·28	26·96	109	0
10	7·24	35·32	27·66	45	460	11·01	35·28	27·01	105	1070
20	7·15	35·32	27·67	44	905	10·23	35·28	27·14	91	2050
30	6·85	35·32	27·71	40	1325	10·16	35·28	27·16	91	2960
40	—	—	—	—	—	10·15	35·28	27·16	91	3870
50	6·73	35·32	27·73	39	2115	8·02	35·28	27·52	59	4620
60	—	—	—	—	—	7·72	35·28	27·56	54	5185
70	6·70	35·32	27·72	39	2895	—	—	—	—	—
80	—	—	—	—	—	7·52	35·28	27·59	53	6255
90	6·70	35·32	27·73	40	3685	—	—	—	—	—
100	—	—	—	—	—	7·52	35·28	27·59	53	7315
136	6·70	35·32	27·73	40	5125	—	—	—	—	—
138	—	—	—	—	—	7·52	35·28	27·59	53	9329
—	1906, 5/ix, 4h. a.m.					——				
0	12·05	35·18	26·74	132	0	—	—	—	—	—
10	12·12	35·20	26·74	131	1315	—	—	—	—	—
20	12·12	35·22	26·76	129	2615	—	—	—	—	—
30	11·72	35·24	26·84	121	3865	—	—	—	—	—
40	10·18	35·24	27·12	95	4945	—	—	—	—	—
60	7·78	35·27	27·54	57	6465	—	—	—	—	—
80	7·02	35·27	27·66	47	7505	—	—	—	—	—
130	6·63	35·27	27·71	43	9755	—	—	—	—	—

STATION Sc. 6*a*.

Latitude, 60° 05′ N.; Longitude, 0° 33′ E.

Depth (Metres).	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′
—	1906, 13/iv, 5h. 55m. p.m.—6h. 35m. p.m.					1906, 5/ix, 10h. a.m.				
0	6·85	35·32	27·71	39	0	12·55	35·20	26·65	139	0
10	6·86	35·32	27·71	39	390	12·50	35·20	26·66	138	1385
20	6·71	35·32	27·73	38	775	11·98	35·22	26·78	127	2710
30	—	—	—	—	—	11·80	35·24	26·83	123	3960
40	6·46	35·32	27·76	35	1505	9·97	35·24	27·16	92	5035
60	6·30	35·32	27·78	35	2205	7·13	35·26	27·62	48	6435
80	6·31	35·32	27·78	35	2905	6·32	35·27	27·75	38	7295
100	6·31	35·32	27·78	36	3615	—	—	—	—	—
125	—	—	—	—	—	6·29	35·27	27·75	39	8257
162	6·32	35·32	27·28	37	5878	—	—	—	—	—

STATION Sc. 7.

Latitude, 61° 06′ N.; Longitude, 2° 01′ E.

—	1906, 13/iv, 12h. 35m. a.m.—1h. 20m. a.m.					1906, 4/ix, 10h. 33m. a.m.				
0	6·65	35·32	27·73	37	0	12·25	35·15	26·67	139	0
10	6·84	35·32	27·71	39	380	12·10	35·17	26·71	132	1355
20	6·84	35·32	27·71	39	770	11·88	35·20	26·78	127	2650
30	6·71	35·32	27·72	37	1150	11·52	35·22	26·88	118	3875
40	—	—	—	—	—	10·59	35·22	27·05	102	4975
50	6·72	35·32	27·72	38	1900	—	—	—	—	—
60	—	—	—	—	—	8·76	35·27	27·40	71	6705
70	6·61	35·32	27·74	36	2640	—	—	—	—	—
80	—	—	—	—	—	8·29	35·27	27·46	65	8065
90	6·62	35·32	27·74	37	3370	—	—	—	—	—
100	—	—	—	—	—	7·85	35·27	27·54	58	9295
130	—	—	—	—	—	7·14	35·27	27·64	48	10885
150	6·58	35·32	27·74	38	5620	—	—	—	—	—

STATION Sc, 7*a*.

Latitude, 60° 45′ N.; Longitude, 2° 30′ E.

—	1906, 13/iv, 4h. 15m. a.m.—5h. a.m.					1906, 26/vii, 10h. 55m. p.m.—12h. p.m.				
0	6·75	35·32	27·72	38	0	11·05	34·99	26·78	127	0
10	6·68	35·32	27·73	37	375	10·61	34·99	26·86	120	1235
20	6·68	35·32	27·73	37	745	10·29	34·99	26·92	115	2410
30	6·62	35·32	27·74	37	1115	7·40	35·28	27·60	50	3235
50	6·51	35·32	27·75	36	1845	—	—	—	—	—
70	6·43	35·32	27·76	36	2565	7·10	35·28	27·65	46	5155
90	6·43	35·32	27·76	36	3285	6·72	35·28	27·70	42	6035
115	—	—	—	—	—	6·71	35·28	27·70	42	7085
129	6·44	35·32	27·76	36	4689	—	—	—	—	—
—	1909, 4/ix, 4h. 10m. p.m.					——				
0	12·35	35·09	26·61	145	0	—	—	—	—	—
10	12·40	35·13	26·63	142	1435	—	—	—	—	—
20	11·75	35·20	26·82	126	2775	—	—	—	—	—
30	10·32	35·22	27·09	98	3895	—	—	—	—	—
40	9·49	35·26	27·26	82	4795	—	—	—	—	—
60	8·82	35·26	27·37	72	6335	—	—	—	—	—
80	8·43	35·26	27·43	67	7725	—	—	—	—	—
120	7·49	35·26	27·57	56	10185	—	—	—	—	—

Station Sc. 7*b*.

Latitude, 60° 35′ N. ; Longitude, 1° 50′ E.

Depth (Metres).	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′
—	1906, 13/iv, 7h. 55m. a.m.—8h. 30m. a.m.					1906. 26/vii, 7h. 20m. p.m.—8h. 25m. p.m.				
0	6·65	35·32	27·74	37	0	11·65	35·21	26·84	123	0
10	6·72	35·32	27·73	37	370	11·15	35·21	26·93	113	1180
20	6·72	35·32	27·73	37	740	10·55	35·21	27·04	103	2260
30	6·41	35·32	27·76	34	1095	10·31	35·23	27·10	98	3265
40	—	—	—	—	—	9·22	35·26	27·31	77	4140
50	6·29	35·32	27·78	33	1765	7·42	35·28	27·60	51	4780
60	—	—	—	—	—	7·32	35·28	27·61	49	5280
70	6·29	35·32	27·78	33	2425	—	—	—	—	—
80	—	—	—	—	—	7·01	35·28	27·66	46	6230
90	6·22	35·32	27·79	34	3095	—	—	—	—	—
100	—	—	—	—	—	6·92	35·28	27·67	45	7140
129	—	—	—	—	—	6·91	35·28	27·67	45	8445
146	6·23	35·32	27·79	35	5027	—	—	—	—	—
—	1906, 4/ix, 9h. p.m.					——				
0	12·55	35·08	26·54	148	0	—	—	—	—	—
10	12·64	35·08	26·52	150	1190	—	—	—	—	—
20	12·15	35·08	26·63	142	2950	—	—	—	—	—
30	11·80	35·09	26·71	134	4330	—	—	—	—	—
40	7·80	35·26	27·53	57	5285	—	—	—	—	—
60	7·28	35·29	27·63	49	6345	—	—	—	—	—
80	6·69	35·29	27·72	42	7255	—	—	—	—	—
120	6·67	35·29	27·72	42	8935	—	—	—	—	—

Station Sc. 7*c*.

Latitude, 60° 34′ N. ; Longitude, 1° 15′ E.

—	1906, 13/iv, 10h. 40m. a.m.—11h. 30m. a.m.					1906, 26/vii, 4h. 20m. p.m.—5h. 20m. p.m.				
0	7·05	35·32	27·69	42	0	11·15	35·23	26·94	112	0
10	7·00	35·32	27·69	41	415	10·94	35·23	26·98	108	1100
20	6·95	35·32	27·70	41	825	10·24	35·23	27·10	96	2120
30	—	—	—	—	—	8·40	35·26	27·44	65	2925
40	6·69	35·32	27·73	38	1615	7·69	35·26	27·55	55	3525
60	6·60	35·32	27·74	38	2375	6·99	35·28	27·66	45	4525
80	6·60	35·32	27·74	38	3135	6·87	35·28	27·67	45	5425
100	6·61	35·32	27·74	39	3905	6·70	35·28	27·69	43	6305
136	—	—	—	—	—	6·64	35·28	27·70	43	7853
154	6·62	35·32	27·74	40	6038	—	—	—	—	—
—	1906, 5/ix, 0h. 25m. a.m.					——				
0	12·45	35·15	26·63	142	0	—	—	—	—	—
10	12·38	35·15	26·64	140	1410	—	—	—	—	—
20	11·98	35·17	26·73	127	2745	—	—	—	—	—
30	10·50	35·23	27·06	101	3885	—	—	—	—	—
40	8·62	35·29	27·43	66	4720	—	—	—	—	—
60	7·84	35·29	27·55	56	5940	—	—	—	—	—
80	7·65	35·29	27·57	54	7040	—	—	—	—	—
120	6·76	35·29	27·71	44	9000	—	—	—	—	—

Station Sc. 8.

Latitude, 61° 30′ N.; Longitude, 3° 03′ E.

Depth (Metres).	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′
—	1906, 12/iv, 6h. 45m. p.m.—8h. p.m.					1906, 4/ix, 2h. 20m. a.m.				
0	5·25	34·18	27·02	106	0	12·35	31·35	23·71	418	0
10	5·30	34·22	27·02	103	1045	12·22	32·92	24·95	298	3580
20	5·50	34·22	27·01	105	2085	11·38	34·31	26·19	184	5990
30	—	—	—	—	—	9·42	34·93	27·01	105	7435
40	5·89	34·49	27·18	88	4015	9·41	35·13	27·17	90	8410
60	6·16	34·78	27·38	73	5625	8·62	35·26	27·40	69	10000
80	6·63	34·92	27·43	68	7035	8·53	35·26	27·42	69	11380
100	6·96	35·01	27·45	66	8327	8·34	35·26	27·44	67	12740
150	7·13	35·19	27·57	55	11400	7·74	35·22	27·52	62	15965
200	—	—	—	—	—	7·44	—	—	—	—
250	7·07	35·19	27·58	56	16950	7·06	35·20	27·59	56	21865
350	—	—	—	—	—	5·95	35·15	27·70	47	27015
379	6·91	35·19	27·60	56	24174	—	—	—	—	—

Station Sc. 9.

Latitude, 61° 34′ N.; Longitude, 2° 04′ E.

—	1906, 12/iv, 1h. 25m. p.m.—3h. p.m.					1906, 3/ix, 7h. 25m. p.m.				
0	7·05	35·19	27·59	51	0	11·65	34·73	26·47	158	0
10	7·00	35·19	27·59	51	510	11·49	34·75	26·51	154	1560
20	7·00	35·19	27·59	51	1020	11·00	35·15	26·91	115	2905
30	7·00	35·19	27·59	51	1530	10·91	35·17	26·94	112	4040
40	7·00	35·19	27·59	51	2040	10·41	35·20	27·06	101	5105
60	7·00	—	—	52	3070	9·25	35·33	27·35	75	6865
80	7·02	35·19	27·59	52	4110	9·10	35·33	27·37	72	8335
100	7·04	35·19	27·59	53	5160	8·96	35·33	27·39	72	9775
150	6·80	35·19	27·62	51	7760	8·63	35·31	27·45	68	13275
200	6·80	35·19	27·62	52	10335	8·41	35·29	27·46	68	16675
250	6·76	35·19	27·62	52	12935	8·08	35·27	27·50	66	20025
350	—	—	—	—	—	8·09	35·27	27·50	68	26725
395	6·48	35·19	27·66	51	20402	—	—	—	—	—

Station Sc. 10.

Latitude, 61° 35′ N.; Longitude, 0° 47′ E.

—	1906, 12/iv, 8h. 5m. a.m.—9h. 10m. a.m.					1906, 3/ix, 12h. 40m. p.m.				
0	7·45	35·28	27·60	51	0	11·85	35·26	26·82	123	0
10	—	—	—	—	—	11·78	35·26	26·84	121	1220
20	7·51	35·28	27·59	51	510	11·36	35·26	26·93	114	2395
30	7·51	35·28	27·59	51	1020	11·22	35·26	26·95	111	3520
40	7·50	35·28	27·59	51	1530	11·11	35·29	27·00	107	4610
60	7·50	35·28	27·59	52	2560	9·39	35·31	27·31	78	6460
80	7·43	35·28	27·60	52	3600	8·92	35·33	27·40	70	7940
100	7·31	35·28	27·61	50	4620	8·74	35·33	27·43	68	9320
150	7·25	35·28	27·62	50	7100	8·34	35·33	27·50	63	12595
204	—	—	—	—	—	8·02	35·33	27·55	60	15916
221	6·86	35·26	27·67	48	10579	—	—	—	—	—

Station Sc. 11.

Latitude 61′ 38° N. ; Longitude, 0° 41′ W.

Depth (Metres).	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′
—	1906, 12/iv, 2h. 15m. a.m.—3h. 30m. a.m.					1906, 2/ix, 6h. 30m. a.m.				
0	7·65	35·30	27·59	52	0	11·05	35·26	26·98	107	0
10	7·80	35·30	27·57	54	530	11·02	35·26	26·99	105	1060
20	7·80	35·30	27·57	54	1070	11·00	35·26	26·99	105	2110
30	7·80	35·30	27·57	54	1610	10·68	35·27	27·07	101	3140
40	7·79	35·30	27·57	54	2150	10·38	35·31	27·15	93	4110
60	7·76	35·30	27·58	54	3230	9·62	35·31	27·28	81	5850
80	7·74	35·30	27·58	54	4310	9·31	35·33	27·34	76	7420
100	7·74	35·30	27·58	55	5400	9·21	35·33	27·36	75	8930
150	7·52	35·30	27·61	53	8100	8·94	35·33	27·40	72	12605
200	7·43	35·30	27·62	52	10725	8·66	35·33	27·45	70	16155
251	7·13	35·30	27·66	49	13300	—	—	—	—	—
280	—	—	—	—	—	8·54	35·33	27·48	66	21595

Station Sc. 12.

Latitude, 61° 02′ N. ; Longitude, 1° 10′ W.

—	1906, 11/iv, 11h. 15m. a.m.—noon.					1906, 14/vi, 5h. 40m. p.m.—6h. 30m. p.m.				
0	7·05	35·32	27·68	42	0	9·55	35·26	27·26	84	0
10	7·79	35·32	27·59	52	470	9·45	35·26	27·27	82	830
20	7·75	35·32	27·59	52	990	9·00	35·26	27·35	74	1610
30	7·75	35·32	27·59	52	1510	8·32	35·26	27·46	64	2300
40	7·75	35·32	27·59	52	2030	8·21	35·26	27·48	62	2930
60	7·73	35·32	27·59	53	3080	8·04	35·26	27·51	61	4160
80	7·68	35·32	27·60	52	4130	7·82	35·26	27·54	58	5350
100	7·05	35·32	27·68	44	5090	7·64	35·26	27·57	56	6490
132	—	—	—	—	—	7·62	35·26	27·57	56	8282
133	6·90	35·32	27·70	42	6509	—	—	—	—	—
—	1906, 1/ix, 3h. 30m. p.m.					——				
0	11·75	35·33	26·90	116	0	—	—	—	—	—
10	11·58	35·33	26·95	113	1145	—	—	—	—	—
20	11·54	35·33	26·95	111	2265	—	—	—	—	—
30	11·50	35·33	26·96	111	3375	—	—	—	—	—
40	11·41	35·33	26·98	109	4475	—	—	—	—	—
60	9·89	35·33	27·25	84	6405	—	—	—	—	—
80	9·16	35·33	27·37	72	7965	—	—	—	—	—
100	8·81	35·33	27·43	66	9345	—	—	—	—	—
130	8·80	35·33	27·43	66	11325	—	—	—	—	—

Station Sc. 13*a*.

Latitude, 61° 16′ N. ; Longitude, 2° 08′ W.

—	1906, 14/vi, 10h. 15m. p.m.—1h. 45m. a.m.					1906, 24/viii, 3h. 55m. p.m.				
0	8·85	35·26	27·37	73	0	11·55	35·33	26·94	113	0
10	8·60	35·26	27·41	68	705	11·45	35·33	26·97	111	1120
20	8·49	35·26	27·43	66	1375	11·43	35·33	26·97	110	2225
30	8·41	35·26	27·44	65	2030	11·22	35·33	27·01	106	3305
40	8·38	35·26	27·44	65	2680	11·10	35·33	27·03	105	4360
60	8·27	35·26	27·45	65	3980	9·76	35·33	27·26	83	6240
80	7·94	35·26	27·51	59	5220	9·33	35·33	27·33	76	7830
100	7·78	35·26	27·54	59	6400	9·24	35·33	27·35	77	9360
150	7·22	35·21	27·58	55	9250	—	—	—	—	—
200	6·90	35·17	27·59	55	12000	9·03	35·33	27·39	74	16910
250	6·56	35·16	27·63	52	14675	—	—	—	—	—
300	6·12	35·16	27·68	47	17150	8·70	35·31	27·45	74	24310
350	5·65	35·10	27·70	46	19475	—	—	—	—	—
400	4·45	35·03	27·78	37	21650	8·15	35·27	27·50	70	31510
450	3·89	34·97	27·80	36	23375	—	—	—	—	—
500	2·54	34·94	27·91	25	24900	7·06	35·24	27·62	57	37860
550	1·69	34·92	27·95	18	25975	—	—	—	—	—
600	1·15	34·92	27·99	14	26775	5·63	35·11	27·70	50	43210
650	—	34·92	—	—	—	—	—	—	—	—

Station Sc. 14*a*.

Latitude, 61° 18′ N. ; Longitude, 3° 00′ W.

Depth (Metres).	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′
—	1906, 15/vi, 4h. 30m. a.m.—8h. 45m. a.m.					1906, 24/viii, 7h. 55m. p.m.				
0	8·75	35·26	27·38	71	0	11·25	35·33	27·00	107	0
10	8·70	35·26	27·38	70	705	11·26	35·33	27·00	107	1070
20	8·38	35·26	27·44	65	1380	11·30	35·33	27·00	107	2140
30	7·80	35·26	27·54	57	1990	11·24	35·33	27·00	107	3210
40	7·38	35·23	27·57	56	2555	10·83	35·33	27·08	98	4235
60	7·18	35·21	27·58	53	3645	9·62	35·33	27·29	79	6005
80	6·89	35·19	27.60	51	4685	9·28	35·33	27·34	75	7545
100	6·79	35·19	27·61	50	5695	9·17	35·33	27·36	74	9035
150	6·65	35·17	27·62	50	8195	—	—	—	—	—
200	6·14	35·16	27·67	46	10595	8·43	35·29	27·46	68	16135
250	5·79	35·12	27·69	44	12845	—	—	—	—	—
300	4·58	35·05	27·78	37	14870	7·85	35·27	27·53	64	22735
350	3·55	34·99	27·85	30	16545	—	—	—	—	—
400	2·54	34·94	27·91	25	17920	7·29	35·24	27·59	59	28885
450	1·02	34·92	28·00	14	18895	—	—	—	—	—
500	0·30	34·92	28·04	7	19420	*4·36	35·09	27·84	35	33585
550	−0·09	34·92	28·06	6	19745	—	—	—	—	—
600	−0·26	34·92	28·07	5	20020	*2·81	35·08	28·00	19	36285
700	—	—	—	—	—	*3·38	35·08	27·93	25	38485
800	−0·57	34·92	28·09	2	20720	*2·54	35·06	28·00	20	40735
900	—	—	—	—	—	*2·73	35·06	27·98	22	42835
1000	−0·75	34·92	28·10	−1	20820	*3·02	35·06	27·95	25	45185
1100	—	—	—	—	—	*2·43	35·06	28·01	21	47485
1180	−0·91	34·92	28·10	−2	20550	—	—	—	—	—

* Observations from 500 metres downwards are irregular and probably erroneous, due to bad closing of the water-bottle. (Compare the observations from Station 11a, where the bottom layers consisted of the usual cold water from 600 metres downwards.)

Station Sc. 15*a*.

Latitude, 61° 27′ N. ; Longitude, 3° 42′ W.

—	1906, 15/vi, 11h. 15m. a.m.—4h. 35m. p.m.					1906, 25/viii, 3h. 35m. a.m.				
0	8·55	35·19	27·36	74	0	9·65	35·18	27·17	91	0
10	8·44	35·17	27·36	72	730	9·95	35·18	27·13	94	925
20	7·45	35·14	27·48	57	1375	9·93	35·18	27·13	94	1865
30	6·45	35·10	27·60	50	1910	9·47	35·18	27·21	88	2775
40	6·45	35·10	27·60	50	2410	9·02	35·17	27·29	81	3620
60	5·44	35·08	27·71	40	3310	7·82	35·15	27·45	66	5090
80	4·69	35·07	27·78	34	4050	7·51	35·15	27·49	62	6370
100	4·47	35·05	27·79	34	4730	7·42	35·13	27·49	64	7630
150	3·55	34·99	27·85	30	6330	—	—	—	—	—
200	2·23	34·96	27·94	21	7605	7·14	35·13	27·52	62	13930
250	1·76	34·92	27·95	19	8605	—	—	—	—	—
300	1·43	34·92	27·97	15	9455	2·81	34·96	27·90	25	18280
350	0·83	34·92	28·01	11	10105	—	—	—	—	—
400	0·34	34·92	28·04	7	10645	0·72	34·92	28·02	10	20030
450	0·10	34·92	28·06	7	10995	—	—	—	—	—
500	−0·07	34·92	28·07	6	11320	+0·41	34·92	28·04	9	20980
550	−0·20	34·92	28·07	6	11620	—	—	—	—	—
600	−0·35	34·92	28·08	5	11895	−0·08	34·92	28·06	6	21730
700	−0·49	34·92	28·08	4	12345	−0·34	34·92	28·08	3	22180
800	−0·60	34·92	28·09	3	12695	−0·49	34·92	28·08	2	22430
900	−0·67	34·92	28·09	3	12995	−0·59	34·92	28·09	2	22630
1000	—	—	—	—	—	−0·71	34·92	28·09	1	22780
1100	−0·86	34·92	28·10	0	13295	−0·76	34·92	28·10	1	22880
1250	−0·92	34·92	28·10	0	13295	—	—	—	—	—

Station Sc. 15*b*.

Latitude, 61° 39′ N. ; Longitude, 4° 45′ W.

Latitude, 61° 45′ N. ; Longitude, 5° 05′ W.

Depth (Metres).	Temp. °C.	S.‰	σt.	v—v′	e—e′	Temp. °C.	S.‰	σt.	v—v′	e—e′
—	1906, 15/vi, 10h. p.m.—1h. 10m. a.m.					1906, 25/viii, 11h. 40m. a.m.				
0	8·75	35·26	27·38	71	0	9·75	35·18	27·16	93	0
10	8·52	35·26	27·41	67	690	9·72	35·18	27·17	92	925
20	7·92	35·26	27·52	58	1315	9·62	35·18	27·19	90	1835
30	7·20	35·23	27·59	51	1860	9·62	35·18	27·19	90	2735
40	7·01	35·21	27·61	49	2360	9·62	35·18	27·19	90	3635
60	6·92	35·21	27·62	49	3340	9·62	35·18	27·19	91	5445
80	6·83	35·19	27·62	49	4320	7·91	35·17	27·44	67	7025
100	6·80	35·19	27·62	50	5310	7·63	35·17	27·48	62	8315
150	6·78	35·19	27·62	50	7810	7·44	35·17	27·51	62	11415
200	6·74	35·19	27·63	50	10310	—	—	—	—	—
230	—	—	—	—	—	7·43	35·17	27·51	63	16415
250	6·54	35·19	27·66	50	12810	—	—	—	—	—
300	6·16	35·16	27·67	48	15260	—	—	—	—	—
350	5·48	35·10	27·72	44	17560	—	—	—	—	—
500	1·97	34·92	27·93	20	22360	—	—	—	—	—
600	0·62	34·92	28·02	11	23910	—	—	—	—	—
700	−0·40	34·92	28·07	3	24610	—	—	—	—	—

Station Sc. 16*a*.

Latitude, 61° 49′ N. ; Longitude, 5° 36′ W.

—	1906, 16/vi, 4h. 40m. a.m.—5h. 45m. a.m.					1906, 25/viii, 4h. p.m.				
0	8·75	35·21	27·35	75	0	9·65	35·18	27·18	91	0
10	8·82	35·21	27·35	75	750	9·62	35·18	27·18	90	905
20	8·52	35·21	27·39	70	1475	9·48	35·18	27·21	88	1795
30	8·40	35·21	27·40	69	2170	9·40	35·18	27·22	87	2670
40	7·91	35·21	27·49	63	2830	9·35	35·18	27·23	86	3535
60	7·10	35·19	27·58	52	3980	7·92	35·17	27·44	68	5075
80	6·97	35·19	27·60	52	5020	7·60	35·17	27·49	64	6395
100	6·84	35·19	27·62	52	6060	7·59	35·17	27·49	64	7675
150	6·32	35·19	27·67	45	8585	7·50	35·17	27·50	63	10850
200	6·13	35·19	27·70	44	10810	—	—	—	—	—

Station Sc. 16.

Latitude, 62° 00′ N. ; Longitude, 6° 12′ W.

—	1906, 16/vi, 8h. 10m. a.m—9h. 5m. a.m.					1906, 25/viii, 8h. 10m. p.m.				
0	8·45	35·19	27·37	72	0	8·95	35·17	27·27	81	0
10	8·06	35·19	27·43	66	690	8·95	35·17	27·27	81	810
20	7·93	35·19	27·47	64	1340	8·90	35·17	27·28	80	1615
30	7·71	35·19	27·49	61	1965	8·89	35·17	27·28	80	2415
40	7·46	35·19	27·52	57	2555	8·85	35·17	27·29	79	2210
60	6·76	35·19	27·62	48	3605	8·72	35·17	27·31	77	4770
80	6·63	35·19	27·64	48	4565	8·69	35·17	27·31	78	6320
100	6·60	35·19	27·64	48	5525	—	—	—	—	—
120	—	—	—	—	—	8·64	35·17	27·32	78	9440
150	6·59	35·19	27·65	49	7950	—	—	—	—	—
180	6·55	35·19	27·65	48	9405	—	—	—	—	—

STATION Sc. 17.

Latitude, 61° 11′ N. ; Longitude, 6° 33′ W.

Depth (Metres).	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′
—	1906, 18/vi, 11h. 45m. a.m.—12h. 40m. p.m.					1906, 27/viii, 8h. 5m. p.m.				
0	7·55	35·29	27·53	56	0	9·85	35·18	27·15	95	0
10	7·07	35·19	27·58	52	540	9·91	35·18	27·14	96	955
20	6·93	35·19	27·60	50	1050	9·62	35·18	27·19	90	1885
30	6·91	35·19	27·60	50	1550	9·20	35·18	27·25	83	2750
40	6·92	35·19	27·60	51	2055	8·66	35·18	27·34	76	3545
60	6·92	35·19	27·60	51	3075	8·16	35·18	27·42	69	4995
80	6·93	35·19	27·60	51	4095	7·81	35·17	27·46	65	6335
100	6·93	35·19	27·60	52	5125	7·66	35·17	27·48	64	7625
140	6·94	35·19	27·60	52	7205	7·60	35·17	27·49	64	10185

STATION Sc. 18*a*.

Latitude, 60° 57′ N. ; Longitude, 5° 47′ W.

—	1906, 18/vi, 3h. 35m. p.m.—6h. 15m. p.m.					1906, 28/viii, 1h. a.m.				
0	10·05	35·30	27·20	89	0	10·15	35·18	27·11	100	0
10	9·61	35·30	27·27	81	850	10·11	35·18	27·10	99	995
20	8·66	35·28	27·41	68	1595	10·10	35·18	27·10	99	1985
30	8·10	35·26	27·49	61	2240	10·01	35·18	27·12	97	2965
40	7·61	35·26	27·57	54	2815	9·92	35·18	27·14	96	3930
60	7·44	35·26	27·59	52	3875	9·68	35·18	27·17	93	5820
80	7·08	35·25	27·62	48	4875	8·63	35·18	27·36	78	7530
100	6·92	35·23	27·63	48	5835	7·89	35·18	27·46	68	8990
150	6·77	35·23	27·65	47	8210	7·50	35·18	27·52	66	12340
200	6·72	35·21	27·65	48	10585	7·01	35·18	27·59	56	15390
250	6·34	35·19	27·68	46	12935	6·42	35·13	27·63	52	18090
300	6·04	35·16	27·70	45	15210	5·22	35·09	27·75	42	20440
340	—	—	—	—	—	4·24	35·08	27·84	30	21880
355	3·58	34·99	27·84	31	17300	—	—	—	—	—

STATION Sc. 19*a*.

Latitude, 60° 40′ N. ; Longitude, 4° 50′ W.

—	1906, 18/vi, 10h. p.m.—1h. 55m. a.m.					1906, 28/viii, 6h. 55m. a.m.				
0	10·05	35·30	27·20	87	0	10·75	35·18	26·99	110	0
10	9·60	35·30	27·27	81	840	10·74	35·18	26·99	110	1100
20	8·90	35·28	27·38	71	1600	10·43	35·18	27·05	103	2165
30	8·45	35·26	27·43	67	2290	10·00	35·18	27·12	97	3165
40	8·08	35·26	27·49	61	2930	9·67	35·17	27·16	92	4110
60	7·59	35·25	27·55	54	4080	8·59	35·17	27·33	76	5790
80	7·33	35·25	27·58	53	5150	8·29	35·17	27·38	72	7270
100	7·23	35·23	27·59	53	6210	8·21	35·17	27·39	72	8710
150	6·89	35·21	27·62	51	8810	7·44	35·13	27·48	66	12160
200	6·35	35·17	27·67	47	11260	6·30	35·09	27·61	54	15160
250	5·35	35·12	27·75	40	13435	—	—	—	—	—
300	4·81	35·07	27·77	38	15385	2·36	34·96	27·95	21	18910
350	3·05	—	—	—	—	—	—	—	—	—
400	1·83	34·92	27·95	20	18285	+0·49	34·92	28·03	9	20410
450	0·84	34·92	28·02	11	19060	—	—	—	—	—
500	0·35	34·92	28·04	7	19510	−0·10	34·92	28·06	5	21110
550	0·01	34·92	28·06	6	19835	—	—	—	—	—
600	−0·19	34·92	28·07	5	20110	−0·29	34·92	28·07	4	21560
650	−0·36	34·92	28·08	4	20335	—	—	—	—	—
700	−0·52	34·92	28·08	3	20510	−0·47	34·92	28·08	2	21860
750	−0·55	34·92	28·08	1	20610	—	—	—	—	—
800	—	—	—	—	—	−0·65	34·92	28·09	0	21960
850	−0.69	34·92	28·09	0	20660	—	—	—	—	—
900	—	—	—	—	—	−0·69	34·92	28·09	0	21960
1000	−0·79	34·92	28·10	−1	20585	−0·79	34·92	28·10	0	21960

Station Sc. 19*b*.

Latitude, 60° 26′ N. ; Longitude, 4° 02′ W.

Depth (Metres).	Temp. °C.	S.‰	σt.	v—v′	e—e′	Temp. °C.	S.‰	σt.	v—v′	e—e′
—	1906, 19/vi, 5h. a.m.—6h. 50m. a.m.					1906, 28/viii, 5h. 25m. p.m.				
0	10·75	35·37	27·14	95	0	11·85	35·33	26·89	118	0
10	10·64	35·37	27·15	92	935	11·70	35·33	26·92	114	1160
20	10·01	35·37	27·27	82	1805	11·70	35·33	26·92	114	2300
30	9·72	35·35	27·29	78	2605	11·70	33·33	26·92	114	3440
40	9·60	35·35	27·31	78	3385	11·62	35·33	26·94	112	4570
60	9·40	35·34	27·35	76	4925	10·48	35·33	27·14	94	6830
80	9·15	35·34	27·37	72	6405	9·75	35·33	27·26	84	8610
100	9·06	35·34	27·39	72	7845	9·53	35·33	27·31	80	10250
150	8·97	35·34	27·40	72	11445	9·35	35·33	27·33	79	14225
200	8·88	35·34	27·43	71	15020	9·22	35·33	27·35	77	18125
250	8·76	35·34	27·45	71	18570	—	—	—	—	—
270	—	—	—	—	—	9·05	35·33	27·38	75	23445
300	8·73	35·34	27·45	71	22120	—	—	—	—	—
350	8·54	35·34	27·48	69	25620	—	—	—	—	—
400	8·40	35·34	27·50	68	29045	—	—	—	—	—

Station Sc. 20*a*.

Latitude, 60° 17′ N. ; Longitude, 3° 36′ W.

—	1906, 19/vi, 8h. 25m. a.m.—9h. 30m. a.m.					1906, 28/viii, 10h. 5m. p.m.				
0	11·05	35·34	27·05	101	0	11·55	35·33	26·95	113	0
10	10·72	35·34	27·11	96	985	11·56	35·33	26·95	113	1130
20	9·85	35·32	27·24	84	1885	11·52	35·33	26·96	112	2255
30	9·20	35·32	27·35	72	2665	11·48	35·33	26·96	112	3375
40	8·78	35·32	27·42	67	3360	10·78	35·33	27·09	98	4425
60	8·10	35·32	27·52	57	4600	9·91	35·33	27·24	84	6245
80	8·05	35·32	27·53	57	5740	9·55	35·33	27·30	80	7885
100	8·00	35·32	27·54	57	6880	—	—	—	—	—
125	—	—	—	—	—	8·93	35·33	27·42	70	9760
150	8·00	35·32	27·54	57	9730	—	—	—	—	—

Station Sc. 21*a*.

Latitude, 60° 02′ N. ; Longitude, 3° 13′ W.

—	1906, 19/vi, 11h. 30m. a.m.—1h. 30m. p.m.					1906, 29/viii, 1h. 45m. a.m.				
0	11·65	35·32	26·92	114	0	11·55	35·31	26·94	114	0
10	10·04	35·32	27·22	85	995	11·50	35·31	26·95	113	1135
20	9·38	35·32	27·31	76	1800	11·42	35·31	26·96	110	2250
30	8·88	35·32	27·41	68	2520	11·31	35·31	26·98	108	3340
40	8·48	35·32	27·47	62	3170	11·20	35·31	27·00	107	4415
60	8·19	35·32	27·51	57	4360	9·93	35·31	27·22	86	6345
80	7·97	35·32	27·54	55	5480	9·22	35·31	27·35	75	7955
100	7·97	35·32	27·54	55	6580	9·13	35·31	27·36	75	9455
160	7·95	35·32	27·54	55	9880	—	—	—	—	—
180	—	—	—	—	—	8·74	35·31	27·42	70	15255

Station Sc. 21.

Latitude, 59° 46′ N. ; Longitude, 2° 21′ W.

Depth (Metres).	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′
—	1906, 19/vi, 4h. 35m. p.m.—5h. 15m. p.m.					1906, 29/viii, 6h. 10m. a.m.				
0	11·65	35·30	26·91	116	0	11·05	35·20	26·94	113	0
10	8·82	35·30	27·41	67	915	11·82	35·20	26·98	108	1105
20	8·23	35·30	27·49	57	1535	11·66	35·22	27·03	104	2165
30	7·92	35·30	27·55	53	2085	11·61	35·22	27·04	103	3200
40	7·90	35·30	27·55	53	2615	—	—	—	—	—
50	—	—	—	—	—	11·61	35·22	27·04	104	5270
60	7·88	35·30	27·55	54	3685	—	—	—	—	—
70	—	—	—	—	—	11·61	35·22	27·04	104	7350
87	7·89	35·30	27·55	54	5143	—	—	—	—	—
90	—	—	—	—	—	11·12	35·22	27·13	97	9360

Station Sc. 22.

Latitude, 59° 36′ N. ; Longitude, 0° 41′ W.

—	1906, 4/ii, 8h. 40m. p.m.—9h. 30m. p.m.					1906, 7/iv. 12 noon—12h. 45m. p.m.				
0	6·55	35·30	27·74	37	0	6·05	35·26	27·78	33	0
10	6·80	35·30	27·70	40	385	6·01	35·26	27·78	33	330
20	6·81	35·30	27·70	40	785	6·01	35·26	27·78	33	660
30	6·81	35·30	27·70	40	1185	6·01	35·26	27·78	33	990
40	6·82	35·30	27·70	40	1585	6·01	35·26	27·78	33	1320
60	6·83	35·30	27·70	41	2395	6·01	35·26	27·78	34	1990
80	6·84	35·30	27·70	41	3215	6·01	35·26	27·78	34	2670
100	6·84	35·30	27·70	42	4045	6·02	35·26	27·78	35	3360
134	6·84	35·30	27·70	42	5473	—	—	—	—	—
135	—	—	—	—	—	6·02	35·26	27·78	35	4585

—	1906, 19/vi, 11h. p.m.—11h. 50m. p.m.					1906, 26/vii, 1h. 10m. a.m.—2h. 15m. a.m.				
0	11·05	35·26	26·99	107	0	10·35	35·21	27·08	99	0
10	10·02	35·26	27·18	90	985	9·70	35·21	27·19	89	940
20	8·17	35·26	27·48	63	1750	9·30	35·23	27·27	81	1790
30	7·88	35·26	27·52	58	2355	9·22	35·25	27·29	78	2585
40	7·38	35·26	27·59	51	2900	8·92	35·25	27·35	74	3345
60	7·05	35·26	27·65	47	3880	8·18	35·26	27·47	64	4725
80	6·90	35·26	27·67	45	4800	7·18	35·26	27·62	50	5865
100	6·82	35·26	27·68	45	5700	6·86	35·26	27·67	46	6825
125	—	—	—	—	—	6·79	35·26	27·68	45	7962
138	6·71	35·26	27·69	43	7372	—	—	—	—	—

—	1906, 22/viii, 4h. 40m. a.m.					1906, 20/xi, 7h. 40m. p.m.				
0	12·05	35·22	26·77	128	0	8·05	35·23	27·46	63	0
10	12·11	35·22	26·76	130	1290	8·33	35·23	27·42	66	645
20	11·75	35·22	27·83	125	2565	8·33	35·23	27·42	66	1305
30	9·91	35·23	27·19	92	3650	8·33	35·23	27·42	66	1965
40	9·38	35·24	27·29	80	4510	8·33	35·23	27·42	66	2625
50	8·59	35·24	27·39	70	5260	—	—	—	—	—
60	7·42	35·26	27·58	53	5875	8·33	35·23	27·42	67	3955
80	6·81	35·27	27·69	44	6845	8·02	35·23	27·47	65	5275
100	6·81	35·27	27·69	44	7725	7·70	35·25	27·53	59	6515
135	6·81	35·27	27·69	44	9265	7·70	35·25	27·53	60	8597

Station Sc. 23.

Latitude, 59° 31′ N. ; Longitude, 0° 37′ E.

Depth (Metres).	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′
—	1906, 29/i, 3h. 50m. p.m.—4h. 40m. p.m.					1906, 13/ii, 10h. 15m. p.m.—11h. 5m. p.m.				
0	6·75	35·30	27·71	40	0	6·25	35·28	27·76	35	0
10	7·01	35·30	27·67	43	415	6·30	35·28	27·76	35	250
20	7·03	35·30	27·67	43	845	6·30	35·28	27·76	35	700
30	7·03	35·30	27·67	43	1275	—	—	—	—	—
40	7·03	35·30	27·67	43	1705	5·92	35·28	27·81	30	1350
60	7·04	35·30	27·67	43	2565	5·89	35·28	27·82	31	1960
80	7·06	35·30	27·67	44	3435	5·82	35·28	27·82	30	2570
100	7·06	35·30	27·67	45	4325	5·76	35·28	27·83	29	3160
128	7·06	35·30	27·67	45	5585	—	—	—	—	—
132	—	—	—	—	—	5·76	35·28	27·83	29	4088
—	1906, 20/vi, 4h. a.m.—6h. 35m. a.m.					1906, 5/ix, 2h. 15m. p.m.				
0	11·95	35·16	26·74	132	0	12·95	35·18	26·57	149	0
10	9·69	35·16	27·14	73	1125	12·99	35·18	26·56	149	1490
20	8·50	35·17	27·36	73	1955	12·12	35·20	26·74	131	2890
30	7·54	35·19	27·52	58	2610	11·79	35·20	26·80	126	4175
40	6·68	35·21	27·66	45	3125	11·20	35·22	26·93	113	5370
60	6·40	35·23	27·70	41	3985	6·50	35·26	27·71	40	6900
80	6·05	35·25	27·76	35	4745	6·22	35·26	27·74	37	7670
100	6·05	35·25	27·76	35	5445	—	—	—	—	—
110	—	—	—	—	—	6·20	35·26	27·74	38	8795
126	6·05	35·25	27·76	35	6355	—	—	—	—	—
—	1906, 25/xi, 5h. 25m. p.m.					——				
0	8·25	35·21	27·41	67	0	—	—	—	—	—
10	8·35	35·21	27·42	69	680	—	—	—	—	—
20	8·33	35·21	27·42	69	1370	—	—	—	—	—
30	8·33	35·21	27·42	69	2060	—	—	—	—	—
40	8·25	35·21	27·43	67	2740	—	—	—	—	—
60	8·21	35·21	27·43	68	4090	—	—	—	—	—
80	6·52	35·25	27·70	42	5190	—	—	—	—	—
100	6·50	35·25	27·70	43	6140	—	—	—	—	—
132	6·49	35·25	27·70	44	7532	—	—	—	—	—

Station Sc. 24.

Latitude, 58° 55′ N. ; Longitude, 0° 04′ E.

—	1906, 5/ii, 2h. 30m. a.m.—3h. 10m. a.m.					1906, 14/iv, 3h. 40m. a.m.—4h. 10m. a.m.				
0	6·55	35·28	27·72	39	0	6·05	35·28	27·79	32	0
10	6·96	35·28	27·66	44	415	6·16	35·28	27·78	33	325
20	7·01	35·28	27·65	44	855	6·12	35·28	27·78	33	655
30	7·01	35·28	27·65	44	1295	—	—	—	—	—
40	—	—	—	—	—	5·90	35·28	27·82	31	1295
50	7·02	35·28	27·65	44	2175	—	—	—	—	—
60	—	—	—	—	—	5·85	35·28	27·82	31	1915
70	7·02	35·28	27·65	45	3065	—	—	—	—	—
80	—	—	—	—	—	5·86	35·28	27·82	32	2545
90	6·96	35·28	27·66	45	3965	—	—	—	—	—
100	—	—	—	—	—	5·86	35·28	27·82	32	3185
115	6·96	35·28	27·66	46	5102	—	—	—	—	—
140	—	—	—	—	—	5·85	35·28	27·82	33	4485

STATION Sc. 24—*continued.*

Latitude, 58° 55′ N. ; Longitude, 0° 04′ E.—*continued.*

Depth (Metres).	Temp. °C.	S.‰	σt.	v—v′	e—e′	Temp. °C.	S.‰	σt.	v—v′	e—e′
—	1906, 20/vi, 10h. 50m. a.m.—3h. p.m.					1906. 7/ix, 10h. 55m. p.m.				
0	11·65	35·17	26·81	126	0	12·05	35·18	26·74	130	0
10	10·22	35·17	27·07	100	1130	12·05	35·18	26·74	130	1300
20	8·87	35·19	27·31	78	2020	11·94	35·20	26·77	128	2590
30	8·00	35·19	27·44	65	2735	9·93	35·22	27·17	91	3685
40	7·40	35·19	27·53	58	3350	8·52	35·24	27·41	68	4480
50	—	—	—	—	—	8·78	—	—	—	—
60	6·50	35·23	27·69	43	4360	7·23	35·24	27·60	51	5670
80	6·23	35·25	27·73	37	5160	6·61	35·24	27·68	44	6620
100	6·19	35·25	27·73	38	5910	6·19	35·24	27·73	40	7460
125	—	—	—	—	—	6·13	35·24	27·74	40	8460
127	6·19	35·25	27·73	38	6936	—	—	—	—	—
—	1906, 25/xi, 11h. p.m.					——				
0	8·55	35·21	27·38	72	0	—	—	—	—	—
10	8·60	35·21	27·39	72	720	—	—	—	—	—
20	8·50	35·21	27·39	70	1430	—	—	—	—	—
30	8·46	35·21	27·39	70	2130	—	—	—	—	—
40	8·42	35·21	27·40	70	2830	—	—	—	—	—
60	8·38	35·21	27·40	70	4230	—	—	—	—	—
80	8·00	35·23	27·47	64	5570	—	—	—	—	—
115	7·41	35·25	27·57	55	7652	—	—	—	—	—

STATION Sc. 25.

Latitude, 58° 11′ N. ; Longitude, 0° 32′ W.

—	1906, 5/ii, 8h. 25m. a.m.—9h. a.m.					1906, 14/iv, 9h. 55m. a.m.—11h. 40m. a.m.				
0	6·65	35·19	27·65	47	0	6·45	35·28	27·74	38	0
10	6·97	35·19	27·60	50	485	6·46	35·28	27·74	38	380
20	7·01	35·19	27·59	51	990	6·45	35·28	27·74	38	760
30	7·02	35·19	27·59	51	1500	6·35	35·28	27·75	36	1130
50	7·03	35·19	27·59	51	2520	6·22	35·28	27·76	35	1840
70	7·04	35·19	27·59	52	3550	6·22	35·28	27·76	35	2540
90	—	—	—	—	—	6·23	35·28	27·76	36	3250
100	7·04	35·19	27·59	53	5125	—	—	—	—	—
117	—	—	—	—	—	6·23	35·28	27·76	36	4222
—	1906, 20/vi, 8h. 10m. p.m.—9h. 5m. p.m.					1906, 28/vii, 4h. 40m. a.m.—5h. 40m. a.m.				
0	11·45	35·21	26·87	117	0	11·95	35·26	26·82	125	0
10	11·43	35·21	26·87	117	1170	11·81	35·26	26·85	121	1230
20	10·00	35·21	27·14	94	2225	11·00	35·26	27·00	107	2370
30	7·77	35·21	27·51	60	2995	10·64	35·26	27·06	102	3415
40	7·33	35·21	27·56	53	3560	—	—	—	—	—
50	—	—	—	—	—	7·21	35·26	27·63	49	4925
60	6·62	35·21	27·66	45	4540	—	—	—	—	—
70	—	—	—	—	—	7·11	35·26	27·64	49	5905
80	6·61	35·21	27·66	45	5440	—	—	—	—	—
90	—	—	—	—	—	7·11	35·26	27·64	49	6885
100	6·61	35·21	27·66	46	6350	—	—	—	—	—
113	—	—	—	—	—	7·11	35·26	27·64	49	8012
124	6·59	35·21	27·66	46	7454	—	—	—	—	—

STATION Sc. 25—*continued.*

Latitude, 58° 11′ N. ; Longitude, 0° 32′ W.—*continued.*

Depth (Metres).	Temp. °C.	S.°/₀₀.	σt.	v—v′	e—e′	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′
—	1906, 8/ix, 5h. 25m. a.m.					1906, 26/xi, 5h. 30m. a.m.				
0	11·85	35·17	26·76	129	0	9·35	35·21	27·25	82	0
10	11·92	35·17	26·75	129	1290	9·32	35·21	27·25	82	820
20	11·81	35·18	26·78	127	2570	9·32	35·21	27·25	82	1640
30	11·74	35·18	26·80	125	3830	9·32	35·21	27·25	82	2460
40	10·19	35·18	27·08	99	4950	9·32	35·21	27·25	82	3280
60	9·22	35·20	27·27	83	6770	9·09	35·21	27·29	80	4900
80	8·77	35·22	27·36	76	8360	8·52	35·25	27·40	70	6400
100	8·59	35·22	27·38	74	9860	—	—	—	—	—
103	—	—	—	—	—	8·59	35·25	27·39	71	8021

STATION Sc. 26.

Latitude, 58° 09′ N. ; Longitude, 1° 50′ W.

—	1906, 23/i, 6h. 15m. a.m.—7h. 15m. a.m.					1906, 6/iv, 7h. 5m. p.m.—7h. 45m. p.m.				
0	6·55	34·94	27·46	64	0	5·85	35·12	27·68	42	0
10	6·83	34·94	27·41	67	655	5·90	35·12	27·67	42	420
20	6·83	34·94	27·41	67	1325	5·75	35·12	27·69	40	830
30	6·85	34·94	27·41	67	1995	5·75	35·12	27·69	40	1230
40	6·87	34·94	27·41	67	2665	5·85	35·12	27·68	42	1640
60	6·91	34·94	27·40	68	4015	6·01	35·25	27·76	35	2410
80	6·94	34·94	27·40	69	5385	—	—	—	—	—
84	—	—	—	—	—	6·02	35·26	27·78	34	3238

—	1906, 11/vi, 11h. 25m. p.m.—12h. 25m. a.m.					1906, 18/vii, 9h. 10m. p.m.—10h. 25m. p.m.				
0	9·85	35·23	27·18	91	0	10·75	35·19	27·02	109	0
10	9·65	35·23	27·20	88	895	10·72	35·21	27·02	105	1070
15	8·12	35·23	27·45	63	1272	—	—	—	—	—
20	7·74	35·23	27·51	58	1574	10·64	35·23	27·03	102	2105
30	7·45	35·23	27·56	55	2139	8·78	35·23	27·35	74	2985
50	7·34	35·23	27·57	53	3219	8·55	35·23	27·39	71	4435
70	7·23	35·23	27·59	52	4269	8·42	35·23	27·41	69	5835
95	7·18	35·23	27·59	52	5569	—	—	—	—	—
98	—	—	—	—	—	8·42	35·23	27·41	70	7781

—	1906, 21/viii, 11h. 15m. a.m.					1906, 19/xi, 11h. 20m. p.m.				
0	11·85	35·08	26·70	137	0	9·55	34·85*	26·93	114	0
10	11·69	35·08	26·73	133	1350	10·00	34·94	26·92	114	1140
20	10·81	35·09	26·90	116	2595	10·01	34·94	26·92	114	2280
30	10·42	35·09	26·97	110	3725	10·06	34·94	26·91	115	3425
40	10·02	35·09	27·04	103	4790	—	—	—	—	—
50	—	—	—	—	—	10·06	34·94	26·91	116	5735
61	9·93	—	—	—	—	—	—	—	—	—
74	—	—	—	—	—	10·08	34·94	26·91	117	8531

* Rain in torrents.

Station Sc. 27.

Latitude, 57° 30′ N. ; Longitude, 1° 19′ W.

Depth (Metres).	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′
—	1906, 5/ii, 2h. p.m.—2h. 37m. p.m.					1906, 14/iv, 3h. 35m. p.m.—4h. 10m. p.m.				
0	6·15	34·96	27·52	58	0	5·75	34·96	27·57	53	0
10	6·33	34·96	27·50	60	590	5·71	34·96	27·57	53	530
20	6·49	34·96	27·48	62	1200	5·52	34·96	27·60	49	1040
30	6·40	34·96	27·49	61	1815	5·51	34·96	27·60	49	1530
40	—	—	—	—	—	5·51	34·96	27·60	49	2020
50	6·41	34·96	27·49	61	3035	—	—	—	—	—
60	—	—	—	—	—	5·51	34·96	27·60	50	3010
70	6·42	34·96	27·49	62	4265	—	—	—	—	—
80	—	—	—	—	—	5·52	34·96	27·60	51	4020
96	6·42	34·96	27·49	63	5890	—	—	—	—	—
103	—	—	—	—	—	5·52	34·96	27·60	51	5193
—	1906, 21/vi, 1h. 50m. a.m.—3h. 50m. a.m.					1906, 28/vii, 10h. 45m. a.m.—11h. 45m. a.m.				
0	10·35	35·19	27·06	102	0	11·05	35·12	26·88	117	0
10	10·14	35·19	27·09	97	995	10·89	35·12	26·91	115	1160
20	9·19	35·19	27·26	83	1895	10·39	35·12	26·99	107	2270
30	8·69	35·21	27·36	75	2685	9·59	35·14	27·15	93	3270
40	7·44	35·21	27·55	55	3335	9·45	35·17	27·20	90	5100
60	7·21	35·21	27·57	53	4415	9·19	35·19	27·25	84	6840
80	7·22	35·21	27·57	54	5485	9·11	35·19	27·27	83	8510
100	—	—	—	—	—	9·03	35·19	27·29	82	10407
106	7·30	35·21	27·57	55	6902	—	—	—	—	—
—	1906, 8/ix, 11h. 35m. a.m.					1906, 26/xi, 1h. 20m. p.m.				
0	12·05	35·00	26·60	145	0	9·85	34·88	26·89	117	0
10	11·88	35·00	26·63	142	1435	9·90	34·90	26·91	115	1160
20	11·78	35·00	26·65	140	2845	9·90	34·92	26·92	113	2300
30	11·44	35·00	26·72	134	4215	9·92	34·96	26·95	111	3420
40	10·99	35·00	26·80	126	5515	9·98	34·97	26·96	111	4530
60	10·58	35·00	26·88	120	7975	9·98	34·97	26·96	112	6760
80	10·52	35·00	26·89	120	10375	9·98	34·97	26·96	113	9010
114	—	—	—	—	—	9·99	34·97	26·96	113	12852
115	10·32	35·00	26·95	118	14505	—	—	—	—	—

Station Sc. 28.

Latitude, 57° 53′ N. ; Longitude, 3° 48′ W.

—	1906, 20/ii, 2h. a.m.					1906, 10/v, 12h. 5m. a.m.				
0	2·65	33·26	26·54	152	0	7·15	34·52	27·04	108	0
5	3·80	34·05	27·07	109	6525	7·29	34·54	27·18	110	1090
10	4·32	34·58	27·44	64	1085	6·00	34·83	27·44	91	2095
20	4·52	34·63	27·47	63	1720	—	—	—	—	—
29	—	—	—	—	—	5·74	34·83	27·47	87	2896
—	1906, 14/viii, 5h. 5m. p.m.					1906, 6/x, 11h. 45m. a.m.				
0	13·75	33·80	25·33	222	0	11·95	34·76	26·43	160	0
10	12·81	34·65	26·18	184	2030	11·95	34·81	26·48	156	1580
24	11·62	33·95	25·87	214	4816	—	—	—	—	—
28	—	—	—	—	—	11·98	34·85	26·49	154	4370

STATION Sc. 28—*continued.*

Latitude, 57° 53′ N. ; Longitude, 3° 48′ W.

Depth (Metres).	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′
—	1906, 18/xii, 8h. 50m. a.m.					——				
0	7·05	33·71	26·42	163	0	—	—	—	—	—
10	7·50	34·45	26·93	113	1380	—	—	—	—	—
25	7·88	34·76	27·13	95	2940	—	—	—	—	—

STATION Sc. 30.

Latitude, 58° 00′ N. ; Longitude, 2° 54′ W.

—	1906, 19/ii, 7h. 15m. p.m,					1906, 9/v, 7h. p.m.				
0	5·45	34·85	27·52	57	0	6·85	35·05	27·51	60	0
10	5 54	34·85	27·51	57	570	6·85	35·05	27·51	60	600
20	5 62	34·87	27·52	57	1140	6·81	35·05	27·52	59	1195
30	5 6[illegible]	34·87	27·52	57	1710	6·60	35·05	27·54	56	1770
40	5 72	34·87	27·50	57	2280	—	—	—	—	—
54	—	—	—	—	—	6·50	35·05	27·55	55	2882
60	5·77	34·87	27·50	58	3420	—	—	—	—	—
—	1906, 14/viii, 10h. 10m. p.m.					1906, 8/x, 11h. 45m. a.m.				
0	12·55	34·88	26·41	163	0	12·05	34·90	26·53	152	0
10	12·50	34·88	26·42	162	1625	12·00	34·90	26·54	151	1515
20	11·38	34·90	26·65	140	3135	12·00	34·90	26·54	151	3030
30	10·80	34·92	26·77	128	4475	11·98	34·90	26·54	151	4545
40	10·55	34·92	26·82	123	4730	—	—	—	—	—
57	10·15	34·92	26·88	118	6778·5	11·98	34·90	26·54	151	8622
—	1906, 18/xii, 12h. 55m. p.m.					——				
0	8·05	34·85	27·16	91	0	—	—	—	—	—
10	8·18	34·88	27·18	90	915	—	—	—	—	—
20	8·15	34·88	27·18	90	1805	—	—	—	—	—
30	8·15	34·88	27·18	90	2705	—	—	—	—	—
55	8·15	34·88	27·18	90	4955	—	—	—	—	—

STATION Sc. 32.

Latitude, 58° 08′ N. ; Longitude, 2° 00′ W.

—	1906, 19/2, 3h. 30m. p.m.					1906, 9/v, 2h. 30m. p.m.				
0	6·15	34·99	27·56	55	0	7·05	35·07	27·49	61	0
10	6·21	34·99	27·55	56	555	7·02	35·07	27·49	61	610
20	6·21	34·99	27·55	56	1215	6·89	35·07	27·51	59	1210
30	6·21	34·99	27·55	56	1775	6·80	35·07	27·53	58	1795
40	—	—	—	—	—	6·65	35·08	27·56	55	2360
50	6·21	34·99	27·55	56	2895	—	—	—	—	—
60	—	—	—	—	—	6·37	35·21	27·69	42	3330
76	6·22	34·99	27·55	56	4351	—	—	—	—	—
88	—	—	—	—	—	6·41	35·21	27·69	42	4506

STATION Sc. 32—*continued.*

Latitude, 58° 08′ N. ; Longitude 2° 00′ W.—*continued.*

Depth (Metres).	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′
—	1906, 15/viii, 2h. a.m.					1906, 8/x, 4h. 10m. p.m.				
0	11·65	34·92	26·61	142	0	12·05	35·01	26·62	144	0
10	11·70	34·92	26·60	142	1420	12·00	35·01	26·63	142	1430
20	11·40	34·92	26·66	138	2820	12·00	35·01	26·63	142	2850
30	11·16	34·96	26·73	132	4170	12·00	35·03	26·64	142	4270
40	—	—	—	—	—	11·78	35·05	26·68	136	5660
50	9·93	35·05	27·01	105	6540	—	—	—	—	—
60	—	—	—	—	—	11·49	35·05	26·74	131	8330
78	9·81	35·10	27·08	100	9404	—	—	—	—	—
84	—	—	—	—	—	11·47	35·05	26·74	131	11474
—	1906, 18/xii, 5h. p.m.					———				
0	8·35	34·99	27·24	85	0	—	—	—	—	—
10	8·51	34·99	27·22	86	855	—	—	—	—	—
20	8·54	34·99	27·22	86	1715	—	—	—	—	—
30	8·58	34·99	27·21	87	2580	—	—	—	—	—
40	8·58	34·99	27·21	87	3450	—	—	—	—	—
60	8·58	34·99	27·21	87	5190	—	—	—	—	—
80	8·58	34·99	27·21	87	6930	—	—	—	—	—

STATION Sc. 34.

Latitude, 58° 17′ N. ; Longitude, 1° 03′ W.

—	1906, 19/ii, 11h. 45m. a.m.					1906, 9/v, 10h. 30m. a.m.				
0	6·35	35·23	27·70	41	0	6·75	35·26	27·69	42	0
10	6·61	35·23	27·67	43	420	6·78	35·26	27·69	43	425
20	6·61	35·23	27·67	43	850	6·78	35·26	27·69	43	855
30	6·61	35·23	27·67	43	1280	6·78	35·26	27·69	43	1285
50	6·62	35·23	27·67	42	2140	6·41	35·26	27·73	39	2105
70	6·63	35·23	27·67	44	3010	6·41	35·26	27·73	40	2895
90	6·65	35·23	27·67	45	3900	6·42	35·26	27·73	41	3705
110	6·65	35·23	27·67	45	4800	—	—	—	—	—
112	—	—	—	—	—	6·42	35·26	27·73	41	4625
—	1906, 15/viii, 8h. 5m. a.m.					1906, 11/x, 10h. 35m. p.m.				
0	12·50	35·17	26·64	139	0	11·75	35·01	26·67	137	0
10	12·49	35·17	26·64	139	1390	11·71	35·05	26·70	137	1370
20	10·49	35·19	27·03	104	2605	11·69	35·05	26·71	137	2740
30	9·68	35·21	27·19	88	3565	11·64	35·05	26·71	135	4100
40	—	—	—	—	—	11·28	35·14	26·84	121	5370
50	9·27	35·21	27·27	83	5275	—	—	—	—	—
60	—	—	—	—	—	10·89	35·16	26·92	112	7700
70	8·47	35·25	27·41	68	6785	—	—	—	—	—
80	—	—	—	—	—	10·52	35·16	27·00	105	9870
97	—	—	—	—	—	10·23	35·23	27·11	98	1595·5
99	8·39	35·25	27·42	68	8757	—	—	—	—	—

STATION Sc. 34—*continued.*

Latitude, 58° 17′ N. ; Longitude, 1° 03′ W.—*continued.*

Depth (Metres).	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′
—	1906, 18/xii, 9h. 15m. p.m.					——				
0	8·55	35·23	27·39	69	0	—	—	—	—	—
10	8·61	35·23	27·38	70	695	—	—	—	—	—
20	8·61	35·23	27·38	70	1395	—	—	—	—	—
30	8·61	35·23	27·38	70	2095	—	—	—	—	—
40	8·61	35·23	27·38	70	2795	—	—	—	—	—
60	8·62	35·23	27·38	70	4195	—	—	—	—	—
80	8·63	35·23	27·38	71	5605	—	—	—	—	—
105	8·63	35·23	27·38	72	7392·5	—	—	—	—	—

STATION Sc. 35.

Latitude, 58° 22′ N. ; Longitude, 0° 36′ W.

—	1906, 19/ii, 9h. 30m. a.m.					——				
0	6·45	35·25	27·70	40	0	—	—	—	—	—
10	6·60	35·25	27·68	41	405	—	—	—	—	—
20	6·60	35·25	27·68	41	815	—	—	—	—	—
30	6·61	35·25	27·68	41	1225	—	—	—	—	—
40	6·62	35·25	27·68	41	1635	—	—	—	—	—
60	6·62	35·25	27·68	41	2455	—	—	—	—	—
80	6·63	35·25	27·68	42	3285	—	—	—	—	—
100	6·63	35·25	27·68	43	4135	—	—	—	—	—
120	6·63	35·25	27·68	43	4995	—	—	—	—	—

STATION Sc. 36.

Latitude, 58° 26′ N. ; Longitude, 0° 08′ W.

—	1906, 19/ii, 7h. a.m.					1906, 9/v, 6h. 25m. a.m.				
0	6·65	35·28	27·71	38	0	6·75	35·21	27·65	45	0
10	6·63	35·28	27·71	38	380	6·71	35·21	27·65	45	450
20	6·63	35·28	27·71	38	760	6·54	35·21	27·67	43	990
30	6·63	35·28	27·71	38	1140	6·41	35·21	27·69	42	1415
40	6·63	35·28	27·71	38	1520	6·40	35·21	27·69	42	1835
60	6·63	35·28	27·71	38	2280	6·23	35·21	27·72	40	2655
80	6·63	35·28	27·71	39	3050	5·91	35·23	27·77	35	3405
100	6·63	35·28	26·71	40	3840	—	—	—	—	—
123	—	—	—	—	—	5·91	35·23	27·77	36	4931·5
138	6·64	35·28	27·71	41	4569	—	—	—	—	—

—	1906, 15/viii, 11h. 55m. a.m.					1906, 12/x, 4h. 15m. a.m.				
0	13·25	35·26	26·57	148	0	11·25	35·03	26·77	128	0
10	12·98	35·26	26·62	142	1450	11·22	35·10	26·83	121	1245
20	12·20	35·26	26·77	127	2795	11·22	35·16	26·87	117	2435
30	12·00	35·26	26·81	124	4050	10·83	25·21	27·00	107	3555
40	9·08	35·28	27·35	75	5045	10·32	35·23	27·09	95	4565
60	6·99	35·28	27·66	44	6235	9·42	35·23	27·26	82	6335
80	6·59	35·28	27·71	39	7065	7·92	35·23	27·49	59	7745
100	6·46	35·28	27·73	39	7845	7·80	35·23	27·51	58	8815
129	—	—	—	—	—	7·53	35·23	27·53	36	10468
130	6·41	35·28	27·74	39	9015	—	—	—	—	—

STATION Sc. 36—*continued.*

Latitude, 58° 26′ N. ; Longitude, 0° 08′ W.—*continued.*

Depth (Metres).	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′
—	1906, 19/xii, 2h. 20m. a.m.					——				
0	7·55	35·23	27·54	56	0	—	—	—	—	—
10	7·60	35·23	27·54	57	565	—	—	—	—	—
20	7·58	35·23	27·54	57	1135	—	—	—	—	—
30	7·54	35·23	27·54	56	1700	—	—	—	—	—
40	7·51	35·23	27·54	55	2255	—	—	—	—	—
60	7·51	35·23	27·54	55	3355	—	—	—	—	—
80	7·51	35·23	27·54	56	4465	—	—	—	—	—
100	7·51	35·23	27·54	57	5675	—	—	—	—	—
130	7·51	35·23	27·54	58	7400	—	—	—	—	—

STATION Sc. 38.

Latitude, 58° 34′ N. ; Longitude, 0° 47′ E.

—	1906, 19/ii, 2h. a.m.					1906, 9/v, 12h. 10m. a.m.				
0	6·35	35·28	27·75	37	0	6·95	35·19	27·60	50	0
10	6·42	35·28	27·74	37	370	6·93	35·19	27·60	50	500
20	6·44	35·28	27·73	37	740	6·82	35·19	27·62	49	995
30	6·44	35·28	27·73	37	1110	6·58	35·19	27·65	46	1470
40	6·45	35·28	27·73	37	1480	6·56	35·19	27·65	46	1530
60	6·46	35·28	27·73	37	2220	6·21	35·21	27·72	39	2360
80	6·47	35·28	27·73	39	2980	5·91	35·23	27·77	35	3100
100	6·47	35·28	27·73	40	3770	5·87	35·23	27·77	36	3810
150	6·49	35·28	27·73	41	5795	5·88	35·23	27·77	36	5610

—	1906, 27/vii, 10h. 20m. p.m.—11h. 45m. p.m.					1906, 15/viii, 5h. p.m.				
0	12·65	35·21	26·64	138	0	14·35	35·16	26·26	178	0
10	12·20	35·21	26·73	132	1350	14·10	35·16	26·31	173	1755
20	11·04	35·21	26·95	111	2565	13·68	35·17	26·41	163	3435
30	10·90	35·21	26·98	108	3660	13·68	35·17	26·41	163	5065
40	7·99	35·25	27·48	60	4500	10·96	35·23	26·98	108	6420
60	6·72	35·26	27·69	41	5610	7·22	35·25	27·60	50	8000
80	6·39	35·26	27·73	39	6410	6·82	35·28	27·69	43	8930
100	6·31	35·26	27·74	39	7190	6·53	35·28	27·73	41	9770
130	—	—	—	—	—	6·32	35·28	27·75	38	10955
150	6·30	35·26	26·74	40	9165	—	—	—	—	—

—	1906, 12/x, 9h. 30m. a.m.					1906, 19/xii, 6h. 45m. a.m.				
0	11·45	35·03	26·73	131	0	7·45	35·23	27·56	55	0
10	11·61	35·05	26·72	133	1320	7·50	35·23	27·55	55	550
20	11·61	35·05	26·72	133	2650	7·50	35·23	27·55	55	1100
30	11·61	35·12	56·78	126	3945	7·50	35·23	27·55	55	1650
40	9·03	35·23	27·32	78	4965	7·50	35·23	27·55	55	2200
60	7·79	35·23	27·51	59	6335	7·50	35·23	27·55	55	3300
80	7·12	35·23	27·62	51	7445	7·50	35·23	27·55	56	4410
100	6·71	35·23	27·66	46	8335	6·81	35·25	27·66	48	5450
130	—	—	—	—	—	6·67	35·25	27·68	47	6775
146	6·42	35·23	27·70	43	10382	—	—	—	—	—

Station Sc. 39*b*.

Latitude, 57° 59′ N. ; Longitude, 0° 57′ E.

Depth (Metres).	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′
—	1906, 18/ii, 8h. p.m.					1906, 8/v, 7h. 10m. p.m.				
0	6·45	35·28	27·73	38	0	7·25	35·19	27·55	54	0
10	6·59	35·28	27·71	40	390	6·78	35·19	27·62	48	510
20	6·61	35·28	27·71	40	790	6·76	35·19	27·62	48	990
30	6·61	35·28	27·71	40	1190	6·66	35·19	27·63	46	1460
40	6·61	35·28	27·71	40	1590	6·61	35·19	27·64	46	1920
60	6·62	35·28	27·71	40	2390	5·99	35·21	27·74	37	2750
80	6·62	35·28	27·71	41	3300	5·73	35·23	27·79	32	3540
100	6·61	35·28	27·71	42	4230	5·73	35·23	27·79	33	4190
135	6·61	35·28	27·71	43	5717·5	—	—	—	—	—
141	—	—	—	—	—	5·74	35·23	27·79	34	5563·5
—	1906, 15/viii, 11h. 55m. p.m.					1906, 12/x, 3h. 50m. p.m.				
0	13·85	35·23	26·40	160	0	11·25	35·14	26·86	119	0
10	13·51	35·23	26·49	155	1575	11·28	35·14	26·85	120	1195
20	11·20	35·25	26·94	111	2905	11·25	35·14	26·86	119	2390
30	10·80	35·25	27·05	104	3980	11·24	35·14	26·86	119	3580
40	9·70	35·26	27·24	85	4925	11·21	35·14	26·87	119	4770
60	7·30	35·28	27·62	49	6265	8·00	35·23	27·47	62	6580
80	7·11	35·28	27·65	48	7235	7·21	35·23	27·59	53	7740
100	7·03	35·28	27·66	47	8185	7·11	35·23	27·61	52	8790
140	—	—	—	—	—	7·02	35·23	27·62	51	10850
144	6·91	35·28	27·67	46	10231	—	—	—	—	—
—	1906, 19/xii, 1h. 5m. p.m.					———				
0	7·65	35·23	27·54	57	0	—	—	—	—	—
10	7·59	35·23	27·54	57	570	—	—	—	—	—
20	7·59	35·23	27·54	57	1140	—	—	—	—	—
30	7·59	35·23	27·54	57	1710	—	—	—	—	—
40	7·59	35·23	27·54	57	2280	—	—	—	—	—
60	7·59	35·23	27·54	57	3420	—	—	—	—	—
80	7·59	35·23	27·54	58	4570	—	—	—	—	—
100	7·55	35·23	27·55	59	5740	—	—	—	—	—
152	6·98	35·25	27·63	50	8574	—	—	—	—	—

Station Sc. 40*b*.

Latitude, 57° 24′ N. ; Longitude, 1° 07′ E.

—	1906, 18/ii, 2h. 30m. p.m.					1906, 8/v, 1h. p.m.				
0	6·35	35·21	27·70	42	0	7·25	35·12	27·49	60	0
10	6·40	35·21	27·69	43	425	6·68	35·12	27·58	52	560
20	6·33	35·21	27·70	42	850	6·45	35·12	27·61	50	1170
30	6·33	35·21	27·70	42	1270	6·40	35·12	27·62	49	1665
50	6·33	35·21	27·70	42	2110	5·91	35·12	27·68	42	2575
70	6·34	35·21	27·70	43	2960	5·87	35·12	27·68	43	3425
91	6·32	35·21	27·70	44	3873·5	—	—	—	—	—
92	—	—	—	—	—	5·88	35·12	27·68	44	4380

STATION Sc. 40*b*.—*continued.*

Latitude, 57° 44′ N.; Longitude, 1° 07′ W.—*continued.*

Depth (Metres).	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′
—	1906, 16/viii, 4h. 50m. a.m.					1906, 12/x, 9h. 50m. p.m.				
0	14·45	35·05	26·15	187	0	12·45	35·03	26·54	150	0
10	14·51	35·05	26·14	188	1875	12·50	35·03	26·55	150	1500
20	12·80	35·05	26·48	155	3590	12·31	35·03	26·59	147	2985
30	11·64	35·05	26·71	133	5030	12·36	35·03	26·58	148	3460
40	7·08	35·05	27·46	64	6015	9·84	35·08	27·06	100	4700
50	6·69	35·05	27·53	57	7325	7·58	35·08	27·42	67	5535
70	6·48	35·05	27·55	55	8445	7·31	35·08	27·46	66	6865
90	—	—	—	—	—	7·16	35·08	27·48	65	8175
92	6·24	35·05	27·58	53	8633	—	—	—	—	—
—	1906, 19/xii, 6h. 55m. p.m.					———				
0	8·45	35·23	27·41	69	0	—	—	—	—	—
10	8·39	35·23	27·42	67	680	—	—	—	—	—
20	8·38	35·23	27·42	67	1350	—	—	—	—	—
30	8·31	35·23	27·43	66	2015	—	—	—	—	—
40	8·28	35·23	27·43	66	2675	—	—	—	—	—
60	8·28	35·23	27·43	67	4005	—	—	—	—	—
88	8·28	35·23	27·43	68	5895	—	—	—	—	—

STATION Sc. 41*a*.

Latitude, 56° 48′ N.; Longitude, 1° 19′ E.

—	1906, 18/ii, 10h. a.m.					1906, 8/v, 8h. 15m. a.m.				
0	6·25	35·16	27·67	44	0	7·05	35·12	27·52	57	0
10	6·30	35·16	27·66	45	445	6·80	35·12	27·57	54	555
20	6·30	35·16	27·66	45	895	6·48	35·12	27·60	55	1100
30	6·30	35·16	27·66	45	1345	6·44	35·12	27·61	54	1645
50	6·30	35·16	27·66	45	2245	6·09	35·12	27·66	45	2635
70	6·31	35·16	27·66	46	3155	5·66	35·12	27·71	39	3475
94	6·31	35·16	27·66	47	4271	—	—	—	—	—
96	—	—	—	—	—	5·64	35·12	27·71	40	4502
—	1906, 13/viii, 7h. 25m. p.m.					1906, 13/x, 3h. 15m. a.m.				
0	14·45	34·99	26·10	192	0	13·45	34·87	26·21	181	0
10	14·74	34·99	26·05	199	1955	13·59	34·88	26·20	183	1820
20	13·20	34·99	26·37	167	3780	13·48	34·90	26·24	179	3630
30	11·20	35·01	26·77	129	5260	13·45	34·90	26·24	178	5415
40	—	—	—	—	—	6·50	34·94	27·47	63	6620
50	6·12	35·01	27·57	52	7070	6·42	34·94	26·48	62	7245
70	5·94	35·01	27·59	49	8080	6·42	34·94	27·48	63	8495
98	5·95	35·01	27·59	50	9446	6·43	34·94	27·48	64	10273
—	1906, 20/xii, 12h. 45m. a.m.					———				
0	8·25	35·19	27·40	68	0	—	—	—	—	—
10	8·28	35·19	27·40	68	680	—	—	—	—	—
20	8·28	35·19	27·40	68	1360	—	—	—	—	—
30	8·10	35·19	27·43	66	2030	—	—	—	—	—
50	8·00	35·19	27·44	64	3330	—	—	—	—	—
70	8·00	35·19	27·44	65	4620	—	—	—	—	—
95	8·00	35·19	27·44	66	6257·5	—	—	—	—	—

STATION Sc. 41*b*.

Latitude, 56° 42′ N. ; Longitude, 0° 35′ E.

Depth (Metres).	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′
—	1906, 18/ii, 4h. a.m.					1906, 8/v, 3h. 10m. a.m.				
0	5·75	35·12	27·69	40	0	6·85	35·07	27·52	58	0
10	6·16	35·12	27·64	45	425	6·66	35·07	27·54	55	565
20	6·16	35·12	27·64	45	875	6·45	35·07	27·57	53	1105
30	6·21	35·12	27·64	46	1330	6·42	35·07	27·58	53	1635
40	6·21	35·12	27·64	46	1795	6·16	35·07	27·61	50	2150
60	6·21	35·12	27·64	47	2725	5·89	35·07	27·64	46	3210
86	6·21	35·12	27·64	48	3960	5·89	35·07	27·64	47	4419
—	1906, 13/viii, 1h. 50m. p.m.					1906, 13/x, 8h. 15m. a.m.				
0	14·35	35·01	26·15	190	0	12·55	35·05	26·53	149	0
10	14·41	35·01	26·14	189	1895	12·52	35·05	26·54	148	1485
20	13·99	35·01	26·22	181	3745	12·51	35·05	26·54	148	2965
30	7·45	35·01	27·39	72	5010	12·15	35·05	26·61	142	4415
40	7·22	35·01	27·42	69	5715	11·13	35·05	26·80	124	5745
60	6·99	35·01	27·45	66	7065	8·44	35·05	27·27	84	7825
84	6·90	35·01	27·46	65	8637	—	—	—	—	—
86	—	—	—	—	—	8·09	35·05	27·32	80	9957
—	1906, 20/xii, 4h. 40m. a.m.					———				
0	8·35	35·23	27·42	68	0	—	—	—	—	—
10	8·50	35·23	27·40	69	685	—	—	—	—	—
20	8·50	35·23	27·40	69	1375	—	—	—	—	—
30	8·50	35·23	27·40	69	2065	—	—	—	—	—
40	8·48	35·23	27·40	69	2755	—	—	—	—	—
60	8·48	35·23	27·40	70	4145	—	—	—	—	—
84	8·48	35·23	27·40	71	5837	—	—	—	—	—

STATION Sc. 41*c*.

Latitude, 56° 35′ N. ; Longitude 0° 10′ W.

—	1906, 18/ii, 1h. a.m.					1906, 7/v, 11h. 30m. p.m.				
0	5·75	35·07	27·66	44	0	6·75	35·05	27·52	57	0
10	5·96	35·07	27·64	47	455	6·59	35·05	27·54	56	565
20	5·96	35·07	27·64	47	925	6·46	35·05	27·56	55	1130
30	5·91	35·07	27·64	46	1390	6·38	35·05	27·57	54	1695
40	—	—	—	—	—	6·27	35·05	27·58	53	2230
50	5·91	35·07	27·64	47	2320	—	—	—	—	—
60	—	—	—	—	—	5·95	35·05	27·62	48	3240
78	5·92	35·07	27·64	47	3636	—	—	—	—	—
81	—	—	—	—	—	5·95	35·05	27·62	48	4248
—	1906, 13/viii, 10h. a.m.					1906, 13/x, 11h. 35m. a.m.				
0	13·95	34·88	26·12	189	0	12·65	35·05	26·51	150	0
10	13·89	34·88	26·13	188	1885	12·78	35·05	26·48	153	1515
20	12·29	34·90	26·48	155	3600	12·78	35·05	26·48	153	3045
30	7·71	34·97	27·32	77	4760	11·68	35·05	26·69	134	4480
40	7·59	34·97	27·34	75	5520	9·02	35·05	27·17	90	5600
60	7·44	34·97	27·36	75	7020	8·88	35·05	27·19	88	7380
84	7·39	34·97	27·37	76	8832	—	—	—	—	—
89	—	—	—	—	—	8·62	35·05	27·24	86	9903

STATION Sc. 41*c*—*continued.*

Latitude, 56° 35′ N.; Longitude, 0° 10′ W.—*continued.*

Depth (Metres).	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′
—	1906, 20/xii, 8h. 25m. a.m.					———				
0	8·65	35·10	27·29	80	0	—	—	—	—	—
10	8·65	35·12	27·29	78	790	—	—	—	—	—
20	8·68	35·12	27·29	79	1515	—	—	—	—	—
30	8·68	35·12	27·29	79	2365	—	—	—	—	—
50	8·68	35·12	27·29	80	4955	—	—	—	—	—
75	8·68	35·12	27·29	81	6967·5	—	—	—	—	—

STATION Sc. 42.

Latitude, 56° 28′ N.; Longitude, 0° 53′ W.

—	1906, 17/ii, 7h. p.m.					1906, 7/v, 8h. 45m. p.m.				
0	5·55	35·03	27·66	44	0	6·75	34·87	27·38	70	0
10	5·71	35·03	27·64	46	450	6·55	34·87	27·40	68	690
20	5·71	35·03	27·64	46	910	6·18	34·87	27·44	64	1350
30	5·71	35·03	27·64	46	1370	5·89	34·87	27·48	59	1965
40	—	—	—	—	—	5·82	34·87	27·49	58	2550
50	5·71	35·03	27·64	46	2290	5·83	34·87	27·49	58	3130
70	—	—	—	—	—	5·84	34·87	27·49	59	4300
71	5·73	35·03	27·64	47	3366·5	—	—	—	—	—
—	1906, 13/viii, 3h. 50m. a.m.					1906, 20/x, 9h. 40m. p.m.				
0	12·85	34·81	26·30	173	0	10·65	34·96	26·83	123	0
10	11·82	34·85	26·52	151	1620	10·85	34·96	26·79	125	1240
20	8·91	34·90	27·06	100	2875	10·85	34·96	26·79	125	2490
30	8·45	34·90	27·16	93	3840	10·85	34·96	26·79	125	3740
50	8·30	34·90	27·18	92	5690	10·85	34·96	26·79	125	6240
69	8·30	34·90	27·18	92	7438	—	—	—	—	—
70	—	—	—	—	—	10·85	34·96	26·79	125	8740
—	1906, 20/xii, 12h. 35m. p.m.					———				
0	8·45	35·01	27·25	85	0	—	—	—	—	—
10	8·51	35·01	27·24	86	855	—	—	—	—	—
20	8·51	35·01	27·24	86	1715	—	—	—	—	—
30	8·51	35·01	27·24	86	2575	—	—	—	—	—
50	8·51	35·01	27·24	86	4295	—	—	—	—	—
70	8·51	35·01	27·24	86	6015	—	—	—	—	—

STATION Sc. 43.

Latitude, 56° 24′ N.; Longitude, 1° 21′ W.

—	1906, 17/ii, 5h. p.m.					1906, 7/v, 4h. 15m. p.m.				
0	5·45	34·99	27·64	46	0	6·85	34·72	27·24	83	0
10	5·62	34·99	27·62	48	470	6·62	34·74	27·30	78	805
20	5·65	34·99	27·61	48	950	6·38	34·74	27·32	76	1575
30	5·65	34·99	27·61	48	1430	5·89	34·76	27·39	68	2295
40	5.65	34·99	27·61	48	1910	5·80	34·76	27·40	68	2975
63	—	—	—	—	—	5·80	34·76	27·40	68	4539
64	5·68	34·99	27·61	49	3154	—	—	—	—	—

STATION Sc. 43—*continued.*

Latitude, 56° 24′ N.; Longitude, 1° 21′ W.—*continued.*

Depth (Metres).	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′
—	1906, 10/viii, 3h. 15m. a.m.					1906, 20/x, 7h. 5m. p.m.				
0	12·35	34·72	26·32	170	0	10·95	34·88	26·71	134	0
10	11·85	34·76	26·45	157	1635	11·06	34·88	26·68	136	1350
20	9·30	34·88	27·00	108	2960	11·08	34·88	26.68	136	2710
30	9·15	34·90	27·04	104	3020	11·08	34·88	26·68	136	4070
40	9·10	34·90	27·05	103	4055	11·08	34·88	26·68	136	5430
60	9·10	34·90	27·05	103	6115	11·08	34·88	26·68	136	8150
—	1906, 20/xii, 3h. p.m.					——				
0	8·25	34·92	27·18	88	0	—	—	—	—	—
10	8·44	34·92	27·16	93	905	—	—	—	—	—
20	8·44	34·92	27·16	93	1835	—	—	—	—	—
30	8·44	34·92	27·16	93	2765	—	—	—	—	—
50	8·44	34·92	27·16	93	4625	—	—	—	—	—
70	8·44	34·92	27·16	93	6485	—	—	—	—	—

STATION Sc. 44.

Latitude, 56° 20′ N.; Longitude, 1° 49′ W.

—	1906, 17/ii, 1h. 30m. p.m.					1906, 7/v, 12h. 15m. p.m.				
0	5·45	34·96	27·61	50	0	6·45	34·40	27·04	103	0
10	5·40	34·94	27·60	49	495	6·31	34·42	27·07	101	1020
20	5·40	34·94	27·60	49	985	5·98	34·47	27·16	91	1980
30	5·40	34·94	27·60	49	1475	5·71	34·49	27·21	86	2855
50	—	—	—	—	—	5·71	34·49	27·21	86	4575
53	5·42	34·94	27·60	49	2602	—	—	—	—	—
—	1906, 9/viii, 11h. 30m. p.m.					1906, 23/x, 4h. 30m. p.m.				
0	12·15	34·63	26·29	173	0	11·05	34·83	26·65	139	0
10	10·24	34·79	26·76	129	1510	11·08	34·83	26·64	140	1395
20	10·20	34·81	26·79	127	2790	11·08	34·83	26·64	140	2795
30	10·20	34·81	26·79	127	4060	11·08	34·83	26·64	140	4195
40	10·18	34·81	26·79	127	5330	—	—	—	—	—
48	—	—	—	—	—	11·08	34·83	26·64	140	6815
61	10·05	34·81	26·82	125	8976	—	—	—	—	—
—	1906, 20/xii, 5h. 50m. p.m.					——				
0	8·35	34·83	27·11	95	0	—	—	—	—	—
10	8·41	34·83	27·10	97	960	—	—	—	—	—
20	8·41	34·83	27·10	97	1930	—	—	—	—	—
30	8·41	34·83	27·10	97	2900	—	—	—	—	—
57	8·41	34·83	27·10	97	5519	—	—	—	—	—

Station Sc. 45.

Latitude, 56° 16′ N. ; Longitude, 2° 17′ W.

Depth (Metres).	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′
—	1906, 18/i, 1h. 20m. p.m.					1906, 17/ii, 11h. a.m.				
0	4·85	33·80	26·77	128	0	5·05	34·61	27·38	71	0
10	5·93	33·84	26·67	138	1330	5·12	34·65	27·39	68	695
20	6·32	34·42	27·07	100	2520	5·13	34·79	27·51	58	1325
30	6·43	34·54	27·16	92	3480	5·34	34·87	27·55	54	1885
48	—	—	—	—	—	5·34	34·87	27·55	54	2857
55	6·44	34·54	27·16	92	5780	—	—	—	—	—
—	1906, 5/v, 4h. 30m. p.m.					1906, 9/viii, 8h. 10m. p.m.				
0	6·15	34·36	27·05	102	0	12·45	34·54	26·16	186	0
10	5·98	34·38	27·09	99	1005	11·62	34·60	26·37	165	1755
20	5·58	34·42	27·16	90	1950	11·49	34·65	26·42	160	3380
30	5·33	34·43	27·21	99	2895	10·21	34·70	26·70	135	4855
40	—	—	—	—	—	10·21	34·72	26·71	134	6200
54	5·36	34·43	27·21	100	5283	—	—	—	—	—
57	—	—	—	—	—	10·21	34·72	26·71	134	8478
—	1906, 20/x, 2h. 15m. p.m.					1906, 20/xii, 9h. 30m. p.m.				
0	11·15	34·78	26·58	145	0	7·05	33·58	26·32	172	0
10	11·22	34·78	26·57	146	1455	7·59	34·25	26·77	128	1000
20	11·26	34·78	26·56	146	2915	7·68	34·38	26·86	119	2235
30	11·26	34·78	26·56	146	4375	—	—	—	—	—
43	—	—	—	—	—	7·82	34·40	26·86	120	4983·5
58	11·28	34·78	26·56	146	8463	—	—	—	—	—

Station Sc. 46.

Latitude, 56° 10′ N. ; Longitude, 2° 45′ W.

—	1906, 18/i, 9h. 35m. a.m.					1906, 13/ii, 10h. a.m.				
0	6·05	34·42	27·11	96	0	5·05	34·27	27·11	96	0
10	6·13	34·42	27·09	98	970	5·23	34·27	27·09	99	975
20	6·19	34·42	27·08	98	1950	5·23	34·27	27·09	99	1965
30	6·17	34·42	27·09	98	2930	5·23	34·27	27·09	99	2955
46	6·23	34·42	27·08	99	4506	—	—	—	—	—
53	—	—	—	—	—	5·26	34·27	27·09	99	5232
—	1906, 5/v, 11h. a.m.					1906, 7/viii, 9h. 5m. a.m.				
0	6·35	34·29	26·97	109	0	11·05	34·52	26·42	162	0
10	6·05	34·33	27·03	103	1060	11·01	34·54	26·44	160	1610
20	5·82	34·36	27·09	99	2070	11·01	34·54	26·44	160	3210
30	5·41	34·36	27·14	94	3035	—	—	—	—	—
34	—	—	—	—	—	11·05	34·54	26·44	161	5471
42	5·41	34·36	27·14	94	4163	—	—	—	—	—

STATION Sc. 46—*continued.*

Latitude, 56° 10′ N. ; Longitude, 2° 45′ W.—*continued.*

Depth (Metres).	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′
—	1906, 20/x, 11h. 30m. a.m.					1906, 20/xii, 11h. 35m. p.m.				
0	10·85	34·43	26·67	166	0	7·35	34·36	26·89	118	0
10	10·91	34·49	26·71	162	1640	7·55	34·40	26·90	117	1175
20	11·01	34·52	26·74	161	3255	—	—	—	—	—
23	—	—	—	—	—	7·62	34·40	26·89	118	2702·5
37	11·06	34·52	26·74	162	6000·5	—	—	—	—	—

STATION Sc. 47.

Latitude, 58° 24′ N. ; Longitude, 2° 45′ W.

—	1906, 5/vii, 8h. 55m. a.m.—10h. a.m.					——				
0	10·05	35·07	27·01	104	0	—	—	—	—	—
10	9·76	35·07	27·06	101	1025	—	—	—	—	—
20	9·36	35·07	27·13	95	2005	—	—	—	—	—
30	9·20	35·07	27·16	92	2940	—	—	—	—	—
40	8·89	35·08	27·22	87	3835	—	—	—	—	—
50	8·86	35·08	27·23	88	4710	—	—	—	—	—
75	8·86	35·08	27·23	88	6910	—	—	—	—	—

STATION Sc. 48.

Latitude, 58° 44′ N. ; Longitude, 3° 10′ W.

—	1906, 5/vii, 12h. 35m. p.m.—1h. 40m. p.m.					——				
0	9·65	35·03	27·05	102	0	—	—	—	—	—
10	9·41	35·03	27·10	97	995	—	—	—	—	—
20	9·39	35·03	27·10	97	1965	—	—	—	—	—
30	9·39	35·03	27·10	98	2940	—	—	—	—	—
40	9·39	35·03	27·10	98	3920	—	—	—	—	—
60	9·39	35·03	27·10	99	5890	—	—	—	—	—
82	9·39	35·03	27·10	99	8068	—	—	—	—	—

STATION Sc. 49.

Latitude, 59° 00′ N. ; Longitude, 4° 00′ W.

—	1906, 5/vii, 4h. 30m. p.m.—7h. p.m.					1906, 17/ix, 10h. a.m.				
0	9·65	34·97	27·02	107	0	12·05	35·12	26·70	136	0
10	9·62	34·97	27·02	106	1065	—	—	—	—	—
20	9·02	34·96	27·11	97	2080	11·94	35·12	26·72	134	2700
30	8·94	34·96	27·12	96	3045	—	—	—	—	—
49	8·92	34·96	27·13	96	4869	—	—	—	—	—
50	—	—	—	—	—	11·91	35·12	26·72	134	6720
91	—	—	—	—	—	11·91	35·12	26·72	136	12255

STATION Sc. 54.

Latitude, 59° 10′ N. ; Longitude, 7° 00′ W.

Depth (Metres).	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′
—	1906, 12/vii, 2h. 25m. a.m.—5h. 45m. a.m.									
0	11·15	35·37	27·06	102	0	—	—	—	—	—
10	11·42	35·37	27·01	105	1035	—	—	—	—	—
20	11·32	35·37	27·03	103	2075	—	—	—	—	—
30	11·10	35·37	27·07	101	3095	—	—	—	—	—
40	10·50	35·37	27·18	91	4055	—	—	—	—	—
60	9·72	35·37	27·31	79	5755	—	—	—	—	—
80	9·41	35·34	27·33	78	7325	—	—	—	—	—
100	9·37	35·35	27·35	77	8875	—	—	—	—	—
182	9·17	35·35	27·38	75	15107	—	—	—	—	—

STATION Sc. 55.

Latitude, 58° 44′ N. ; Longitude, 7° 00′ W.

—	1906, 11/vii, 8h. 40m. p.m.—11h. 40m. p.m.									
0	11·35	35·37	27·03	106	0	—	—	—	—	—
10	11·30	35·37	27·03	105	1055	—	—	—	—	—
20	11·22	35·37	27·05	103	2095	—	—	—	—	—
30	11·10	35·37	27·07	102	3120	—	—	—	—	—
40	10·25	35·37	27·23	88	4070	—	—	—	—	—
60	9·13	35·35	27·40	71	5660	—	—	—	—	—
80	8·91	35·35	27·44	68	7050	—	—	—	—	—
108	8·91	35·35	27·44	69	8968	—	—	—	—	—

STATION Sc. 56.

Latitude, 58° 44′ N. ; Longitude, 6° 00′ W.

—	1906, 11/vii, 2h. 25m. p.m.—5h. 35m. p.m.									
0	11·35	35·26	26·93	107	0	—	—	—	—	—
10	11·50	35·26	26·91	109	1080	—	—	—	—	—
20	11·40	35·26	26·93	107	2160	—	—	—	—	—
30	10·80	35·26	27·04	97	3180	—	—	—	—	—
50	10·40	35·26	27·11	90	5050	—	—	—	—	—
60	8·77	35·26	27·39	66	6610	—	—	—	—	—
70	8·52	35·26	27·43	63	7255	—	—	—	—	—
90	8·23	35·26	27·47	58	8465	—	—	—	—	—
115	8·23	35·26	27·47	58	9915	—	—	—	—	—

STATION Sc. 57.

Latitude, 58° 44′ N. ; Longitude, 5° 00′ W.

—	1906, 12/vii, 2h. 25m. a.m.—5h. 45m. a.m.									
0	10·45	34·92	26·82	123	0	—	—	—	—	—
10	10·20	34·92	26·87	118	1205	—	—	—	—	—
20	10·60	34·92	26·80	125	2420	—	—	—	—	—
30	10·49	34·92	26·82	124	3665	—	—	—	—	—
40	10·39	34·92	26·84	122	4895	—	—	—	—	—
60	9·70	34·94	26·97	111	7225	—	—	—	—	—
88	9·17	34·99	27·10	100	10179	—	—	—	—	—

Station Sc. 58.

Latitude, 58° 44′ N.; Longitude, 4° 00′ W.

Depth (Metres).	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′
—	1906, 12/vii, 7h. p.m.—9h. 40m. p.m.					——				
0	10·55	34·88	26·79	128	0	—	—	—	—	—
10	10·41	34·88	26·81	125	1265	—	—	—	—	—
20	9·88	34·90	26·93	115	2465	—	—	—	—	—
30	9·72	34·90	26·96	113	3605	—	—	—	—	—
40	9·61	34·90	26·97	111	4725	—	—	—	—	—
60	9·29	34·90	27·02	108	6915	—	—	—	—	—
80	9·22	34·90	27·03	106	9055	—	—	—	—	—
105	9·21	34·90	27·03	107	11717	—	—	—	—	—

Station Sc. 24*a*.

Latitude, 58° 54′ N.; Longitude, 1° 05′ E.

—	1906, 27/vii, 4h. 50m. p.m.—6h. 50m. p.m.					——				
0	12·75	35·21	26·62	141	0	—	—	—	—	—
10	11·59	35·21	26·85	121	1310	—	—	—	—	—
20	10·54	35·21	27·05	102	2425	—	—	—	—	—
30	10·31	35·21	27·09	99	3430	—	—	—	—	—
40	9·12	35·23	27·30	79	4320	—	—	—	—	—
50	7·29	35·25	27·59	52	4975	—	—	—	—	—
60	6·82	35·26	27·68	44	5455	—	—	—	—	—
80	6·39	35·26	27·73	39	6285	—	—	—	—	—
100	6·29	35·26	27·74	39	7065	—	—	—	—	—
125	6·21	35·26	27·75	38	8027	—	—	—	—	—

Station Sc. 23*a*.

Latitude, 59° 27′ N.; Longitude, 1° 32′ E.

—	1906, 27/vii, 10h. 50m. a.m.—12h. 55m. p.m.					——				
0	11·85	35·21	26·80	126	0	—	—	—	—	—
10	10·39	35·21	27·07	100	1130	—	—	—	—	—
20	9·79	35·21	27·17	90	2080	—	—	—	—	—
30	9·24	35·21	27·27	81	2935	—	—	—	—	—
40	7·78	35·25	27·52	58	3630	—	—	—	—	—
60	6·50	35·26	27·72	40	4610	—	—	—	—	—
80	6·49	35·26	27·72	41	5420	—	—	—	—	—
115	6·49	35·26	27·72	41	6855	—	—	—	—	—

Station Sc. 6*b*.

Latitude, 60° 00′ N.; Longitude, 2° 02′ E.

—	1906, 27/vii, 4h. 25m. a.m.—6h. 40m. a.m.					——				
0	11·75	35·07	26·70	135	0	—	—	—	—	—
10	11·46	35·07	26·76	130	1325	—	—	—	—	—
20	10·22	35·07	26·98	107	2510	—	—	—	—	—
30	10·06	35·08	27·02	105	3570	—	—	—	—	—
40	7·40	35·25	27·55	52	4355	—	—	—	—	—
60	6·85	35·26	27·67	45	5325	—	—	—	—	—
80	6·76	35·26	27·68	45	6225	—	—	—	—	—
107	6·76	35·26	27·68	45	7440	—	—	—	—	—

Station Sc. 11*a*.

Latitude, 61° 42′ N.; Longitude, 2° 00′ W.

Depth (Metres).	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′
—	1906, 11/iv, 5h. 20m. p.m.—10h. p.m.					1906, 1/ix, 11h. p.m.				
0	7·35	35·32	27·64	46	0	11·00	35·25	26·98	108	0
10	7·44	35·32	27·63	46	460	11·10	35·25	26·96	110	1090
20	7·34	35·32	27·64	46	920	11·00	35·25	26·98	108	2180
30	7·28	35·32	27·65	45	1375	10·88	35·26	27·02	105	3245
40	7·23	35·32	27·65	44	1820	9·78	35·28	27·21	85	4195
60	7·22	35·32	27·65	45	2710	9·21	35·30	27·35	75	5795
80	7·22	35·32	27·65	45	3610	9·07	35·32	27·38	73	7275
100	7·22	35·32	27·65	46	4520	8·99	35·32	27·39	72	8725
150	7·03	35·26	27·65	48	6870	8·92	35·32	27·40	72	12325
200	6·89	35·25	27·65	48	9270	8·82	35·32	27·42	71	15900
250	6·54	35·21	27·67	48	11670	—	—	—	—	—
300	—	—	—	—	—	8·30	35·28	27·46	69	22900
350	5·98	35·14	27·69	48	16470	—	—	—	—	—
400	—	—	—	—	—	8·06	35·25	27·47	71	29900
450	5·04	35·07	27·75	40	20870	—	—	—	—	—
500	3·86	34·96	27·78	37	22795	7·10	35·17	27·57	63	36600
550	2·77	34·94	27·89	27	24395	—	—	—	—	—
600	—	—	—	—	—	4·56	34·99	27·74	45	42000
650	1·63	34·94	28·02	12	26345	—	—	—	—	—
700	—	—	—	—	—	1·45	34·92	27·97	18	45150
750	0·31	34·94	28·06	7	27295	—	—	—	—	—
800	—	—	—	—	—	—	34·92	—	—	—
850	0·11	34·94	28·075	5	27895	—	—	—	—	—
900	—	—	—	—	—	+0·66	34·92	28·03	12	48150
1000	−0·12	34·94	28·085	4	28570	−0·39	34·92	28·08	2	48850
1300	—	—	—	—	—	−0·96	34·92	28·11	0	49150
	(Wire insufficient to reach bottom.)									

Station Sc. 50.

Latitude, 59° 21′ N.; Longitude, 5° 00′ W.

—	1906, 5/vii, 11h. p.m.—2h. a.m.					1906, 17/ix, 2h. 30m. p.m.				
0	10·85	35·35	27·10	99	0	12·25	35·23	26·73	133	0
10	11·12	35·35	27·05	103	1010	12·22	35·23	26·74	133	2260
20	11·12	35·34	27·04	104	2045	10·98	35·23	26·97	110	6305
30	10·68	35·34	27·12	88	3005	—	—	—	—	—
40	10·24	35·34	27·19	88	3885	—	—	—	—	—
50	8·84	35·32	27·42	67	4660	—	—	—	—	—
60	8·76	35·30	27·42	69	5340	—	—	—	—	—
80	8·40	35·30	27·47	64	6670	—	—	—	—	—
100	8·32	35·30	27·48	63	7940	—	—	—	—	—
115	—	—	—	—	—	9·52	35·23	27·24	88	12740
125	8·27	35·30	27·49	63	9515	—	—	—	—	—

Station Sc. 51.

Latitude, 59° 41′ N.; Longitude, 6° 00′ W.

—	1906, 6/vii, 5h. 55m. a.m.—9h. 30m. a.m.					1906, 17/ix, 7h. 30m. p.m.				
0	10·75	35·37	27·14	95	0	12·15	35·23	26·75	131	0
10	10·78	35·37	27·13	95	950	—	—	—	—	—
20	10·59	35·37	27·16	92	1885	12·11	35·23	26·76	131	2620
30	10·30	35·37	27·22	88	2785	—	—	—	—	—
40	10·19	35·37	27·23	87	3660	12·10	35·23	26·76	131	5240
60	9·86	35·37	27·28	82	5350	11·86	35·23	26·80	126	7810
80	9·39	35·35	27·34	76	6930	9·99	35·23	27·15	95	10020
100	9·21	35·35	27·38	73	8420	—	—	—	—	—
150	8·98	35·35	27·43	71	12020	—	—	—	—	—
165	—	—	—	—	—	9·32	35·23	27·26	85	17670
230	8·48	35·35	27·50	54	17020	—	—	—	—	—

STATION Sc. 51*a*.

Latitude, 59° 47′ N.; Longitude, 6° 19′ W.

Depth (Metres).	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′
—	1906, 17/ix, 10h. p.m.					———				
0	12·15	35·25	26·76	128	0	—	—	—	—	—
20	12·10	35·25	26·77	128	2560	—	—	—	—	—
60	12·09	35·25	26·77	129	7700	—	—	—	—	—
80	12·09	35·25	26·77	130	10290	—	—	—	—	—
100	9·99	35·25	27·16	96	12550	—	—	—	—	—
235	9·31	35·25	27·27	85	24767	—	—	—	—	—

STATION Sc. 51*b*.

Latitude, 59° 53′ N.; Longitude, 6° 38′ W.

—	1906, 17/ix, 11h. 50m. p.m.					———				
0	11·95	35·28	26·83	123	0	—	—	—	—	—
20	11·88	35·28	26·84	121	2440	—	—	—	—	—
60	11·70	35·28	26·88	117	7200	—	—	—	—	—
80	9·80	35·28	27·24	87	9240	—	—	—	—	—
100	9·33	35·28	27·30	80	10910	—	—	—	—	—
200	8·75	35·28	27·59	72	18510	—	—	—	—	—
400	8·39	35·28	27·45	70	32710	—	—	—	—	—
800	8·09	35·28	27·50	75	61610	—	—	—	—	—

STATION Sc. 52.

Latitude, 60° 00′ N.; Longitude, 7° 00′ W.

—	1906, 6/vii, 1h. 30m. p.m.—6h. p.m.					1906, 18/ix, 3h. 25m. a.m.				
0	11·45	35·37	27·00	107	0	11·35	35·30	26·97	111	0
10	11·28	35·37	27·03	103	1050	—	—	—	—	—
20	10·79	35·37	27·13	95	2040	11·36	35·30	26·97	111	2220
30	10·39	35·37	27·20	89	2960	—	—	—	—	—
40	10·01	35·37	27·27	82	3815	10·90	35·30	27·05	102	4350
60	9·09	35·35	27·39	71	5345	9·92	35·30	27·22	88	6250
80	8·73	35·35	27·47	65	6705	—	—	—	—	—
100	8·63	35·35	27·48	64	7995	9·22	35·30	27·34	77	9550
250	8·32	35·34	27·50	64	17595	—	—	—	—	—
400	—	—	—	—	—	8·36	35·30	27·47	71	31750
500	8·14	35·34	27·53	66	33845	—	—	—	—	—
750	8·04	35·32	27·53	72	51095	—	—	—	—	—
800	—	—	—	—	—	8·11	35·30	27·52	76	61150
1000	7·39	35·30	27·62	68	68595	—	—	—	—	—

STATION Sc. 52*a*.

Latitude, 59° 55′ N.; Longitude, 7° 06′ W.

—	1906, 18/ix, 9h. 15m. a.m.					———				
0	11·35	35·25	26·91	115	0	—	—	—	—	—
20	11·30	35·25	26·92	114	2290	—	—	—	—	—
40	11·28	35·25	26·93	114	4570	—	—	—	—	—
60	11·21	35·25	26·94	114	6850	—	—	—	—	—
100	9·30	35·25	27·28	83	10790	—	—	—	—	—
500	8·29	35·25	27·44	76	42590	—	—	—	—	—
900	7·96	35·23	27·47	81	73990	—	—	—	—	—

STATION Sc. 52*b*.

Latitude, 59° 48′ N.; Longitude, 7° 25′ W.

Depth (Metres).	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′
—	1906, 20/ix, 11h. 55m. p.m.					——				
0	10·85	35·25	27·01	107	0	—	—	—	—	—
20	10·88	35·25	27·00	108	2150	—	—	—	—	—
50	10·78	35·25	27·02	106	5360	—	—	—	—	—
100	10·01	35·25	27·16	95	10385	—	—	—	—	—
522	8·04	35·25	27·48	72	45622	—	—	—	—	—

STATION Sc. 52*c*.

Latitude, 60° 09′ N.; Longitude, 6° 35′ W.

—	1906, 21/ix, 4h. 15m. a.m.					——				
0	10·95	35·23	26·98	109	0	—	—	—	—	—
20	10·99	35·23	26·97	110	2190	—	—	—	—	—
50	10·61	35·23	27·04	103	5385	—	—	—	—	—
100	9·22	35·23	27·28	83	10035	—	—	—	—	—
200	8·56	35·23	27·39	76	17985	—	—	—	—	—
400	8·15	35·21	27·44	75	33085	—	—	—	—	—
500	6·56	35·16	27·62	58	39735	—	—	—	—	—
600	3·78	34·96	27·79	39	44585	—	—	—	—	—

STATION Sc. 52*d*.

Latitude, 60° 17′ N.; Longitude, 6° 11′ W.

—	1906, 21/ix, 8h. 55m. a.m.					——				
0	9·45	35·14	27·17	91	0	—	—	—	—	—
20	9·66	35·14	27·13	94	1850	—	—	—	—	—
50	9·21	35·14	27·21	87	4565	—	—	—	—	—
100	8·31	35·14	27·36	76	8640	—	—	—	—	—
200	7·47	35·14	27·48	66	15740	—	—	—	—	—
300	6·25	35·12	27·64	53	21690	—	—	—	—	—
400	4·31	35·05	27·81	35	26090	—	—	—	—	—
500	2·61	34·92	27·88	28	29240	—	—	—	—	—
600	0·64	34·92	28·02	11	31190	—	—	—	—	—
800	+0·01	34·92	28·06	6	32890	—	—	—	—	—
1100	−0·86	34·92	28·10	−1	33640	—	—	—	—	—

STATION Sc. 52*e*.

Latitude, 60° 09′ N.; Longitude, 5° 53′ W.

—	1906, 21/ix, 1h. 10m. p.m.					——				
0	10·35	35·21	27·08	102	0	—	—	—	—	—
20	10·05	35·21	27·13	97	1990	—	—	—	—	—
50	9·61	35·21	27·21	90	4795	—	—	—	—	—
100	8·39	35·21	27·40	74	8895	—	—	—	—	—
200	7·61	35·21	27·53	64	15795	—	—	—	—	—
300	6·61	35·19	27·64	52	21595	—	—	—	—	—
400	—	35·19	—	—	—	—	—	—	—	—
500	1·60	34·92	27·96	18	28595	—	—	—	—	—
600	+0·35	34·92	28·05	9	29945	—	—	—	—	—
1200	−0·83	34·92	28·10	−1	32945	—	—	—	—	—

STATION Sc. 52*f*.

Latitude, 60° 02′ N. ; Longitude, 5° 39′ W.

Depth (Metres).	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′	Temp. °C.	S.°/₀₀	σt.	v—v′	e—e′
—	1906, 21/ix, 5h. 30m. p.m.					——				
0	11·15	35·30	27·00	108	0	—	—	—	—	—
20	10·39	35·30	27·14	94	2020	—	—	—	—	—
50	9·88	35·30	27·22	87	4735	—	—	—	—	—
100	9·69	35·30	27·25	85	9035	—	—	—	—	—
200	8·42	35·28	27·45	70	16785	—	—	—	—	—
300	8·25	35·26	27·46	71	23835	—	—	—	—	—
400	4·73	35·07	27·78	38	29285	—	—	—	—	—

STATION Sc. 52*g*.

Latitude, 59° 53′ N. ; Longitude, 5° 20′ W.

—	1906, 21/ix, 7h. 30m. p.m.					——				
0	11·35	35·32	26·98	109	0	—	—	—	—	—
20	11·01	35·32	27·04	102	2110	—	—	—	—	—
50	10·10	35·32	27·20	88	4960	—	—	—	—	—
100	9·61	35·32	27·28	82	9210	—	—	—	—	—
200	9·33	35·32	27·32	80	17310	—	—	—	—	—
355	9·05	35·32	27·37	78	29555	—	—	—	—	—

STATION Sc. 52*h*.

Latitude, 59° 44′ N. ; Longitude, 5° 02′ W.

—	1906, 21/ix, 10h. p.m.					——				
0	11·85	35·32	26·88	118	0	—	—	—	—	—
20	12·10	35·32	26·83	122	2400	—	—	—	—	—
50	10·70	35·32	27·09	98	5700	—	—	—	—	—
100	9·80	35·32	27·25	85	10275	—	—	—	—	—
152	9·54	35·32	27·29	81	14591	—	—	—	—	—

STATION Sc. 53.

Latitude, 59° 36′ N. ; Longitude, 7° 00′ W.

—	1906, 6/vii, 8h. 35m. p.m.—3h. 45m. a.m.					——				
0	11·75	35·37	26·94	113	0	—	—	—	—	—
10	11·75	35·37	26·94	113	1130	—	—	—	—	—
20	10·66	35·37	27·15	93	2110	—	—	—	—	—
30	9·83	35·37	27·30	80	2975	—	—	—	—	—
40	9·26	35·35	27·37	74	3745	—	—	—	—	—
60	8·98	35·35	27·43	69	5175	—	—	—	—	—
80	8·90	35·35	27·44	68	6545	—	—	—	—	—
100	8·83	35·35	27·45	67	7895	—	—	—	—	—
250	8·41	35·34	27·50	65	17795	—	—	—	—	—
500	8·18	35·34	27·53	67	34295	—	—	—	—	—
750	8·18	35·32	27·52	74	51910	—	—	—	—	—
1000	7·95	35·30	27·54	79	71045	—	—	—	—	—

Surface Observations, January—February 1906.

Station.	Time.		Locality.		Air.	Water.	
	Date.	Hour.	Latitude.	Longitude.	Temp. °C.	Temp. °C.	S.°/₀₀
			° ′	° ′			
Sc. 26	23 Jan.	7 a.m.	58 09 N.	1 50 W.	5·6	6·55	34·94
	,,	8 ,,	9 miles N.N.E.		5·8	6·85	34·99
	,,	9 ,,	18	,,	7·0	7·05	35·03
Sc. 2	,,	11 ,,	58 36 N.	1 46 W.	7·2	7·15	35·05
	,,	12½ p.m.	9¼ miles N.E. by N.		7·5	7·25	35·05
	,,	1½ ,,	18¾	,,	7·7	7·25	35·05
	,,	2½ ,,	28½	,,	7·7	7·25	35·05
Sc. 3	,,	4 ,,	59 10 N.	1 27 W.	7·0	7·25	35·07
	,,	5 ,,	9½ miles N.E. by N.		7·1	7·35	35·19
Sc. 4	,,	6½ ,,	59 26 N.	1 20 W.	7·3	7·25	35·30
	,,	8 ,,	9½ miles N.E. by N.		7·4	7·15	35·28
Sc. 23	29 Jan.	4½ ,,	59 31 N.	0 37 E.	5·0	6·75	35·30
	,,	6 ,,	9 miles W.N.W.		5·2	6·75	35·28
	,,	7 ,,	17	,,	5·4	6·85	35·30
	,,	8 ,,	25½	,,	5·6	6·55	35·30
Sc. 5	4 Feb.	6½ ,,	59 40 N.	1 14 W.	4·1	6·35	35·30
	,,	8 ,,	9 miles S.E. by E. ¼ E.		3·7	6·45	35·30
Sc. 22	,,	9 ,,	59 36 N.	0 41 W.	3·5	6·55	35·30
	,,	10½ ,,	9 miles S. by E. ¼ E.		3·7	6·55	35·30
	,,	11½ ,,	18	,,	4·0	6·55	35·30
	5 Feb.	12½ a.m.	27	,,	4·2	6·55	35·28
	,,	1½ ,,	37	,,	4·5	6·55	35·28
Sc. 24	,,	3 ,,	58 55 N.	0 04 E.	4·6	6·55	35·28
	,,	4 ,,	9 miles S.W. ¾ S.		4·9	6·85	35·28
	,,	5 ,,	17½	,,	4·8	6·65	35·28
	,,	6 ,,	28	,,	4·8	6·85	35·25
	,,	7 ,,	37	,,	4·5	6·65	35·21
Sc. 25	,,	9 ,,	58 11 N.	0 32 W.	4·7	6·65	35·19
	,,	10 ,,	8½ miles S.W. ¼ W.		4·0	6·55	35·16
	,,	11 ,,	17¼	,,	3·4	6·35	35·12
	,,	12 noon	25¼	,,	3·5	6·05	35·05
	,,	1 p.m	33	,,	3·6	6·05	34·99
Sc. 27	,,	2 ,,	57 30 N.	1 19 W.	4·2	6·15	34·96

Surface Observations, April 1906.

Sc. 26	6 April	7 p.m.	58 09 N.	1 50 W.	6·4	5·85	35·12
	,,	9 ,,	9 miles N.N.E.		6·3	5·85	35·21
	,,	10 ,,	18	,,	6·0	5·85	35·28
Sc. 2	,,	11 ,,	58 36 N.	1 46 W.	6·5	6·05	35·32
	7 April	12½ a.m.	8¼ miles N.E. by N.		7·1	5·95	35·32
	,,	1½ ,,	16¾	,, ,,	7·9	5·85	35·34
	,,	2½ ,,	25¼	,, ,,	7·1	6·25	35·32
Sc. 3	,,	4 ,,	59 10 N.	1 27 W.	6·9	6·55	35·32
	,,	5½ ,,	9¼ miles N.E. by N. ¼ N.		7·3	6·05	35·34
Sc. 4	,,	6½ ,,	59 26 N.	1 20 W.	7·4	6·25	35·32
	,,	8 ,,	8½ miles N.E. by N. ¼ N.		7·4	6·05	35·32
Sc. 5	,,	9½ ,,	59 40 N.	1 14 W.	7·2	6·05	35·32
	,,	11 ,,	9 miles S.E. by E. ¼ E.		7·0	6·05	35·30
Sc. 22	,,	12½ p.m.	59 36 N.	0 41 W.	7·1	6·05	35·26
	,,	2 ,,	9½ miles N. by E.		7·0	6·05	35·30
	,,	3 ,,	17½	,,	7·0	6·15	35·30
	,,	4 ,,	26	,,	7·5	6·25	35·32
Sc. 5*a*	,,	5 ,,	60 05 N.	0 48 W.	7·3	6·35	35·32
Sc. 5*b*	10 April	11½ a.m.	60 34 N.	0 29 W.	7·5	7·25	35·32
	11 April	9½ ,,	Muckle Flugga S. by E. ½ E. ½ mile.		8·1	7·05	35·32
	,,	10½ ,,	Muckle Flugga S. by E. ½ E. 8 miles.		7·8	7·65	35·32

SURFACE OBSERVATIONS, APRIL 1906—*continued.*

Station.	Time.		Locality.		Air.	Water.	
	Date.	Hour.	Latitude.	Longitude.	Temp. °C.	Temp. °C.	S.‰
			° ′	° ′			
Sc. 12	14 April	11½ a.m.	61 02 N.	1 10 W.	7·9	7·75	35·32
	,,	1 p.m.	9 miles N. by W. ¼ W.		8·1	7·85	35·32
	,,	2 ,,	19½ ,,	,,	8·3	7·95	35·30
	,,	3 ,,	27 ,,	,,	7·8	8·15	35·32
	,,	4 ,,	36 ,,	,,	7·8	7·35	35·32
Sc. 11	,,	5½ ,,	61 42 N.	2 00 W.	8·1	7·65	35·32
	,,	11 ,,	9½ miles E.S.E.		8·1	7·55	35·34
	,,	12 ,,	18½ ,,		8·0	7·65	35·32
	12 April	1 a.m.	27½ ,,		7·5	7·65	35·32
Sc. 11	12 April	2½ ,,	61 38 N.	0 41 W.	7·3	7·55	35·30
	,,	4½ ,,	9½ miles E. by S. ¾ S.		7·2	7·35	35·30
	,,	5½ ,,	18 ,,	,,	7·5	7·35	35·28
	,,	6½ ,,	27 ,,	,,	7·8	7·35	35·26
	,,	7½ ,,	37 ,,	,,	7·9	7·55	35·28
Sc. 10	,,	8½ ,,	61 35 N.	0 47 E.	7·8	7·45	35·28
	,,	10 ,,	9½ miles E. by S. ¾ S.		6·8	7·45	35·28
	,,	11 ,,	18½ ,,	,,	7·0	7·45	35·26
	,,	12 ,,	27 ,,	,,	7·8	7·25	35·23
Sc. 9	,,	2 p.m.	61 34 N.	2 04 E.	8·1	7·05	35·19
	,,	5 ,,	12 miles E.S.E.		7·5	5·35	34·29
Sc. 8	,,	7 ,,	61 30 N.	3 03 E.	7·4	5·25	34·18
	,,	9½ ,,	12½ miles S.W. by W. ¾ W.		8·1	6·85	35·23
	,,	11 ,,	25 ,,	,,	7·1	6·95	35·30
Sc. 7	13 April	1 a.m.	61 06 N.	2 01 E.	7·4	6·65	35·32
	,,	3 ,,	13 miles S. by E. ½ E.		7·3	6·65	35·30
Sc. 7*a*	,,	4½ ,,	60 45 N.	2 30 E.	7·5	6·75	35·32
	,,	6½ ,,	13 miles W. by S.		7·0	6·55	35·32
Sc. 7*b*	,,	8½ ,,	60 35 N.	1 50 E.	7·5	6·65	35·32
	,,	9½ ,,	9 miles W. ¾ N.		7·4	6·75	35·34
Sc. 7*c*	,,	11 ,,	60 34 N.	1 15 E.	7·9	7·05	35·32
	,,	12½ p.m.	9 miles W.N.W.		8·2	7·15	35·32
Sc. 6	,,	2 ,,	60 37 N.	0 29 E.	8·4	7·35	35·32
	,,	4 ,,	9½ miles S. by W.		8·2	7·35	35·30
	,,	5 ,,	23 ,,	,,	8·0	6·85	35·32
Sc. 6*a*	,,	6 ,,	60 05 N.	0 33 E.	6·9	6·75	35·32
	,,	8 ,,	11½ miles S. by W.		6·8	6·35	35·30
	,,	9 ,,	24½ ,,	,,	6·8	6·35	35·30
Sc. 23	,,	10½ ,,	59 31 N.	0 37 E.	6·7	6·25	35·28
	14 April	12½ a.m.	14½ miles S.W. ½ S.		6·9	6·15	35·28
Sc. 24	,,	4 ,,	58 55 N.	0 04 E.	6·9	6·15	35·28
	,,	6 ,,	22 miles S.W. ½ S.		6·9	6·15	35·30
	,,	8 ,,	34½ ,,	,,	5·4	6·25	35·28
Sc. 25	,,	10 ,,	58 11 N.	0 32 W.	5·4	6·45	35·28
	,,	12 ,,	9 miles S.W. ¼ W.		6·5	6·35	35·28
	,,	1 p.m.	18¼ ,,	,,	6·8	6·35	35·25
	,,	2 ,,	27¼ ,,	,,	7·2	6·45	35·23
	,,	3 ,,	35¾ ,,	,,	7·4	6·05	34·99
Sc. 27	,,	4 ,,	Buchau Deep		7·3	5·75	34·96
	,,	5 ,,	9 miles S.W. by W. ½ W.		7·4	5·65	34·76
	,,	6 ,,	18½ ,,	,,	7·5	5·55	34·61

SURFACE OBSERVATIONS, JUNE 1906.

Sc. 26	12 June	12 a.m.	58 09	1 50 W.	11·2	9·85	35·23
	,,	1½ ,,	9½ miles N.E. by E. ½ N.		11·2	10·05	35·23
	,,	2½ ,,	18½ ,,	,,	11·3	11·05	35·25
Sc. 2	,,	4 ,,	58 36 N.	1 46 W.	11·8	10·35	35·25
	,,	5 ,,	8¾ miles N.E. by N. ½ N.		11·2	10·55	35·25
	,,	6 ,,	16½ ,,	,,	10·2	9·95	35·25
	,,	7 ,,	24½ ,,	,,	10·1	9·45	35·26
Sc. 3	,,	8 ,,	59 10	1 27 W.	10·2	8·45	35·26
	,,	9 ,,	9½ miles N.E. by N. ½ N.		10·8	8·25	35·26

SURFACE OBSERVATIONS, JUNE 1906—*continued.*

Station.	Time.		Locality.		Air.	Water.	
	Date.	Hour.	Latitude.	Longitude.	Temp. °C.	Temp. °C.	S.°/₀₀
			° ′	° ′			
Sc. 4	12 June	11½ a.m.	59 26 N.	1 20 W.	10·9	8·85	35·26
	,,	1½ p.m.	9 miles N.E. by N. ½ N.		10·0	8·55	35·26
Sc. 5	,,	3½ ,,	59 40	1 14 W.	9·5	7·95	35·26
Sc. 5*a*	13 June	3 ,,	60 05	0 48 W.	10·1	9·15	35·26
	,,	4½ ,,	8¾ miles N.E. by N. ½ N.		9·9	8·75	35·25
	,,	5½ ,,	18½ ,,	,,	10·1	8·15	35·26
Sc. 5*b*	,,	7 ,,	60 31 N.	0 35 W.	10·0	8·85	35·26
Sc. 12	14 June	6 ,,	61 02 N.	1 10 W.	9·8	9·55	35·26
	,,	7½ ,,	9 miles N.W.		9·6	9·55	35·26
	,,	8½ ,,	18 ,,		9·4	9·25	35·30
	,,	9½ ,,	27 ,,		9·8	9·45	35·28
Sc. 13*a*	,,	11½ ,,	61 16 N.	2 08 W.	9·4	8·85	35·26
	15 June	3 a.m.	9 miles N.W. by W. ¾ W.		9·2	8·85	35·26
	,,	4 ,,	19½ ,,	,,	8·9	8·55	35·26
Sc. 14*a*	,,	5 ,,	61 18	2 59 W.	8·7	8·75	35·26
	,,	10 ,,	9 miles N.W. ¼ W.		10·1	9·35	35·30
Sc. 15*a*	,,	11½ ,,	61 27	3 42 W.	9·9	8·55	35·19
	,,	5½ p.m.	9½ miles N.W. ¼ W.		9·5	9·25	35·23
	,,	6½ ,,	19 ,,	,,	9·7	9·45	35·23
	,,	7½ ,,	28 ,,	,,	8·5	8·75	35·21
Sc. 15*b*	,,	10½ ,,	61 39 N.	4 45 W.	8·6	8·75	35·26
	16 June	2 a.m.	9 miles N.W. ¼ W.		9·0	8·65	35·23
Sc. 16*a*	,,	5½ ,,	61 49 N.	5 36 W.	9·7	8·75	35·19
	,,	6½ ,,	9 miles N.W. ¾ N.		9·3	8·55	35·21
	,,	7½ ,,	18½ ,,	,,	9·3	8·65	35·23
Sc. 16	,,	8½ ,,	62 00 N.	6 12 W.	9·2	8·45	35·19
	,,	10 ,,	9 miles W. by N.		9·2	7·25	35·19
Sc. 17	18 June	12½ p.m.	61 11 N.	6 33 W.	11·1	7·55	35·21
	,,	1½ ,,	9 miles S.E. ¾ S.		12·4	8·35	35·21
	,,	2½ ,,	18½ ,,	,,	12·2	9·55	35·23
Sc. 18*a*	,,	3½ ,,	60 57 N.	5 47 W.	12·0	10·05	35·30
	,,	7 ,,	9 miles S.E. ¾ S.		10·2	10·05	35·30
	,,	8 ,,	18¼ ,,	,,	10·7	10·25	35·30
	,,	9 ,,	27½ ,,	,,	10·6	10·05	35·30
Sc. 19*a*	,,	11 ,,	60 40 N.	4 50 W.	10·0	10·05	35·30
	19 June	3 a.m.	9 miles S.E. ½ S.		10·8	10.45	35·35
	,,	4 ,,	18½ ,,	,,	10·8	10·45	35·39
Sc. 19*b*	,,	6 ,,	60 26 N.	4 02 W.	11·3	10·75	35·37
	,,	8 ,,	9¼ miles S.E. by S.		11·4	10·55	35·37
Sc. 20*a*	,,	9 ,,	60 17 N.	3 36 W.	12·0	11·05	35·34
	,,	10½ ,,	9½ miles S. by E. ½ E.		12·8	11·35	35·34
Sc. 21*a*	,,	Noon	60 02 N.	3 13 W.	14·1	11·65	35·32
	,,	3½ p.m.	19 miles S.E. by E. ¼ E.		14·7	12·05	35·28
Sc. 21	,,	5 ,,	59 46 N.	2 21 W.	14·6	11·75	35·30
	,,	6 ,,	9 miles S.E. by E. ¼ E.		13·5	11·95	25·28
	,,	7 ,,	18¼ ,,	,,	13·5	12·45	35·28
	,,	8 ,,	27½ ,,	,,	11·4	10·35	35·26
	,,	9 ,,	37 ,,	,,	11·5	10·95	35·25
	,,	10 ,,	47 ,,	,,	11·2	11·05	35·26
Sc. 22	,,	11½ ,,	59 36 N.	0 41 W.	11·4	11·05	35·26
	20 June	1 a.m.	9½ miles S.E. by E. ¾ E.		11·7	11·15	35·25
	,,	2 ,,	18½ ,,	,,	11·4	11·15	35·21
	,,	3 ,,	29 ,,	,,	11·3	11·25	35·16
Sc. 23	,,	5 ,,	59 31 N.	0 37 E.	11·0	11·95	35·16
	,,	7½ ,,	9½ miles S.W. ¼ S.		12·0	11·75	35·16
	,,	8½ ,,	19 ,,	,,	12·7	12·05	35·16
	,,	9½ ,,	29 ,,	,,	14·7	12·15	35·17
Sc. 24	,,	11½ ,,	58 55 N.	1 30 W.	14·8	11·65	35·17
	,,	4 p.m.	9 miles S.W. ½ S.		14·6	12·75	35·17
	,,	5 ,,	18¼ ,,	,,	14·2	12·35	35·19
	,,	6 ,,	27½ ,,	,,	13·4	12·15	35·19
	,,	7 ,,	36¾ ,,	,,	13·8	12·05	35·19
Sc. 25	,,	8½ ,,	58 11 N.	0 32 W.	13·6	11·45	35·21
	,,	10 ,,	8½ miles S.W. ½ W.		13·1	11·25	35·21
	,,	11 ,,	17 ,,	,,	13·4	10·65	35·23
	21 June	12½ a.m.	25½ ,,	,,	14·0	10·55	35·21
	,,	1 ,,	34 ,,	,,	11·2	10·55	35·19
Sc. 27	,,	2 ,,	57 30 N.	1 19 W.	12·0	10·35	35·19

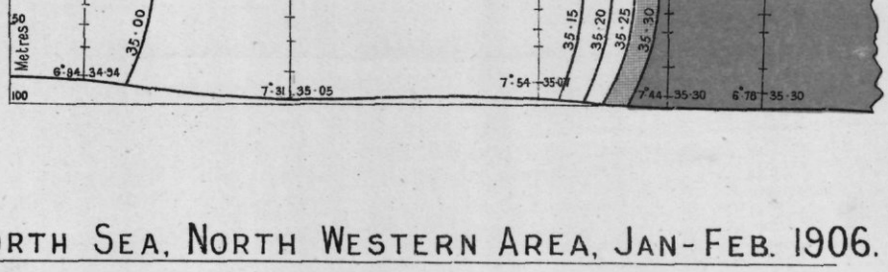
Surface Observations, August—September 1906.

Station.	Time.		Locality.		Air.	Water.	
	Date.	Hour.	Latitude.	Longitude.	Temp. °C.	Temp. °C.	S.‰
			° ′	° ′			
	7 Sept.	5 p.m.	18 miles S. by E. ½ E.		12·9	11·65	35·27
	„	6 „	26½ „ „		12·8	11·85	35·26
	„	7 „	35½ „ „		12·8	11·15	35·24
	„	8 „	44½ „ „		12·6	11·15	35·24
	„	9 „	53½ „ „		13·1	11·45	35·22
	„	10 „	62½ „ „		13·4	12·25	35·20
Sc. 24	„	11 a.m.	58 55	0 04 E.	13·4	12·05	35·18
	8 Sept.	1 „	9 miles S.W. ¼ S.		13·3	12·15	35·18
Sc. 25	„	6 „	58 11 N.	0 32 W.	12·8	11·85	35·17
	„	7½ „	9 miles S.W. ¼ S.		12·8	12·15	35·15
	„	8½ „	18 „ „		13·0	11·95	35·09
	„	9½ „	28 „ „		14·2	11·95	35·06
	„	10½ „	37 „ „		13·8	12·05	35·02
Sc. 27	„	noon	57 30	1 19 W.	13·8	12·05	35·00
	2 Sept.	10 a.m.	6½ miles E. by S. ½ S.		12·2	11·25	35·26
	„	11 „	13½ „		12·5	11·15	35·27
	„	12 „	20 „		12·7	11·25	35·26
	„	1 p.m.	26 „		12·2	11·35	35·26
Sc. 10	3 Sept.	1 „	61 35 N.	0 47 E.	14·1	11·85	35·26
	„	4½ „	8½ miles E. by S. ¾ S.		13·0	11·55	35·26
	„	5½ „	17 „		13·3	11·45	35·26
	„	6½ „	26 „		12·8	11·45	35·26
Sc. 9	„	7½ „	61 34 N.	2 04 E.	12·2	11·65	34·73
	„	11 „	8½ miles E. by S. ¾ S.		13·0	12·25	33·37
	„	12 „	17 „		12·3	12·15	33·60
	4 Sept.	1 a.m.	26 „		12·4	12·95	31·89
Sc. 8	„	3 „	61 30 N.	3 03 E.	13·0	12·35	31·35
	„	6½ „	18 miles S.W. by W. ¾ W.		12·0	12·75	31·55
	„	7½ „	27 „		12·2	11·85	34·63
	„	8½ „	35½ „		12·1	11·85	34·81
	„	9½ „	44 „		13·0	12·25	34·98
Sc. 7	„	10½ „	61 06 N.	2 01 E.	13·0	12·25	35·15
	„	2 p.m.	9 miles S.E. by S. ¾ S.		13·0	12·35	35·11
Sc. 7*a*	„	5 „	60 45 N.	2 30 E.	12·2	12·35	35·09
	„	7 „	9 miles W. by N.		12·1	12·55	35·17
	„	8 „	18 „		12·5	12·55	35·15
Sc. 7*b*	„	9 „	60 35 N.	1 50 E.	13·0	12·55	35·08
Sc. 7*c*	5 Sept.	1 am.	60 34 N.	1 15 E.	13·0	12·45	35·15
Sc. 6	„	4 „	60 37 N.	0 29 E.	12·2	12·05	35·18
Sc. 6*a*	„	10½ „	59 57 N.	0 33 E.	13·1	12·63	35·20
	„	noon	8½ miles S.S.W.		13·3	12·65	35·22
	„	1 p.m.	16½ „		13·3	12·65	35·20
Sc. 23	„	2½ „	59 31 N.	0 37 E.	13·6	12·95	35·18
	7 Sept.	4 „	9 miles S. by E. ½ E. from Sumburgh Head.		13·1	11·65	35·29
Sc. 15*a*	25 Aug.	6 a.m.	61 27 N.	3 42 W.	10·1	9·65	35·18
	„	9 „	8½ miles N.W.		10·2	9·55	35·18
	„	10 „	17½ „ „		10·5	9·35	35·18
	„	11 „	26 „ „		10·6	9·75	35·18
Sc. 15*b*	„	Noon	61 39 N.	4 45 W.	10·6	9·75	35·18
	„	3½ p.m.	8½ miles N.W.		11·0	9·85	35·20
Sc. 16*a*	„	5 „	61 49 N.	5 36 W.	10·5	9·65	35·18
	„	7 „	9 miles N.W. ¾ W.		10·0	9·55	35·20
Sc. 16	„	8½ „	62 00 N.	6 12 W.	11·3	8·95	35·17
	27 Aug.	7 „	5 miles S. ¾ E. from Munken Reef.		10·4	9·45	35·18
Sc. 17	„	8 „	61 11 N.	6 33 W.	10·6	9·85	35·18
	„	11 „	8½ miles S.E. ¾ E.		12·0	9·85	35·17
	„	12 „	17 „ „		11·7	10·05	35·20
Sc. 18*a*	28 Aug.	1½ a.m.	60 57 N.	5 47 W.	11·5	10·15	35·18
Sc. 19*a*	„	8 „	60 40 N.	4 50 W.	11·0	10·75	35·18
	„	3½ p.m.	9¼ miles S.E. ½ E.		12·5	11·05	35·18
	„	4½ „	18 „ „		12·6	11·85	35·27
Sc. 19*b*	„	6 „	60 26 N.	4 02 W.	12·4	11·85	35·33
	„	10 „	12 miles S.E. by S.		11·3	11·65	35·31
Sc. 20*a*	„	10½ „	60 17 N.	3 36 W.	12·2	11·55	35·33
	29 Aug.	1 a.m.	9 miles S. by E. ½ E.		10·8	11·45	35·33
Sc. 21*a*	„	2 „	60 02 N.	3 13 W.	10·9	11·55	35·31
Sc. 21	„	7 „	59 46 N.	2 21 W.	13·0	11·05	35·20

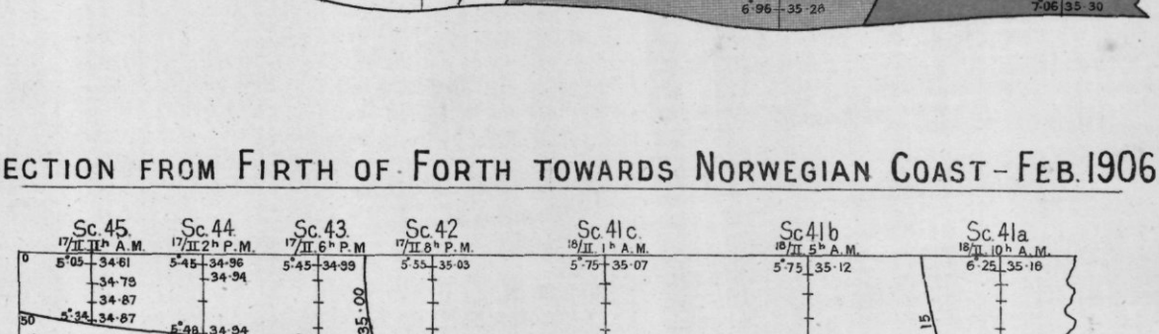
SURFACE OBSERVATIONS, AUGUST—SEPTEMBER 1906—*continued.*

Station.	Time.		Locality.		Air.	Water.	
	Date.	Hour.	Latitude.	Longitude.	Temp.° C.	Temp.° C.	S.°/₀₀
Sc. 12	1 Sept.	4 p.m.	61 02 N.	1 10 W.	12·2	11·75	35·33
	,,	7 ,,	9 miles N. by W. ½ W.		11·1	11·75	35·33
	,,	8 ,,	18 ,,	,,	12·2	11·55	35·29
	,,	9 ,,	27 ,,	,,	12·2	11·25	35·27
	,,	10 ,,	36 ,,	,,	12·0	11·05	35·26
Sc. 11*a*	,,	12 ,,	61 42 N.	2 00 W.	11·6	11·05	35·25
Sc. 11	2 Sept.	7 a.m.	61 38 N.	0 41 W.	11·7	11·05	35·26
Sc. 26	21 August	11½ ,,	58 09 N.	1 50 W.	13·8	11·85	35·08
	,,	12½ p.m.	8 miles N.E. by N. ½ N.		13·4	11·85	35·09
	,,	1½ ,,	18 ,,	,,	12·8	11·75	35·09
Sc. 2	,,	3 ,,	58 36 N.	1 46 W.	12·3	11·35	35·09
	,,	4 ,,	9 miles N.E. by N. ½ N.		12·5	11·35	35·13
	,,	5 ,,	18 ,,	,,	12·6	11·35	35·16
	,,	6 ,,	27 ,,	,,	12·1	11·05	35·16
Sc. 3	,,	7 ,,	59 10 N.	1 27 W.	12·1	11·25	35·24
	,,	8½ ,,	9 miles N.E. by N. ½ N.		11·8	10·65	35·24
Sc. 4	,,	10 ,,	59 26 N.	1 20 W.	11·0	10·55	35·26
	,,	11½ ,,	9 miles N.E. by N. ½ N.		10·7	10·35	35·26
Sc. 5	22 August	2 a.m.	59 40 N.	1 14 W.	11·0	11·05	35·27
	,,	3 ,,	9 miles S.E. by N. ¼ N.		11·2	12·05	35·26
	,,	4 ,,	18 ,,	,,	11·2	12·05	35·24
Sc. 22	,,	6 ,,	59 36 N.	0 41 W.	11·4	12·05	35·22
	,,	7 ,,	9½ miles N. ¾ E.		12·1	12·05	35·26
	,,	8 ,,	17½ ,,		12·1	12·15	35·27
	,,	9 ,,	27 ,,		11·3	11·65	35·27
Sc. 5A	,,	10 ,,	60 05 N.	0 48 W.	11·8	11·55	35·27
	,,	11½ ,,	9½ miles N.E. by N.		11·8	11·35	35·29
	,,	12½ p.m.	17½ ,,		11·0	11·05	35·27
Sc. 5B	,,	2 ,,	60 34 N.	0 29 W.	11·6	10·85	35·29
	24 August	noon	11 miles N. by W. from Ramma Stacks.		11·8	11·55	35·27
	,,	1 p.m.	9 miles N.W. from last position.		11·1	11·45	35·27
	,,	2 ,,	19 ,,	,,	11·2	11·35	35·29
	,,	3 ,,	27½ ,,	,,	10·8	11·45	35·31
Sc. 13A	,,	4½ ,,	61 16 N.	2 08 W.	11·0	11·65	35·33
	,,	6 ,,	8¾ miles N.W.		11·0	10·85	35·33
	,,	7 ,,	17½ ,,		10·0	10·55	35·31
Sc. 14A	,,	9 ,,	61 27 N.	3 42 W.	10·0	11·25	35·33

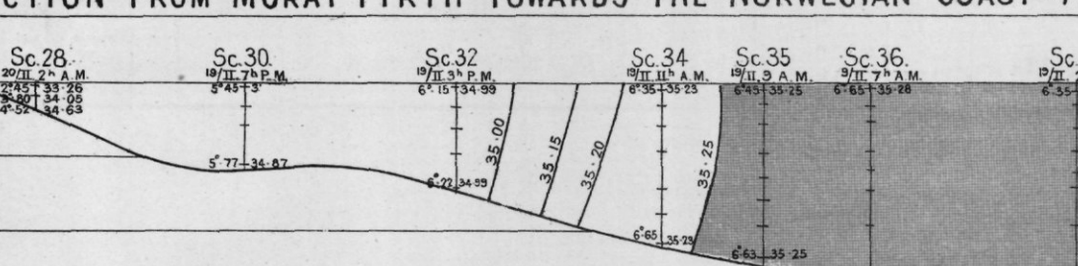
1. North Sea, Aberdeen-Shetland-Jan-Feb. 1906.



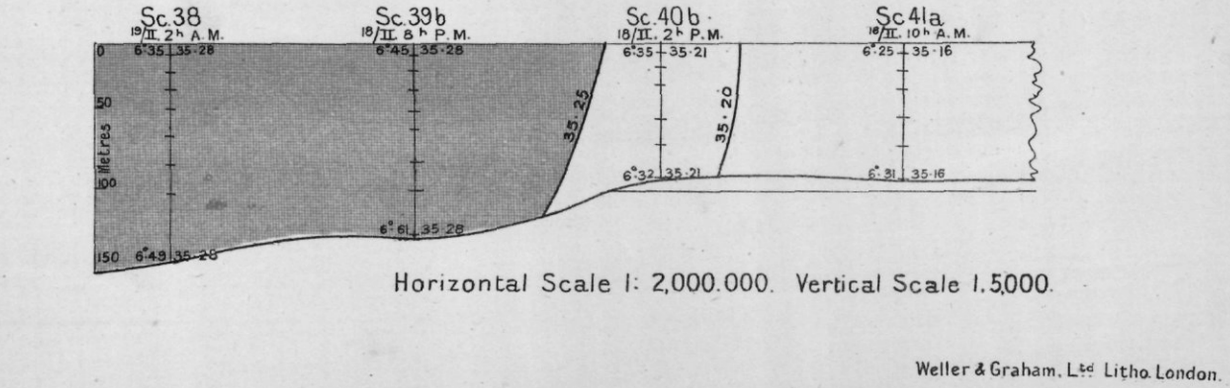
2. North Sea, North Western Area, Jan-Feb. 1906.



3. Section from Firth of Forth towards Norwegian Coast-Feb. 1906.



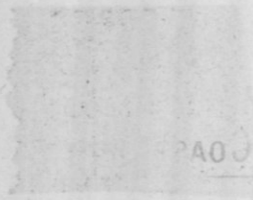
4. Section from Moray Firth towards the Norwegian Coast-Feb. 1906.

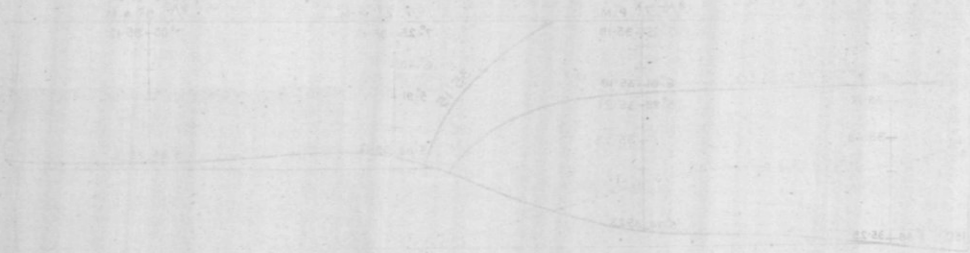


5. Section in North Sea, from North to South, about 1° E. Feb. 1906.

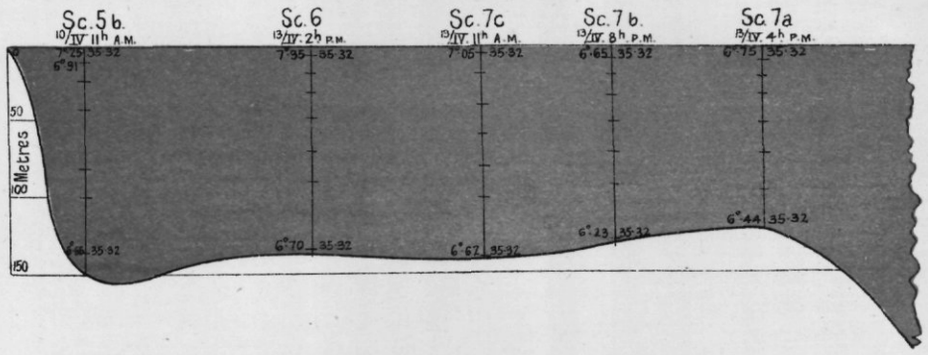
Horizontal Scale 1: 2,000.000. Vertical Scale 1.5,000.

Weller & Graham, Ltd Litho. London.

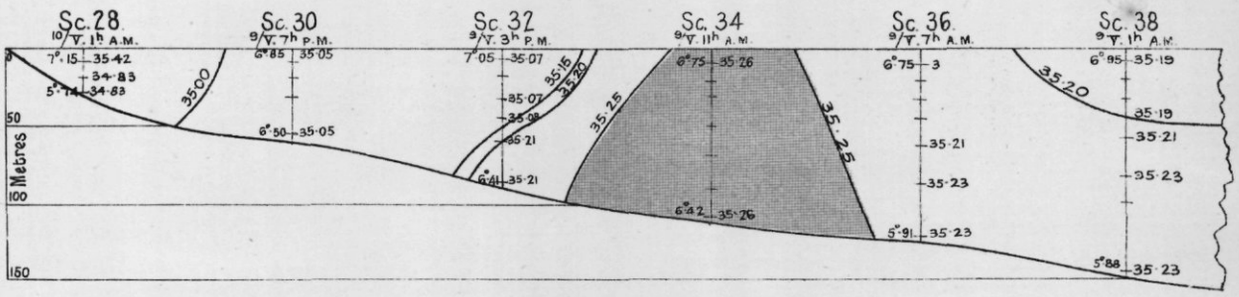




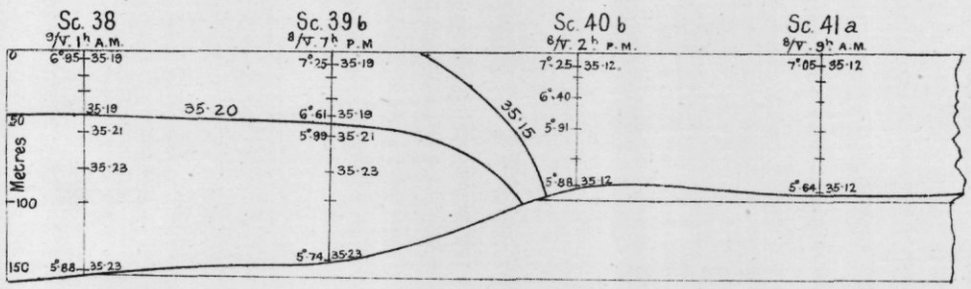
1. Section Eastwards from North of Shetland. April. 1906.



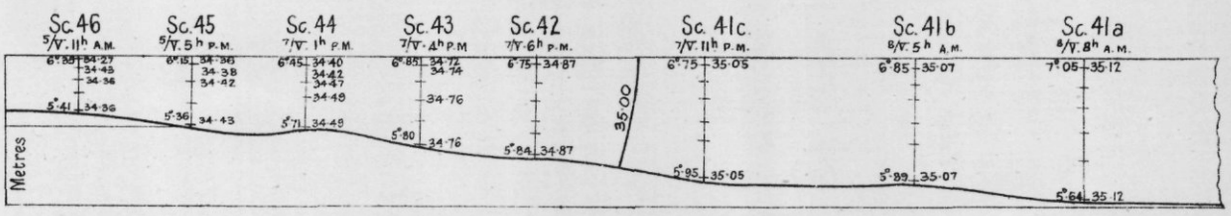
2. Section from Moray Firth towards Norwegian Coast May 1906.



3. Section in North Sea, from North to South, about 1° E. May 1906.



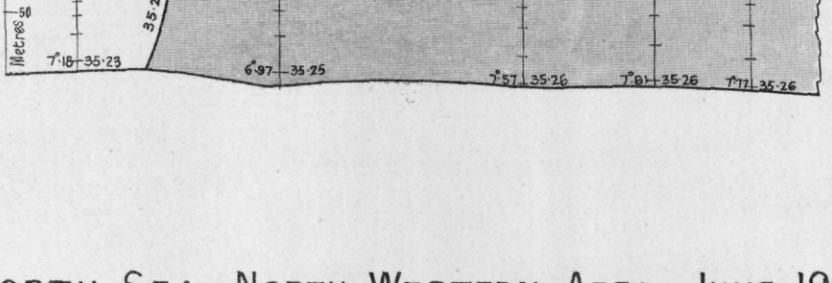
4. Section from Firth of Forth towards Norwegian Coast May 1906.



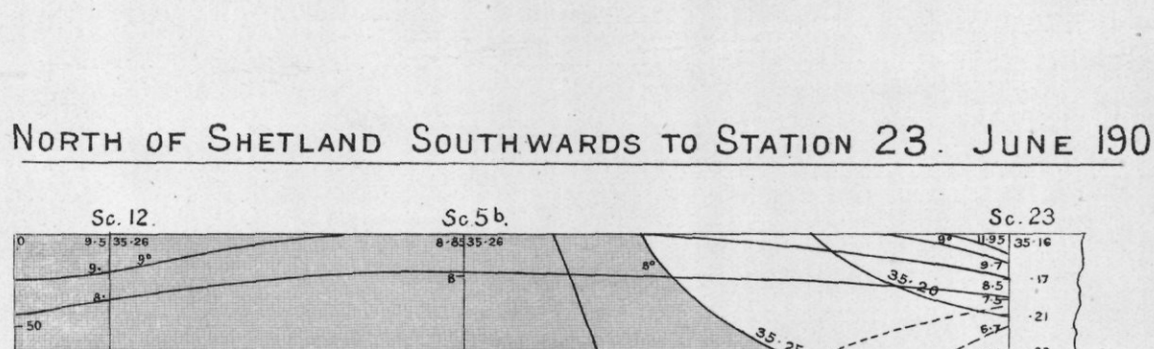
Horizontal Scale 1:2,000,000 Vertical Scale 1:5,000.

Weller & Graham, Ltd Litho London.

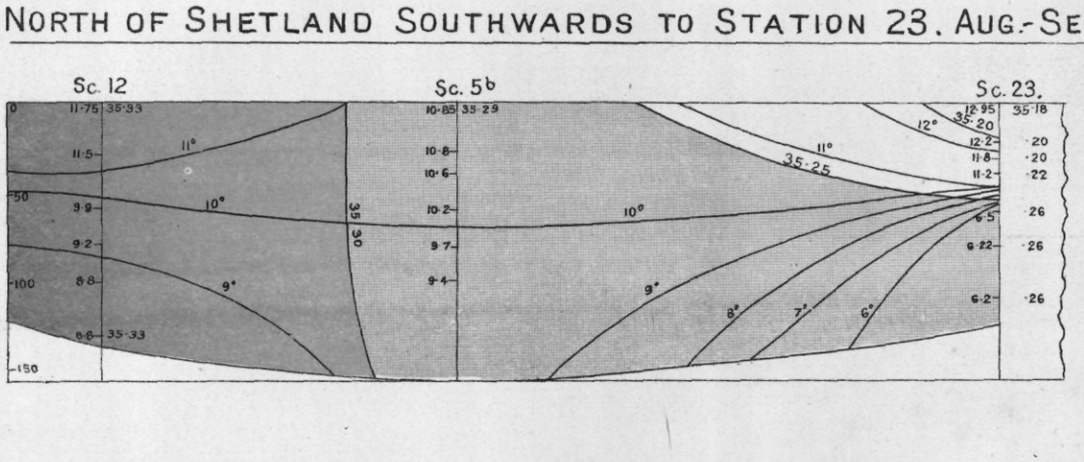
1. North Sea_between Aberdeen & Shetland. June 1906.



2. North Sea_North Western Area June, 1906



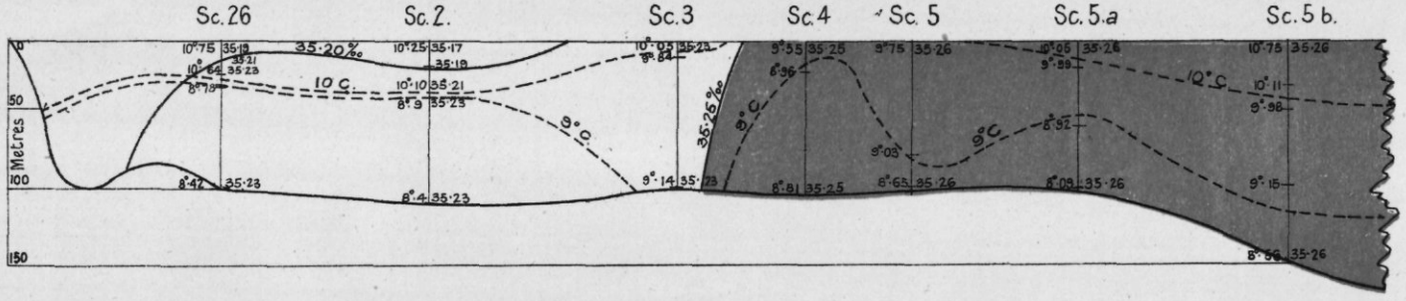
3. North of Shetland Southwards to Station 23. June 1906.



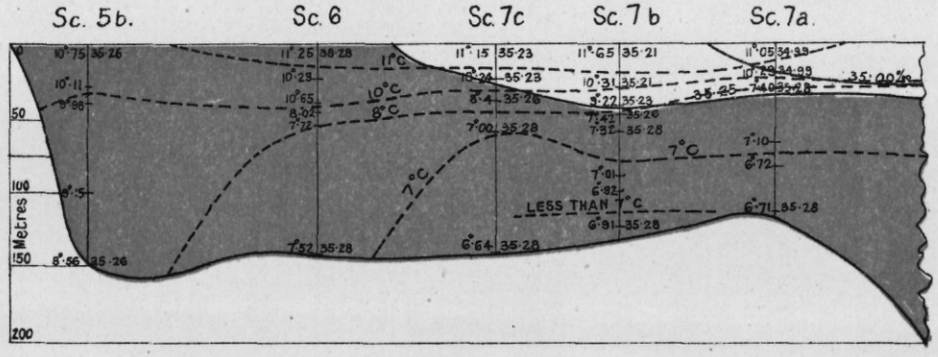
4. North of Shetland Southwards to Station 23. Aug.-Sep. 1906.

Weller & Graham, Ltd Litho. London.

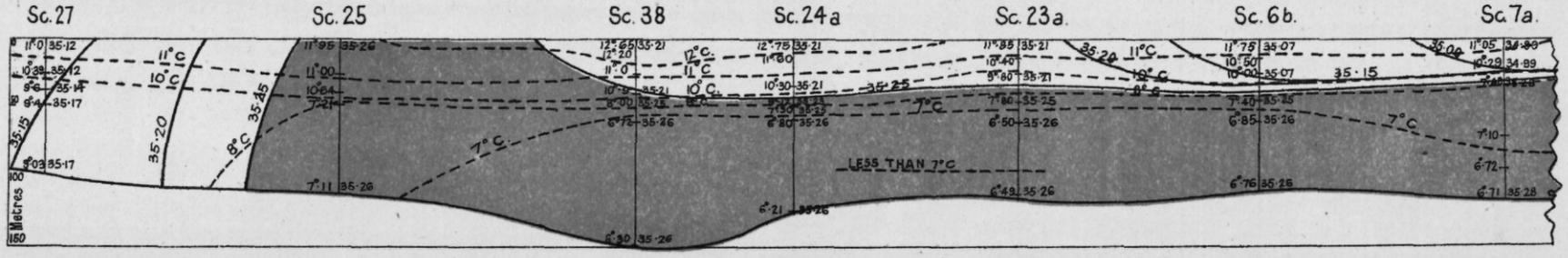
1. North Sea between Scotland and Shetland, July 1906.



2. Section from North of Shetland Eastwards, July 1906.

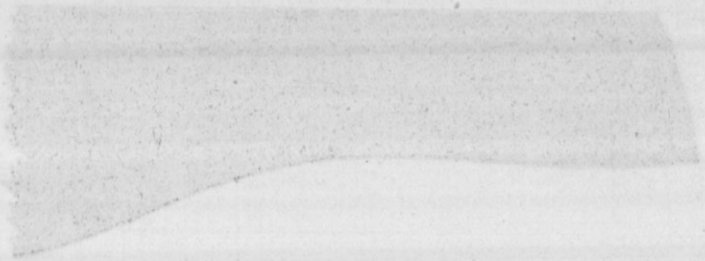


3. North Sea. North Western Area.



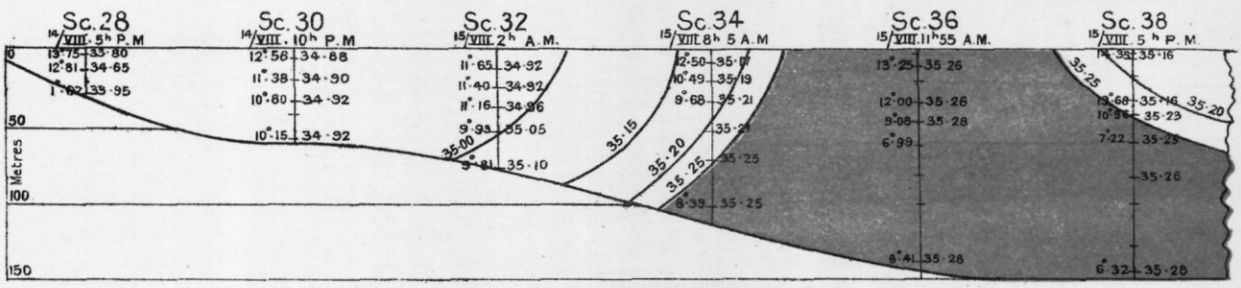
Horizontal Scale 1:2,000,000 Vertical Scale 1:5,000.

Plate IV.



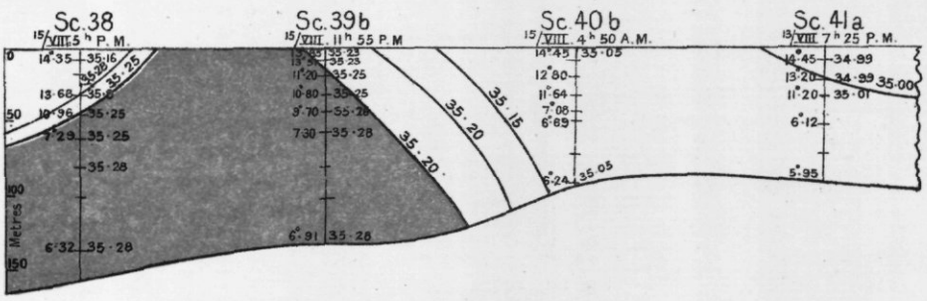
1. Section from Moray Firth towards Norwegian Coast.

August. 1906.



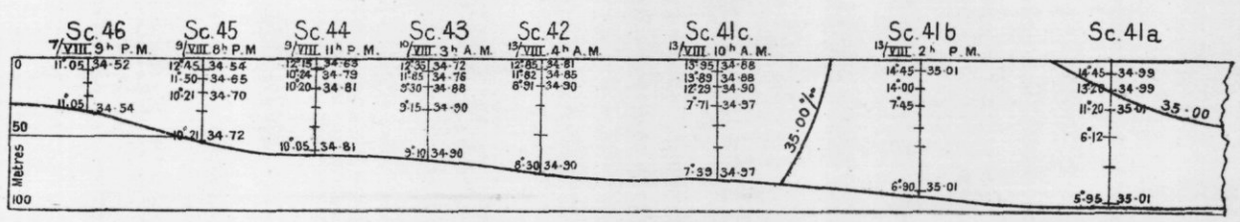
2. Section in North Sea from North to South, about 1° E.

August 1906.



3. Section from Firth of Forth towards Norwegian Coast.

August 1906.



Horizontal Scale 1:2,000,000. Vertical Scale 1:5,000.

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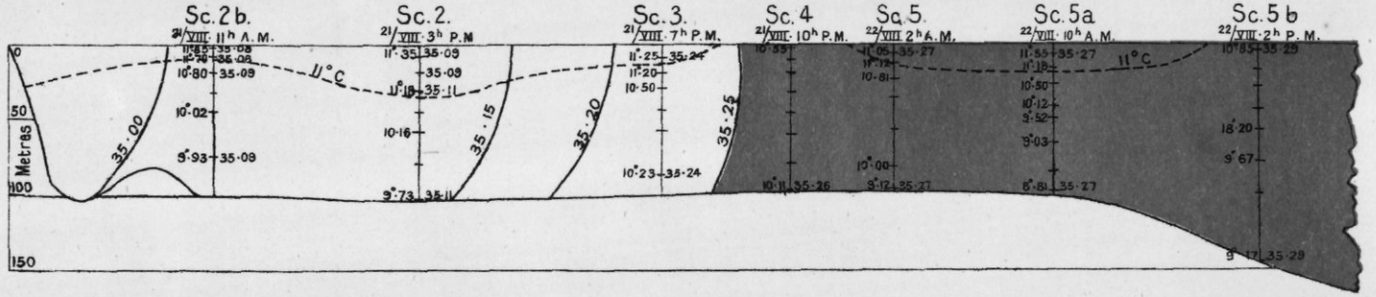
Weller & Graham, Ltd Litho. London.

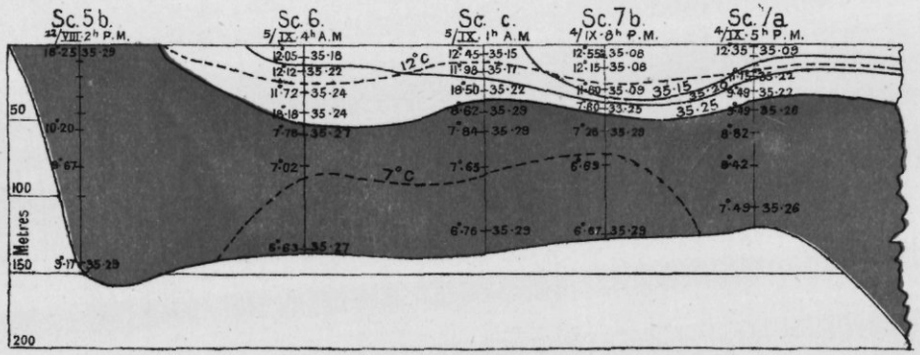
1. North Sea between Scotland & Shetland.

August 1906.



2. Section from Shetland Eastwards.

Aug.–Sept. 1906.



Horizontal Scale 1:2,000.000.
Vertical Scale 1:5,000.

3. North Sea, North-western Area.

Sept 1906.

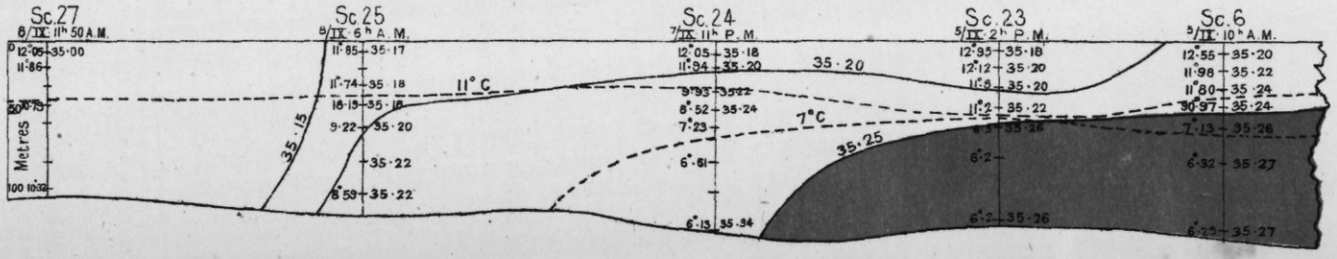
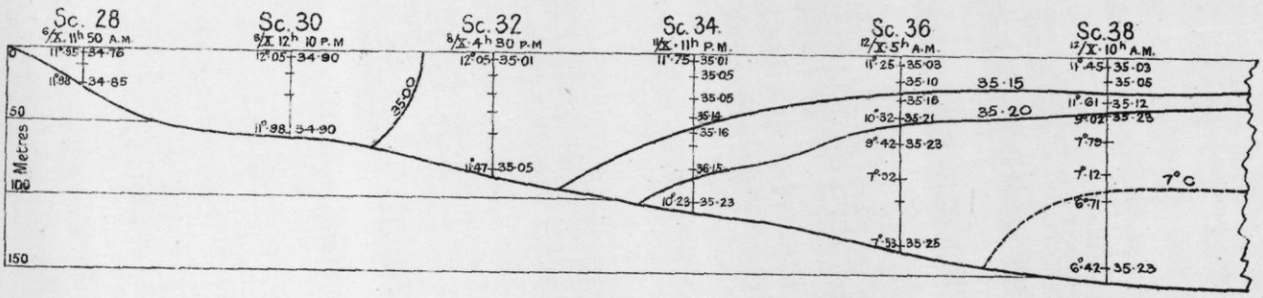


Plate VI.

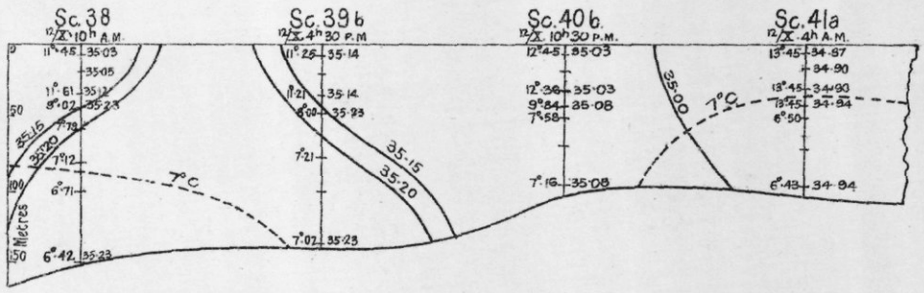
1. Section from Moray Firth towards Norway.

OCTOBER, 1906.



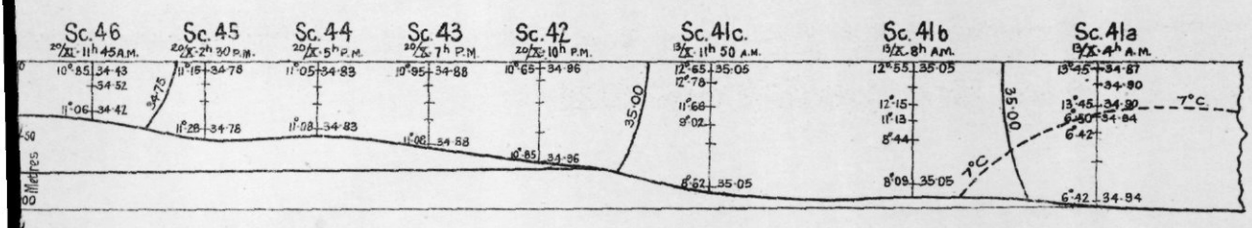
2. Section in North Sea from North to South about 1° E.

OCTOBER, 1906.



3. Section from the Firth of Forth towards Norway,

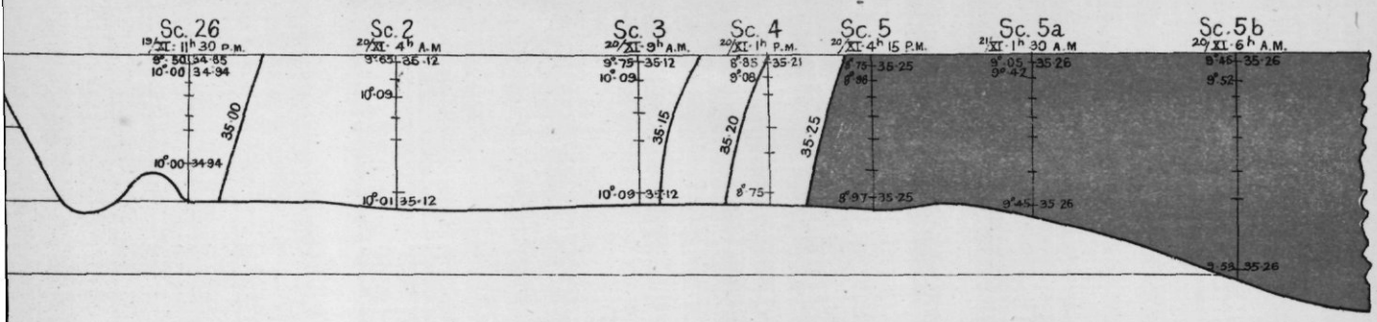
OCTOBER, 1906.



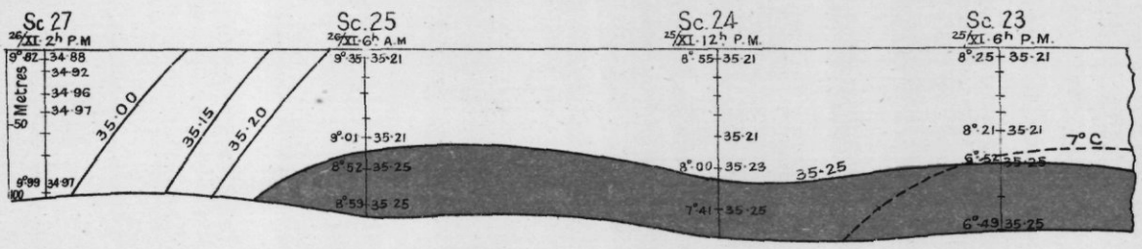
Horizontal Scale 1:2,000,000 Vertical Scale 1:5,000.

Weller & Graham, Ltd. Litho, London.

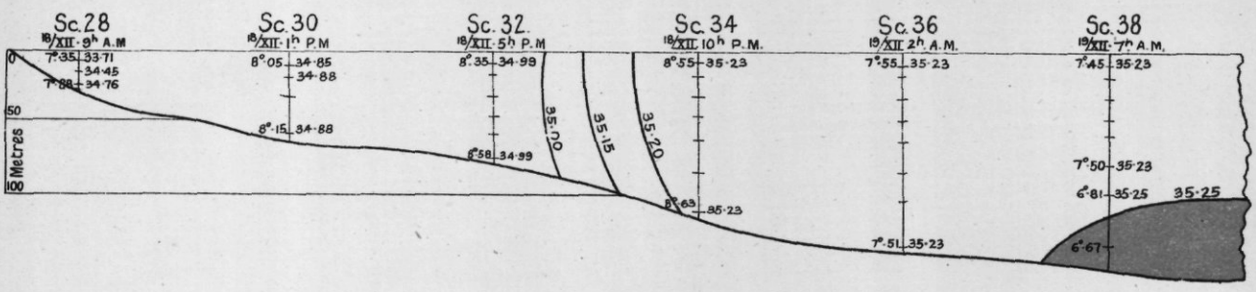
1. North Sea between Scotland & Shetland, November 1906.



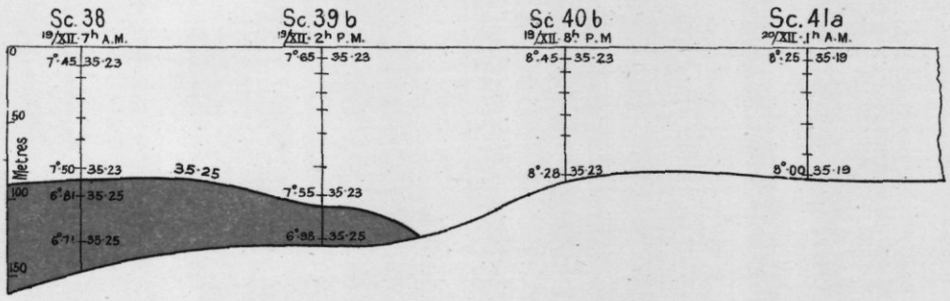
2. North Sea, North Western Area, November 1906.



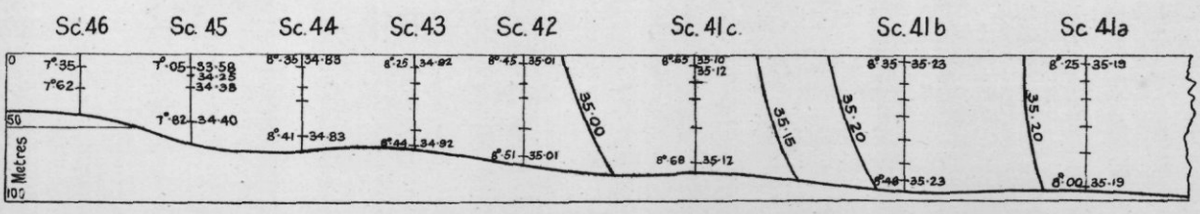
3. Section from Moray Firth towards Norway December 1906.



4. Section in North Sea, from North to South, about 1° E. December 1906.



5. Section from Firth of Forth towards Norway, Dec. 1906.



Horizontal Scale 1:2,000,000. Vertical Scale 1·5000.

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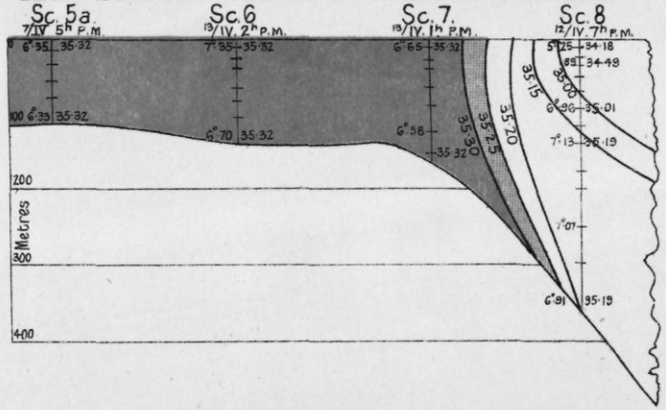
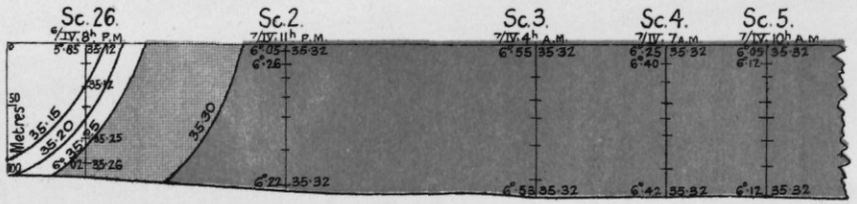
Weller & Graham, Ltd. Litho. London.

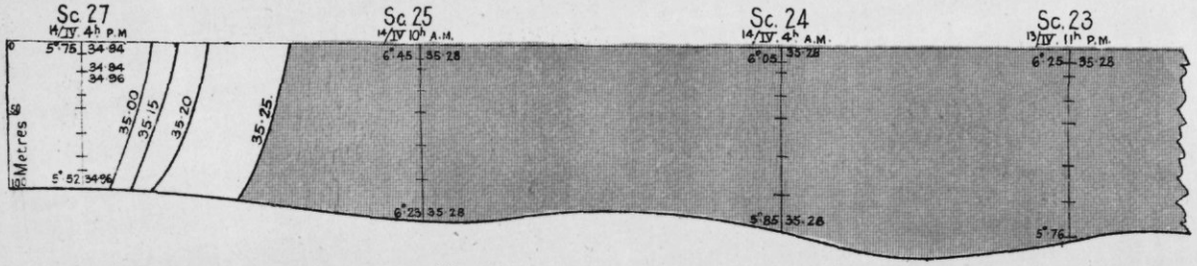
1. Section from South of Shetland in a North Easterly direction April 1906.



2. North Sea between Aberdeen & Shetland. April, 1906.

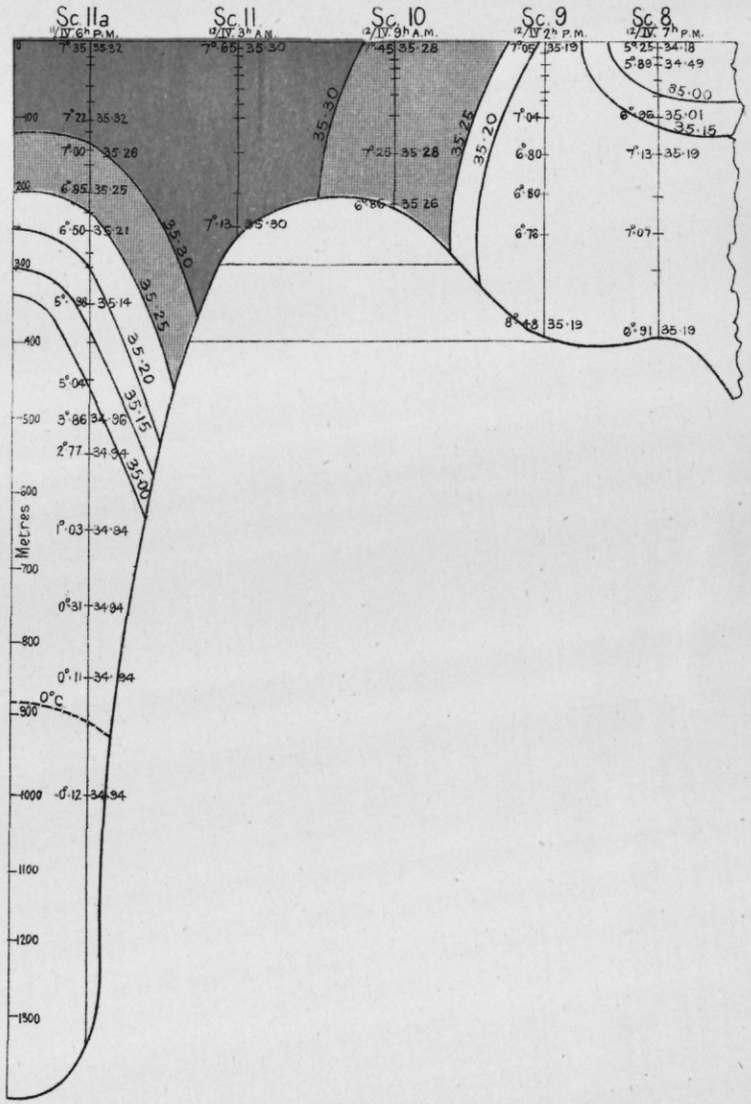


3. North Sea. North Western Area, April 1906



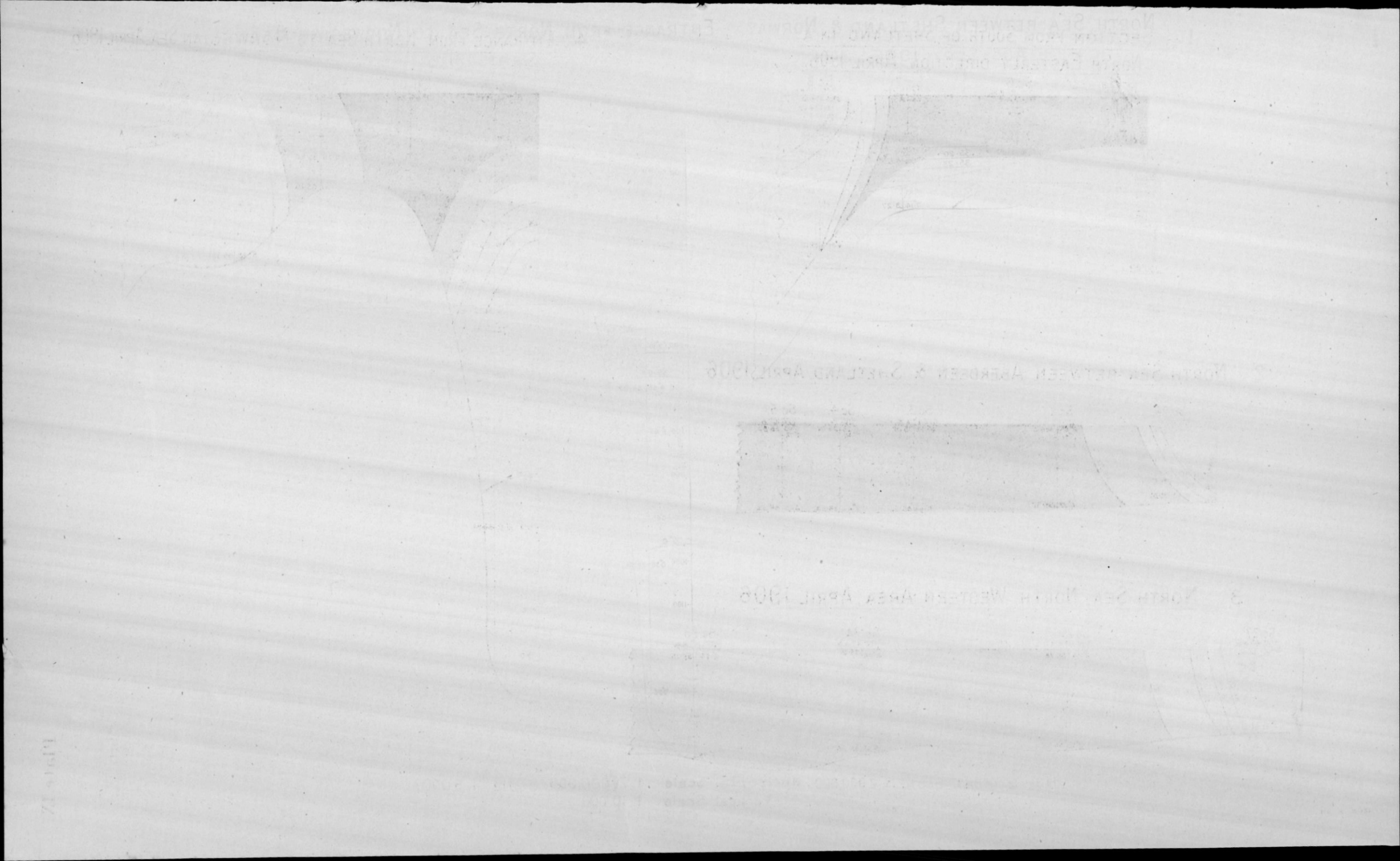
Horizontal Scale 1: 2,000,000

4. Entrance from North Sea to Norwegian Sea, April 1906.



Vertical Scale, 1: 5,000

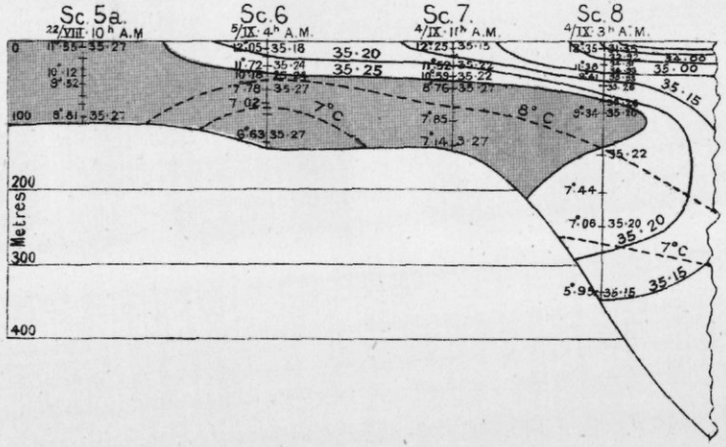
Plate IX.



North Sea between Shetland & Norway.

Aug-Sept. 1906.

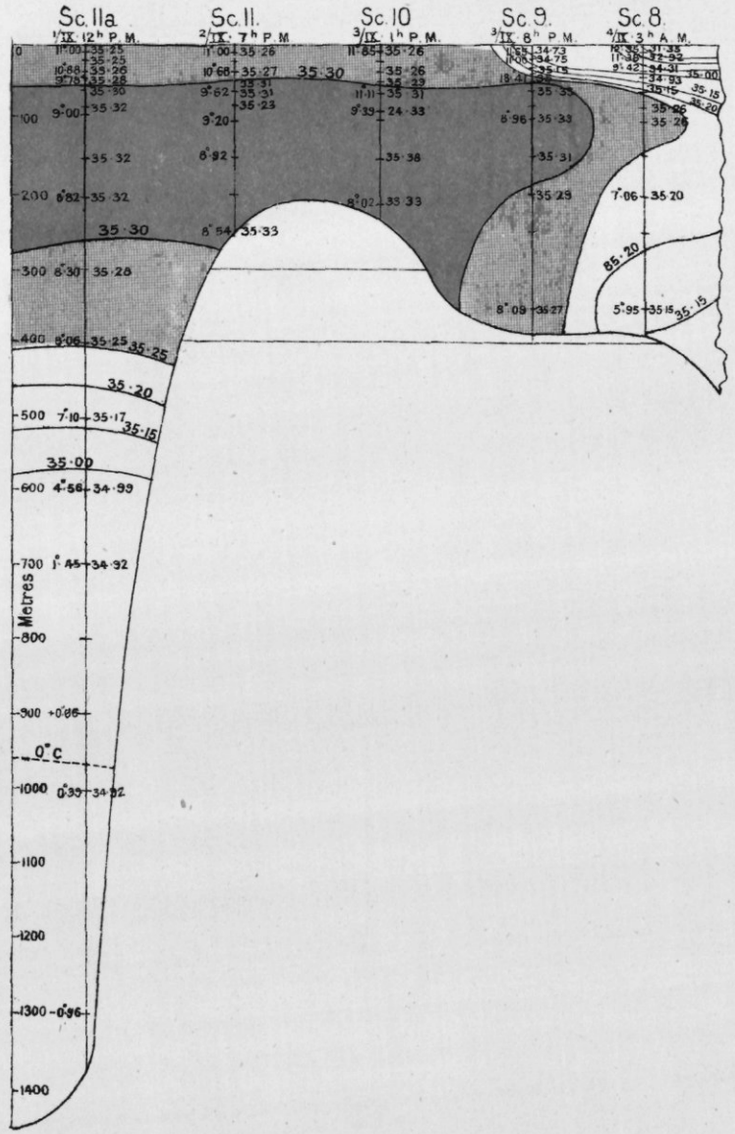
1.



Entrance from North Sea to Norwegian Sea.

Sept. 1906.

2.



Horizontal Scale 1: 2,000,000

Vertical Scale 1: 10,000.

Plate X.

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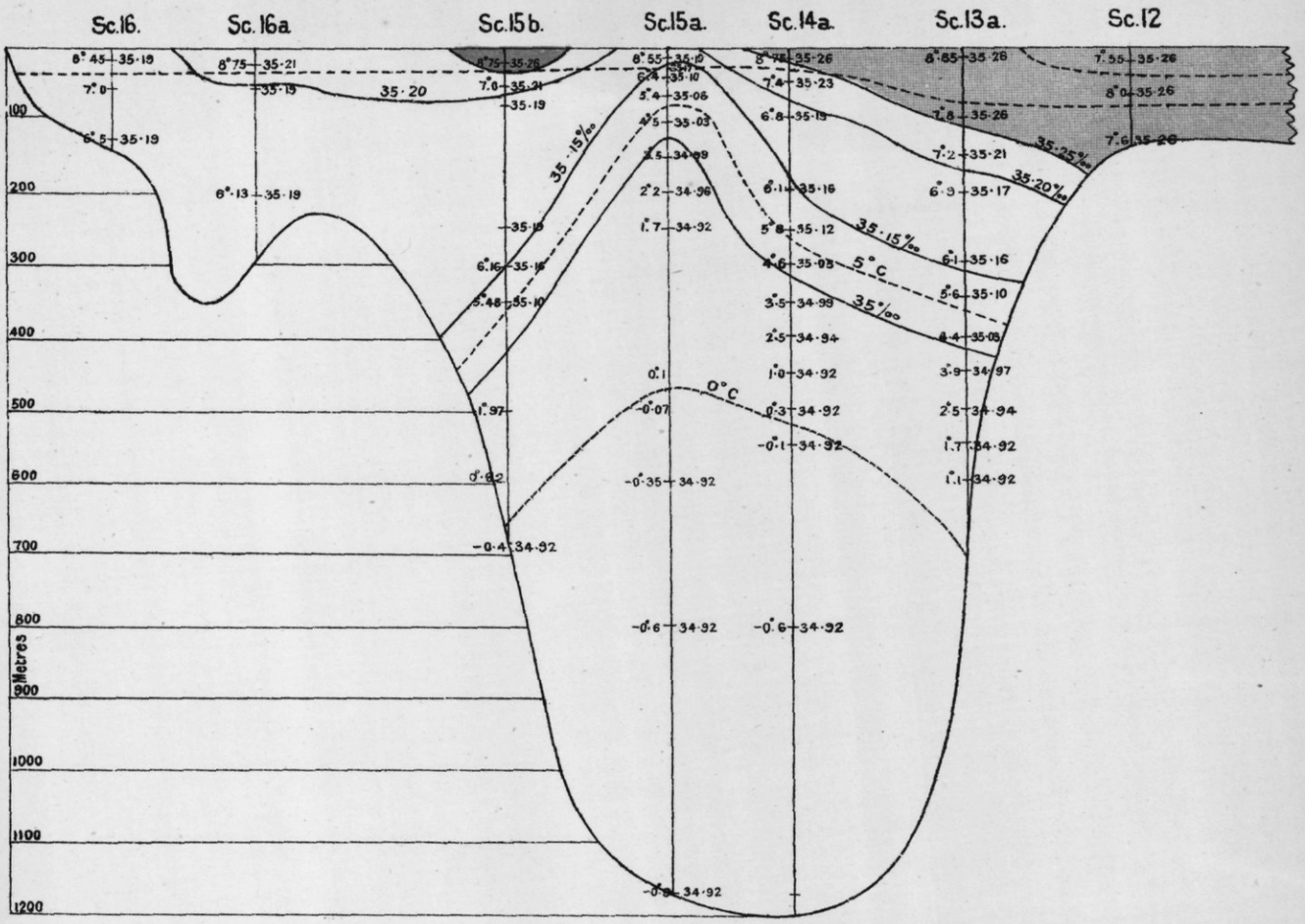
Plate X

1. FAEROE-SHETLAND CHANNEL.

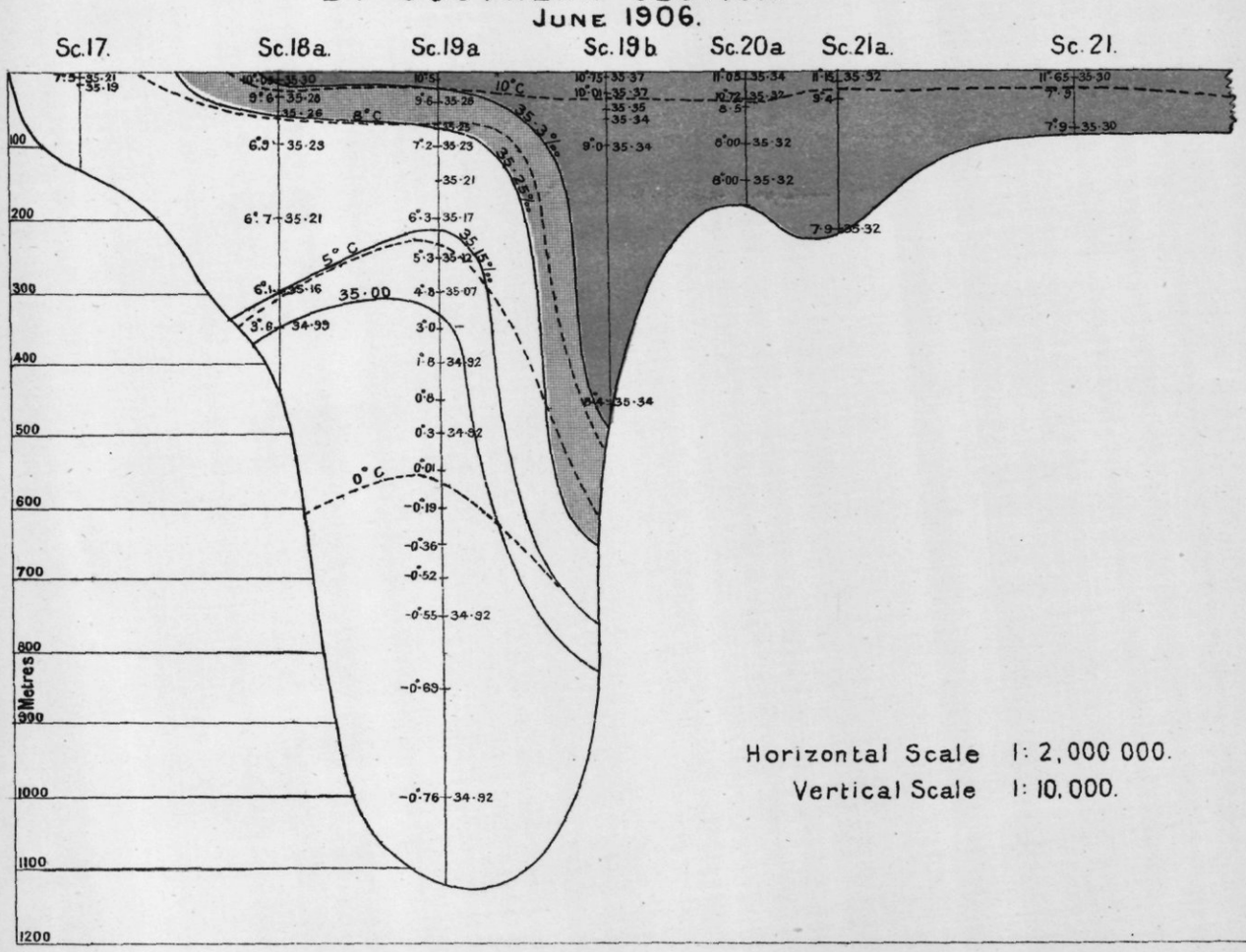
NORTHERN SECTION.

JUNE 1906.



2. SOUTHERN SECTION.

JUNE 1906.



Horizontal Scale 1: 2,000 000.

Vertical Scale 1: 10,000.

2204. 9. 08

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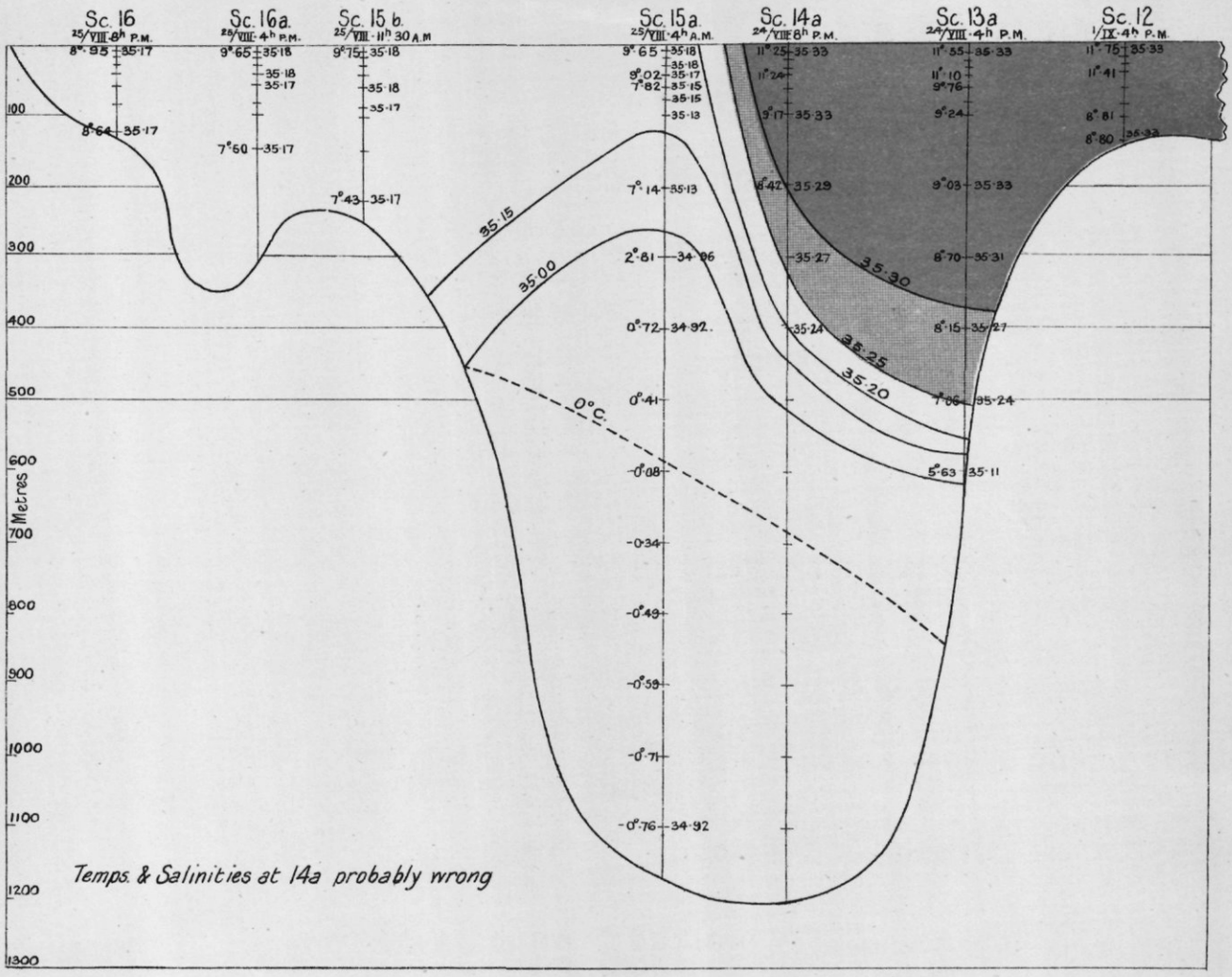
1. FAEROE — SHETLAND CHANNEL

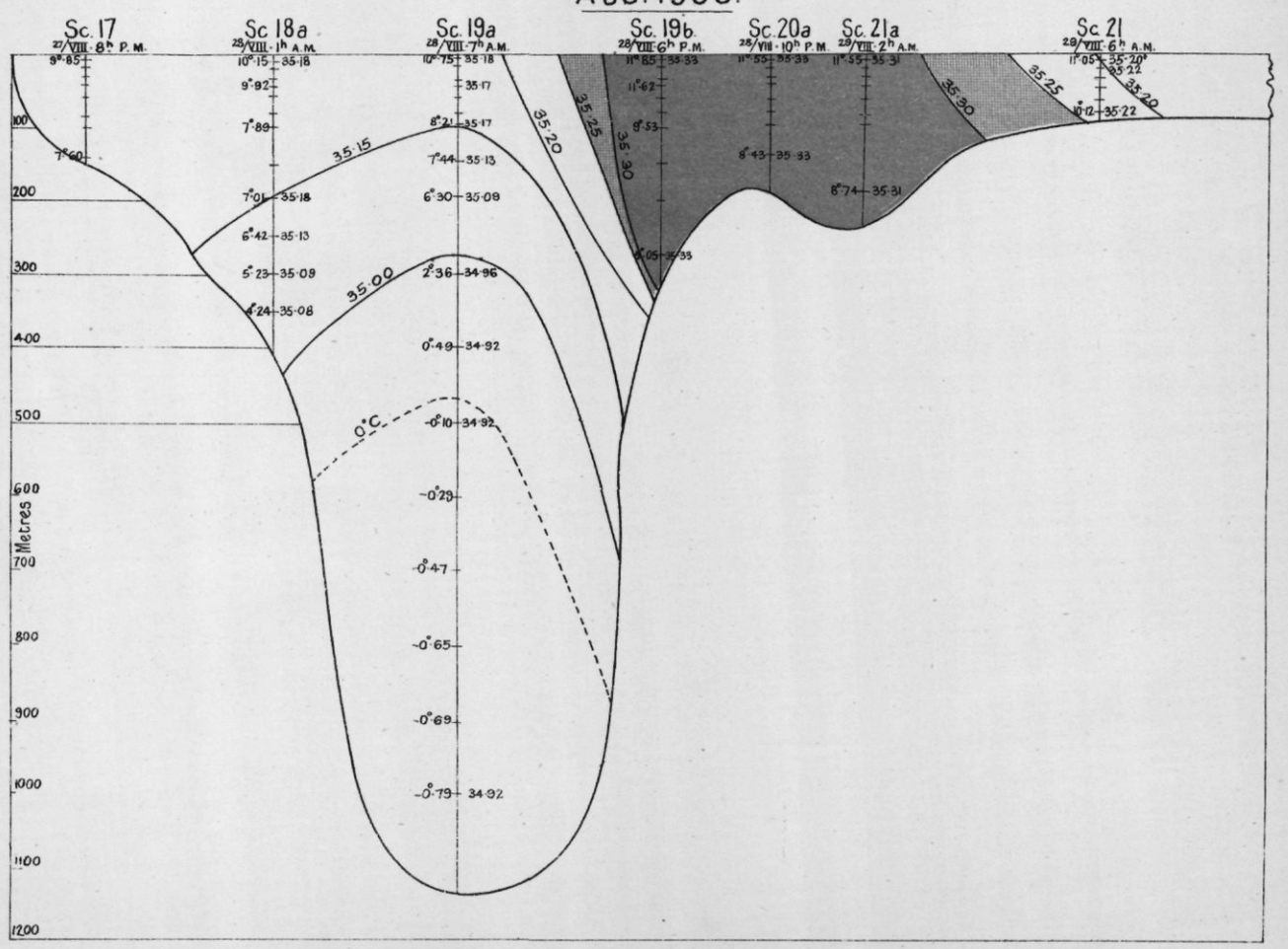
NORTHERN SECTION.

AUG.—SEPT. 1906.



2. SOUTHERN SECTION

AUG. 1906.



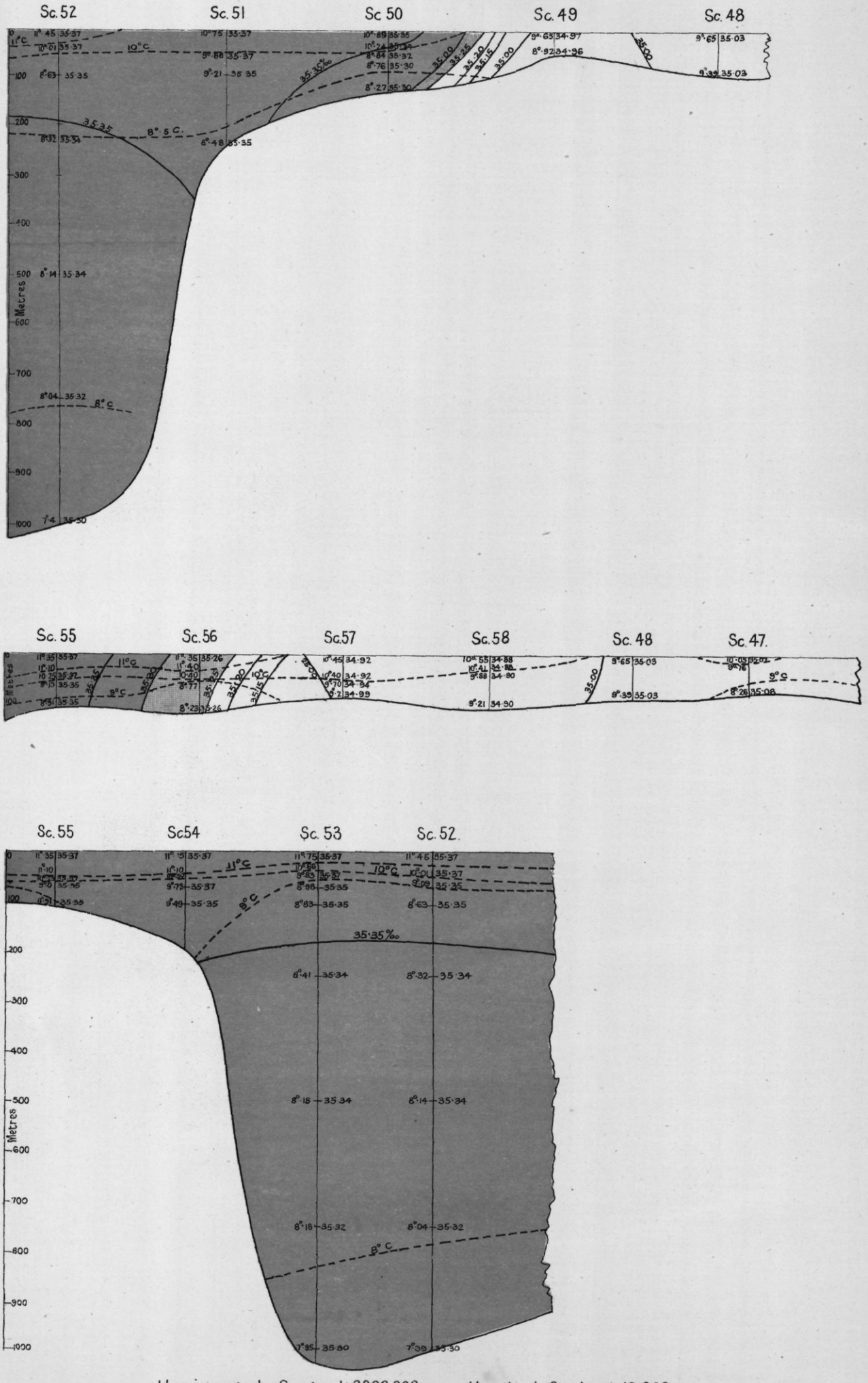
Horizontal Scale 1:2,000,000 Vertical Scale. 1:10,000

2204.

Weller & Graham, Ltd. Litho. London.

I. North Atlantic Section.

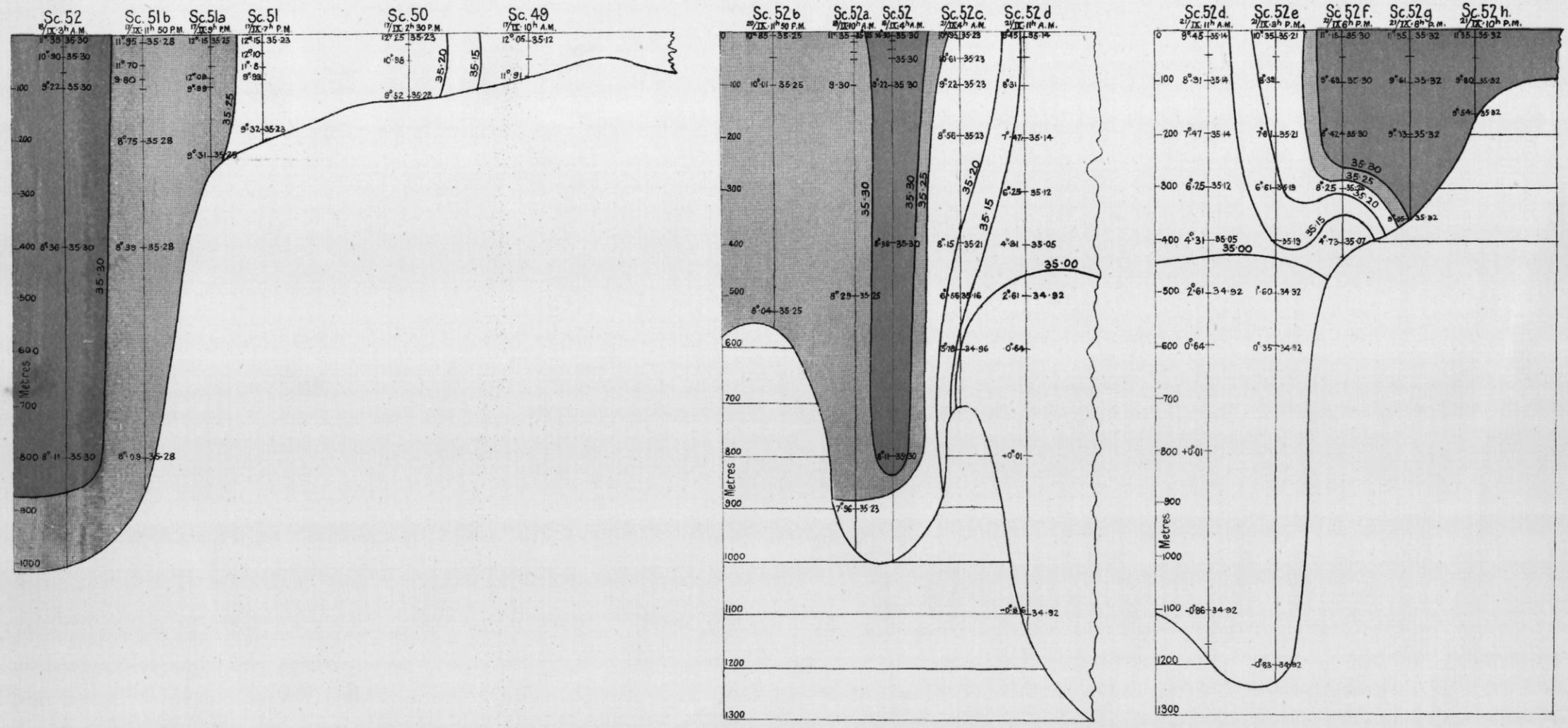
JULY 1906.



Weller & Graham, Ltd. Litho. London.

I. North Atlantic Section.

Sept. 1906.



Horizontal Scale 1:200,000 Vertical Scale 1:10,000

Plate XIV.