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WATER TRANSPARENCY OBSERVATIONS ALONG THE EAST COAST OF NORTH AMERICA

(WITH 2 PLATES)

BY
JEROME WILLIAMS
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(PUBLICATION 4391)

CITY OF WASHINGTON
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WATER TRANSPARENCY OBSERVATIONS ALONG THE EAST COAST OF NORTH AMERICA

By JEROME WILLIAMS, E. R. FENIMORE JOHNSON AND ALBERT C. DYER [1]

(With 2 Plates)

INTRODUCTION

Marine biologists have long been interested in the transparency of natural waters as an important parameter in the determination of both the amount and type of plant life at various depths. Owing to this interest, many transparency surveys, in the oceans [4, 8, 16, 19, 22, 23],[2] in lakes [7, 33], and on pure water [27], have been made. In recent years, however, this interest in water clarity has spread to other fields, such as underwater photography (1, 9, 20, 24, 33) and television. In addition, there is a growing movement among workers in the field to utilize transparency as a "tag" for water masses in the study of such things as circulation patterns [23, 25].

During the years 1947-51 the yacht *Elsie Fenimore* made a rather extensive survey of water transparency conditions along the east coast of North America from Labrador to the Gulf of Mexico, including some stations around Newfoundland and the British West Indies. Even though the data herein presented are admittedly far from complete and a number of other studies have been made of the area [3, 5, 10, 11, 12, 13, 14, 15, 17, 18, 21, 28, 31] this study represents, from a geographical standpoint, the most extensive single piece of work done on the subject to date. For this reason, if for no other, it seems desirable to publish this information in the present form so that it may become available.

To make the data as universal as possible the unit chosen was the so-called Equivalent Secchi Disc Reading. Since it is obviously impossible to use the Secchi Disc [32] for measurement of water transparency if the water mass to be measured is at a great depth, this water mass is hypothetically brought to the surface for measurement. Thus the Equivalent Secchi Disc Reading may be said to be the dis-

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[1] Mr. Williams is associated with the Chesapeake Bay Institute; Mr. Johnson is a research associate in the Limnology Department, Academy of Natural Sciences of Philadelphia; and Mr. Dyer is connected with the Fenjohn Company.

[2] Numbers in brackets indicate references in the bibliography.

tance at which a Secchi Disc would just disappear if it were immersed in water and if that water were at the surface.

As an example, if an Equivalent Secchi Disc Reading were given as 10 feet for water at a depth of 100 feet, this would mean that if the water mass at a depth of 100 feet were brought to the surface a Secchi Disc would disappear from view at a distance of 10 feet in this transposed volume of water.

The Secchi Disc is admittedly a crude indicator of water transparency, since it was originally used by marine biologists to measure the so-called *extinction coefficient.* This is a measure of the amount of light reaching a horizontal surface at some depth. Unfortunately, the extinction coefficient is not only a measure of the water transparency but also a function of such things as sea state, cloud cover, altitude of sun, and other factors. Even so, however, the Secchi Disc reading is probably a reasonably good indicator of water clarity if it is taken with the sun fairly high in the sky and if it is viewed through a glass-bottom viewer or hydroscope [30].

In addition, the Secchi Disc reading is an easily understood unit, generating an intuitive feeling for the existing conditions, so that it has become fairly universal in its use as an indicator of water transparency.

Of course, the actual Secchi Disc reading gives an average value of the transparency of the surface layers, so that if a layer of markedly different water exists somewhere from top to bottom, it will not be seen. For this reason, other instruments which measure transparency of relatively small volumes of water were used in conjunction with the disc. These will be discussed in a later section.

The writers wish to express their appreciation to Dr. Ruth Patrick, Curator, and Miss Margaret Le Mesurier, Librarian, of the Department of Limnology, Academy of Natural Sciences of Philadelphia, for their indispensable aid in the preparation of this manuscript. Appreciation is also expressed to the Smithsonian Institution for material aid and advice in this project and publication of the paper, and to the Academy of Natural Sciences of Philadelphia for its contribution of personnel and materials in the carrying out of this program. We regret that space does not permit the listing of over 50 other persons and institutions to whom we are indebted for advice and assistance rendered.

INSTRUMENTS

The instruments utilized in the accumulation of the data presented herein can roughly be divided into two classes: (1) those that measure the medium in its natural environment and (2) laboratory-type instruments in which a water sample is removed from the medium and examined in the shipboard laboratory. The first type is usually considered the more reliable when dealing with natural waters, since the transparency properties seem to change rather markedly when a sample is taken out of its natural environment, and therefore this type is discussed first.

I. IN SITU INSTRUMENTS

A. Secchi Disc (pl. 1, fig. 4)

The Secchi Disc, owing to its ruggedness and ease of use, was the most often used of any of the devices to be listed. The disc used was 7½ inches in diameter and was painted a flat white, having a reflectance coefficient of about 0.8. It was obtained from the Oceanographic Institution at Woods Hole, Mass. A specially designed hydroscope (pl. 1, fig. 3) was occasionally used in conjunction with the Secchi Disc to eliminate water-surface effects. Generally the Secchi Disc was observed by means of a glass-bottom bucket. Readings were made from the sunny side of the ship, except where otherwise noted in the data tables, and the recorded value is the distance from the bottom of the hydroscope to the disc, i.e., the distance traveled by the reflected light from the disc surface through the medium in which it is suspended.

B. Point Source Light

On a number of occasions the transparency of water was measured by observing the distance at which a point source of light can be seen. This method of measurement may be seen to be similar to that of the Secchi Disc.

Although a true point source of light is well-nigh physically impossible, the tungsten filament of a 1,000-watt diver's lamp approximated this well enough for the range of transparency encountered in the near coastal and inland waters. It unfortunately fails badly in the ultraclear sections of the open ocean, where it diminishes in size and eludes the observer before reaching extinction through absorption.

In turbid waters the point source shows up as an incandescent spot surrounded by scattered light having the appearance of luminescence in which the visual range is the point at which it disappears into the background of scattered light. In clearer water, on the other hand, the background of scattered light, if it can be seen at all, is seen only when the point source is close to the observer and disappears while the incandescent spot is still plainly visible. The energy from this spot is so reduced by attenuation that the structural shape of the filament can be clearly seen. The visual range is then taken to be the distance to that point at which the filament completely disappears.

Most of these observations were made horizontally with the lamp and the objective of the hydroscope both placed 5 feet below the water surface. For the sake of completeness, observations were made both during the day and at night. Plate 1, figure 1, shows the point source of light being observed through the hydroscope.

C. Illuminated Letter

This observation method involved the use of a low-powered lamp enclosed in a small housing with an opal glass window, in front of which was mounted a rotatable disc which had a series of cutout letters. The whole rig was mounted on a pole which could be extended approximately 5 feet below the surface and was observed by means of the hydroscope. The procedure adopted consisted of bringing the illuminated letter toward the hydroscope in a horizontal direction until the observer could make a positive identification of the nature of the letter.

D. Underwater Objects

To obtain some idea of the horizontal visibility available at various stations, black and white balls approximately 6 inches in diameter were lowered about 5 feet below the surface of the water and observed with the hydroscope. The horizontal distance at which the balls disappeared from view was recorded.

E. U.S. Navy Hydrophotometer Mk. II (pl. 1, fig. 2)

To obtain a measure of the variation in transparency with depth, standard U.S. Navy hydrophotometers were used quite extensively. They consisted of two principal parts; a control box and an underwater unit connected by an electrical cable. The underwater unit may be lowered to any desired depth and the transparency at that depth is indicated at the control box. It is very similar in its operation to a number of earlier instruments [6, 29, 33].

The underwater unit consists of two heads separated by a fixed distance of 0.5 meter, one head containing a photocell, P_1, and the other containing a collimated light source and another photocell, P_2 which is connected so that its output is in opposition to the output of cell P_1. In operation the light shines both on P_1 and P_2 and the combined output of the two cells is adjusted by means of light irises so that the meter in the control box reads 100 percent when the underwater unit is in air (air is assumed to be a nonattenuating medium). Then, as an attenuating medium such as water is placed between the light and photocell P_1, the meter will read some fraction of 100 percent. Actually, since there is a light loss of about 4 percent per glass-air interface owing to the different indices of refraction of glass and air which does not occur when the device is submerged because of the similarity of glass and water indices of refraction, the reading in air should be set to 92 percent instead of 100 percent [34].

There is a definite temperature effect on the device, but in view of the sources of error existent in the other methods of measurement and the length of time required for an internal temperature change to occur, it is felt that this temperature dependence is negligible. This temperature effect is reported in the National Bureau of Standards Text No. 43P-1/47.

F. Hydroscope

This instrument is essentially an underwater telescope having a 15° field of view with interchangeable heads for either vertical or horizontal viewing for Secchi Disc or other visibility range readings. Plate 1, figure 3, shows the device which is approximately 15 feet long and uses a lens system of unit magnification. The viewing head is equipped with a focusing eyepiece, a rubber face pad to exclude external light, and two positioning control handles.

In use, the hydroscope is supported in a ball-and-socket mount on a platform extending from the side of the ship, with the objective head of the instrument extending 5 feet below the water surface.

II. LABORATORY TYPE INSTRUMENTS

A. Peraquameter (pl. 2, fig. 1)

This device is very similar in principle to the illuminated letter described above, except that the letter to be identified is placed in a long tube (11 feet long) which is filled with the water of interest by means of a pump. The observer looks into this tube and is able to move the image of the letter, by means of a movable mirror, until positive identification is possible.

The peraquameter was used when visual range, using the illuminated letter, was found to be under 22 feet.

B. Scattering Meter (pl. 2, fig. 2)

To measure light scattering due to suspended particles in natural waters, Dyer developed a device which essentially consisted of a light source that sent a beam of light through the sample. At right angles to the beam, a photocell was placed, and the amount of scattering was then a function of the output of this photocell.

The sample cell used was first a $2\frac{1}{2}'' \times 2\frac{1}{2}'' \times 1''$ rectangular glass container, but this was later changed to a $3'' \times 3'' \times 2''$ plastic cell to handle a larger sample and at the same time defeat the problem of condensation on the outside of the cell due to cold-water samples.

The electrical circuit was so designed that the output current of the photronic tube affected the grid current of an amplifier tube, thus causing changes in the plate current of the amplifier for small changes in the output of the photocell. A microammeter with scale ranging from 0 to 100 was selected as an indicator of the degree of scattering and was connected in the plate circuit of the amplifier. The circuit was adjusted so that the output current could be zeroed for any given beam intensity with the sample cell empty. For operating convenience, a reflecting rod was so mounted that it could be swung into a fixed position in the light beam in order that a check could be maintained on the source light output by means of its effect on the output of the photronic cell. The entire unit, including batteries, was mounted in a glass-fronted metal case for convenience.

As finally evolved, the device proved capable of covering the entire range of turbidity from Delaware River water to the finest obtainable grade of triple-distilled pharmaceutical water.

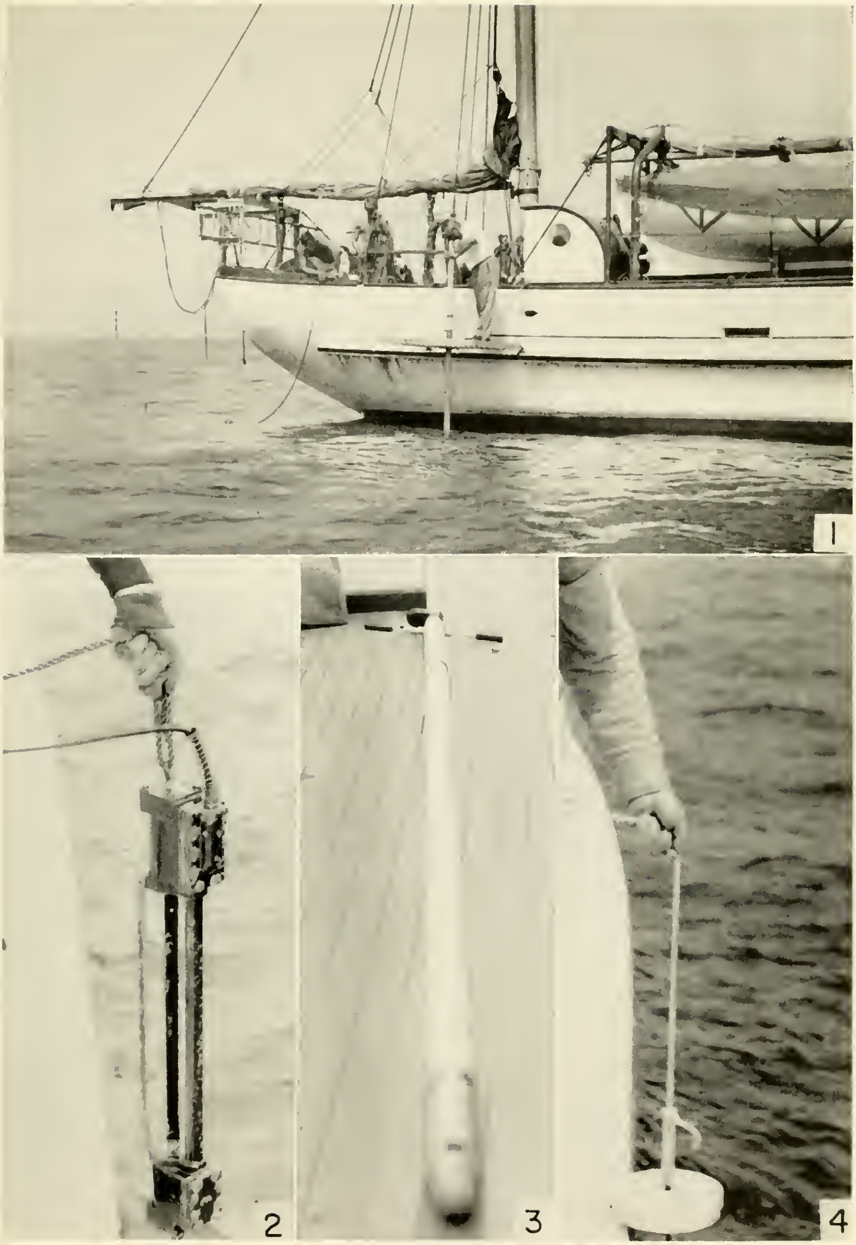
METHODS OF DATA ANALYSIS

For the sake of uniformity it seemed desirable to convert all the hydrophotometer readings to "Equivalent Secchi Disc Readings," as defined in a previous section. To do this required some relationship between actual Secchi Disc readings and hydrophotometer readings, which was not readily available. Williams, however, has developed an expression involving the extinction coefficient as a function of the Secchi Disc reading, and since the hydrophotometer transparency measurement is similar to the extinction coefficient measured under ideal conditions, it was decided to use this approach.

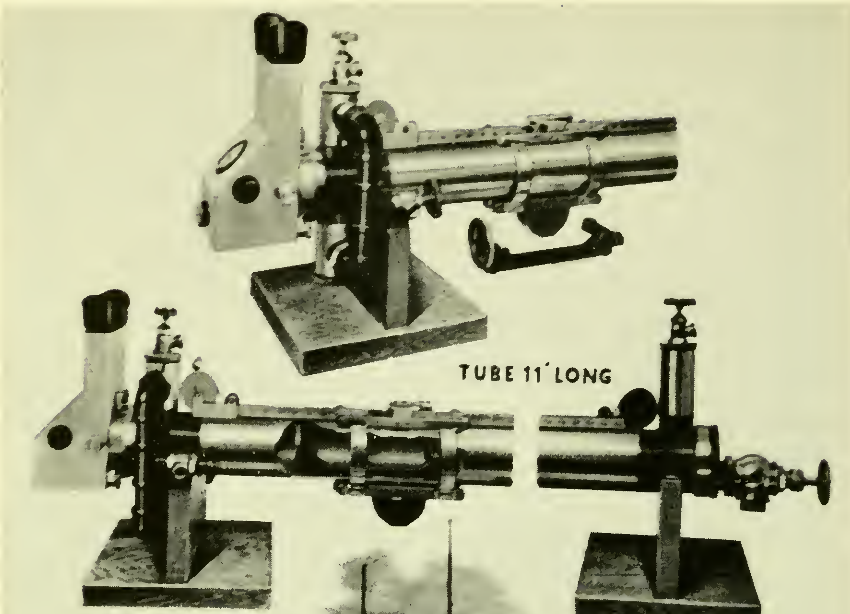
Let:

B_s = Illumination at the sea surface.

B_o = Brightness of the Secchi Disc as seen by the eye.



1, Hydroscope in use. 2, United States Navy hydrophotometer Mk II. 3, Specially designed hydroscope. 4, Secchi Disc.



1, Peraquameter. 2, Scattering meter.

B_b = Brightness of the surrounding water at the hydroscope depth. (This is the background against which the Secchi Disc is seen.)
B_{oD} = Actual brightness of the disc at the disc.
B_{bD} = Actual brightness of the surrounding water at the disc depth.
R_s = Reflectance of the sea surface.
R_d = Reflectance of the Secchi Disc.
U_w = Relative amount of light going in an upward direction compared to that going in a downward direction at the hydroscope depth.
D = Length of attenuating medium interposed between the eye and the object.
d = Depth of the glass-bottom bucket or hydroscope.
k = Extinction coefficient.

When the Secchi Disc is observed, it can be seen as long as the brightness of the disc is greater than that of its surroundings. In other words, the contrast produced by the disc against its background allows the disc to be seen as long as this contrast is above the threshold value for human visibility.

Contrast is usually defined in the following manner:

$$\text{Contrast} = \left|\frac{\text{Object brightness} - \text{Background brightness}}{\text{Background brightness}}\right|$$

where the absolute value signs are used to keep the quantity positive when contrast is produced by a dark object on a light background.

In this particular case, there are two distinct contrasts to be dealt with—the apparent contrast, or that which the eye sees, and the actual contrast, or that which actually exists at the disc level.

Using the symbols defined above, the apparent contrast C_A may be expressed as:

(1) $$C_A = \frac{B_o - B_b}{B_b}$$

and the actual contrast, C_R, by:

(2) $$C_R = \frac{B_{oD} - B_{bD}}{B_{bD}}$$

It turns out that diminutions of contrast through an attenuating medium follow this relationship:

(3) $$C_A = C_R e^{-kD}$$

or, substituting the values for C_A and C_R from (1) and (2) in (3) we get:

(4) $$\frac{B_o - B_b}{B_b} = \frac{B_{oD} - B_{bD}}{B_{bD}} e^{-kD}$$

Since B_o is the brightness of the disc at the eye, this means that only the amount of sunlight reaching the eye from the disc is involved.

Let us derive an expression for B_o in terms of some of the other variables. If there are B_s units of illumination striking the sea surface, R_sB_s units will be lost owing to reflection, and B_s $(1-R_s)$ will be the amount of light actually entering the water surface. At a depth of $(d+D)$ the light value will now be $B_s(1-R_s)e^{-k(d+D)}$.

Since only R_d of the light reaching the disc is reflected from it, the light just leaving the disc would then have a value equal to $B_s(1-R_s)e^{-k(d+D)}R_d$, which is B_{oD}.

(5) $$B_{oD} = B_s(1 - R_s)e^{-k(d+D)}R_d$$

Traveling back upward, the light would be further attenuated over the distance D, so that at the bottom of the hydroscope the brightness value would now be equal to $B_s(1-R_s)e^{-k(d+D)}R_de^{-kD}$. One more reflective loss occurs at air-glass-water interface which may be assumed to be equal percentagewise to the original surface reflective loss so that the object brightness at the eye turns out to be:

(6) $$\begin{aligned} B_o &= B_s(1 - R_s)e^{-k(d+D)}R_de^{-kD}(1 - R_s) \\ &= B_sR_d(1 - R_s)^2e^{-k(d+2D)} \end{aligned}$$

Using the same methodology for calculation of the background brightness, we get the following:

(7) $$B_b = B_sU_w(1 - R_s)^2e^{-kD}$$

(8) $$B_{bD} = B_sU_w(1 - R_s)e^{-k(d+D)}$$

When (5), (6), (7), and (8) are substituted back in (4), the following is obtained:

$$\frac{B_sR_d(1 - R_s)^2e^{-k(d+2D)} - B_sU_w(1 - R_s)^2e^{-kD}}{B_sU_w(1 - R_s)^2e^{-kD}} = \frac{e^{-kD}B_sR_d(1 - R_s)e^{-k(d+D)} - B_sU_w(1 - R_s)e^{-k(d+D)}}{B_sU_w(1 - R_s)e^{-k(d+D)}}$$

which, upon simplification becomes:

(9) $$\frac{R_de^{-2kD} - U_w}{U_w} = \left(\frac{R_d - U_w}{U_w}\right)e^{-kD}$$

Clearing fractions and transposing:

$$e^{-2kD} - \left(\frac{R_d - U_w}{R_d}\right)e^{-kD} - \frac{U_w}{R_d} = 0$$

Letting $\dfrac{U_w}{R_d} = A$, and simplifying, gives:

$$e^{-2kD} - (1 - A)e^{-kD} - A = 0$$

or, multiplying by e^{2kD} to give positive exponents, we get:

$$Ae^{2kD} + (1 - A)e^{kD} - 1 = 0$$

which, when solved for e^{kD} gives:

(10) $$e^{kD} = \frac{1}{A} = \frac{R_d}{U_w}$$

or in terms of natural logarithms:

$$kD = ln \frac{R_d}{U_w}$$

(11) $$k = \frac{1}{D} ln \frac{R_d}{U_w}$$

which in common logarithms is:

(12) $$k = \frac{2.3}{D} \log \frac{R_d}{U_w} \text{ (for } D \text{ in meters)}$$

(13) $$k = \frac{7.54}{D} \log \frac{R_d}{U_w} \text{ (for } D \text{ in feet)}$$

Equations (12) and (13), then, express a relationship involving k, the extinction coefficient, D, the Secchi Disc reading, R_d, the reflectivity of the disc used, and U_w, the relative amount of light traveling in an upward direction compared to that traveling downward. Let us look at each one of these variables a little more closely.

If we define a term E, sometimes called optical density, as:

$$E = \log \frac{100}{\%T}$$

where $\%T$=percent transmission, we may express k in terms of E by:

$$k = 2.3\,E$$

since k is given in terms of natural logarithms. Since E values and $\%T$ values are conveniently tabulated in readily available tables, we may easily obtain a k value for any $\%T$ value we may have as given by the hydrophotometer. In this manner we may reduce any hydrophotometer reading to its equivalent Secchi Disc reading or vice versa by substituting the k or D value in equation (12) or (13).

The D is, of course, the Secchi Disc reading which may be either read directly or calculated from the hydrophotometer reading. For the disc used R_d was about 0.8.

The relative amount of upwelling light, U_w, however, was not measured and values were assumed for this quantity, based on other data taken by Williams in Chesapeake Bay and by the calculated values from the large number of stations where both Secchi Disc readings and hydrophotometer readings were taken.

If equation (12) is rewritten:

$$k = \frac{x}{D}$$

where

$$x = 2.3 \log \frac{R_d}{U_w}$$

or, since $R_d = 0.8$,

$$x = 2.3 - 0.1 + \log \frac{1}{U_w}.$$

A plot of x vs. D may now be made, where x is calculated from stations at which hydrophotometer readings which give k and Secchi Disc readings which give D were taken simultaneously. This plot shows a marked variation of U_w as the Secchi Disc reading is changed, and is the graph which was used to determine unknown U_w values when the S.D. readings were known, both for stations which had hydrophotometer and Secchi Disc readings and for those which had only S.D. data.

By means of this methodology, then, it was possible to calculate equivalent Secchi Disc readings for each hydrophotometer reading taken.

DISCUSSION OF DATA

In the two appended tables, all the data taken on the *Elsie Fenimore* are tabulated. Table 1 includes the hydrophotometer and Secchi Disc data presented by seasons and in geographical order from North to South. Winter is considered to include the months of January, February, and March; spring—April, May, and June; summer—July, August, and September; and fall—October, November, and December. The various stations may be easily located by number on the series of charts (figs. 1-13, preceding the tables), which show the latitude and longitude of each of the stations mentioned.

Table 2 includes all the other data taken, utilizing the various devices of Dyer plus a few others which were also used. These data are presented in simple geographical order, proceeding from north to south.

The data as a whole, although being among the most extensive available at the present time, have many limitations and shortcomings, and these should be kept in mind while any attempt at utilization is being made.

The hydrophotometer readings were taken with utmost care. However, the calibration in air was apparently not standardized, the adjustment varying from 92 to 96%T in air instead of 92 percent as previously mentioned. This would have the effect of making all readings above 90 percent highly suspect since a small change in %T at this end of the scale is associated with a large change in the Secchi Disc reading.

This is probably also the reason for the significant number of readings which are above 100 percent, and hence change from quantitative readings to qualitative. This 92 percent reading in air as being the equivalent of a 100%T reading in water was apparently unknown to the data takers, which is not surprising since the instruction book written for the U.S. Navy Hydrophotometer Mk. II specifies a calibration setting of 100 percent in air.

The Secchi Disc readings in general are undoubtedly quite reliable. However, any taken when the sun was low in the sky or in the shade of the boat are probably doubtful.

In table 2 are given the remainder of the data taken with instruments other than the hydrophotometer or Secchi Disc. These data have been tabulated separately, since their meaning is not as well understood as those in table 1.

An attempt was made to deduce some sort of a regular pattern of transparency in the area covered, but no regular pattern appears to exist. This may be due to the fact that all stations were not taken simultaneously (a physical impossibility), although this is not necessarily so. Previous experience indicates that local conditions, especially in more shallow coastal regions, almost completely determine transparency conditions at any one point in space and time. Thus the turbidity will vary from one place to another, one depth to another, one time to another with seemingly constant environmental conditions. These data seem to emphasize this seemingly unpredictable nature of transparency in natural waters.

In general, however, the data do show the following expected changes in transparency:

1. An increase in transparency with distance from the coast.
2. A seasonal change in transparency, with the winter months seeming to provide the greatest turbidity.
3. An increased turbidity around heavily industrialized areas.

These three are, of course, to be expected, as outlined by Williams [35] in a set of general rules for predicting transparency based on geographical location, weather conditions, proximity of polluting sources, etc. But there are so many variables to be considered simultaneously that these generalizations are often invalid.

This information is therefore presented not as a basic scientific study to determine the causes of transparency variations, but rather to present actual conditions existing at particular points in time and space.

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56°
55°
54°
53°
52°
51°
51°
52°
50°
49°
48°
47°
LABRADOR
Straits of Belle Isle
LOW GROUND
Hare Bay
MTS.
Fourché Bay
C. St. Johns
Bay of Exploits
NEWFOUNDLAND
Freshwater Bay
Trinity Hbr.
Fâcheux B.
Belle Bay
PLACENTIA BAY
AVALON PENINSULA
St. John's

Fig. 1.

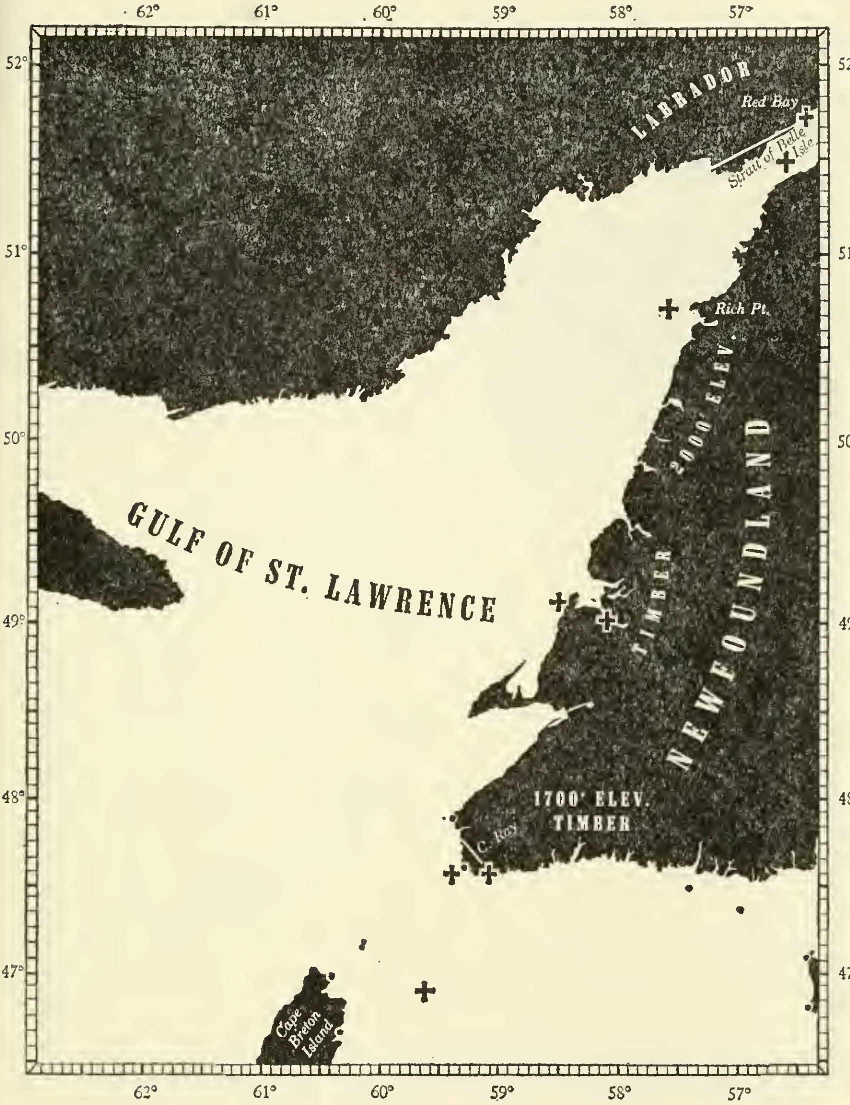
62°
61°
60°
59°
58°
57°
52°
51°
50°
49°
48°
47°
LABRADOR
Red Bay
Strait of Belle Isle
Rich Pt.
2000' ELEV.
TIMBER
NEWFOUNDLAND
GULF OF ST. LAWRENCE
1700' ELEV.
TIMBER
C. Ray
Cape Breton Island

FIG. 2.


63°
62°
61°
60°
59°
58°
46°
45°
44°
43°
42°
41°
CAPE BRETON ISLAND
Sydney
NOVA SCOTIA
TIMBER
ELEV. TO 600 FT.
C. Canso
Halifax
Sable Island

FIG. 3.


69°
68°
67°
66°
65°
64°
46°
45°
44°
43°
42°
41°
40°
AGRICULTURAL
TIMBERED
BAY OF FUNDY
NOVA SCOTIA
LOW LANDS
Yarmouth
Halifax
GEORGES BANK

FIG. 4.

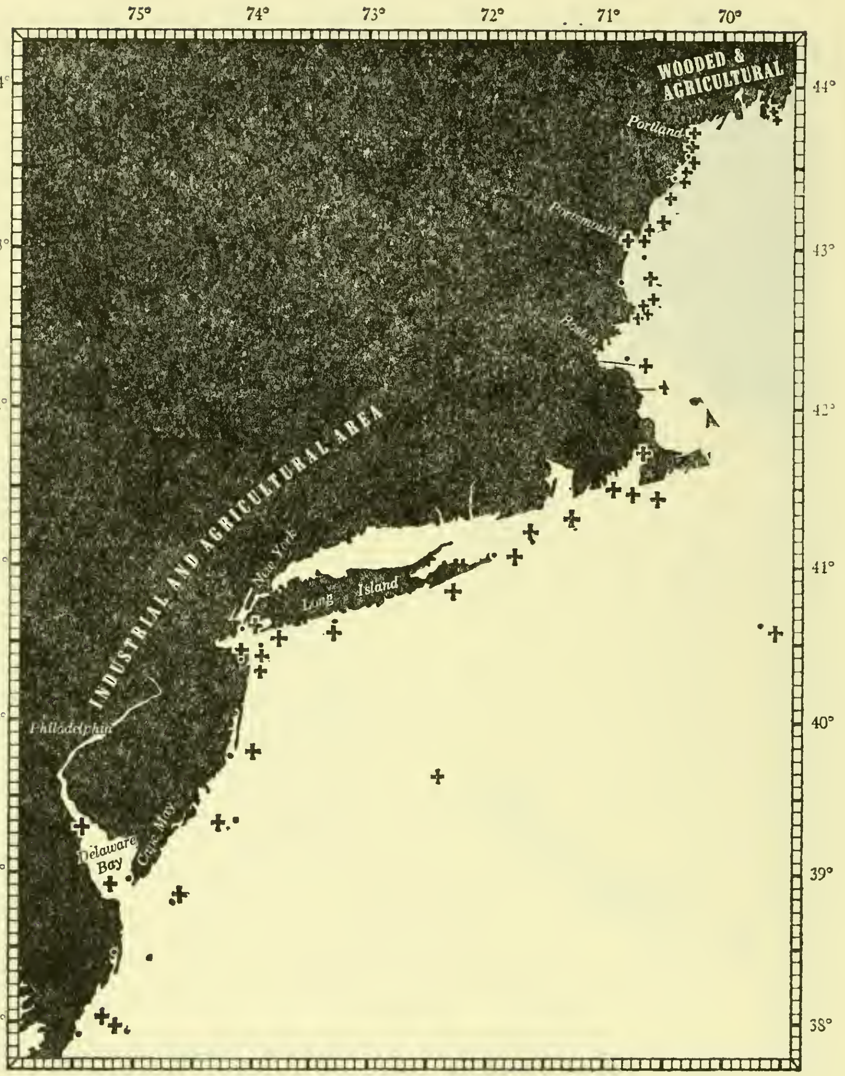
75°
74°
73°
72°
71°
70°
44°
43°
42°
41°
40°
39°
38°
WOODED & AGRICULTURAL
Portland
Portsmouth
Boston
INDUSTRIAL AND AGRICULTURAL AREA
New York
Long Island
Philadelphia
Delaware Bay
Cape May

FIG. 5.


79°
78°
77°
76°
75°
74°
39°
38°
37°
36°
35°
34°
33°
CHESAPEAKE BAY
Norfolk
SWAMP AREA
Pamlico Sound
C. Hatteras
Wilmington
C. Fear

FIG. 6.

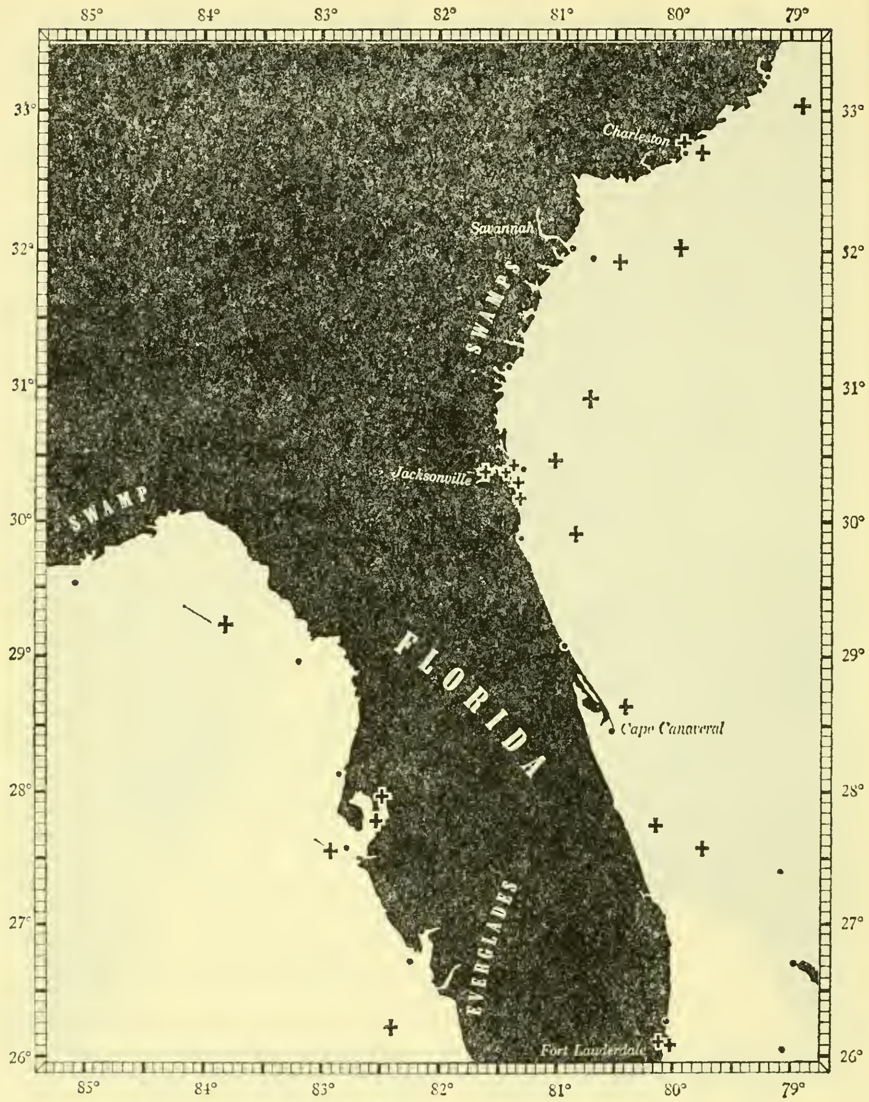
85°
84°
83°
82°
81°
80°
79°
33°
32°
31°
30°
29°
28°
27°
26°
Charleston
Savannah
SWAMPS
Jacksonville
SWAMP
FLORIDA
Cape Canaveral
EVERGLADES
Fort Lauderdale

FIG. 7.


79°
78°
77°
76°
75°
74°
28°
27°
26°
25°
24°
23°
22°
21°
BAHAMA ISLANDS
Andros Island
GREAT BAHAMA BANK
CUBA

Fig. 8.


FLORIDA
Miami
Key West
STRAITS OF FLORIDA
Habana
CUBA
85°
84°
83°
82°
81°
80°
79°
26°
25°
24°
23°
22°
21°
20°
19°

Fig. 9.


91°
90°
89°
88°
87°
86°
30°
29°
28°
27°
26°
25°
24°
23°
SWAMPY SHORE
NEW ORLEANS
Mississippi River
Mobile Bay
Pensacola
GULF OF MEXICO

FIG. 10.

91°
90°
89°
88°
87°
86°
23°
22°
21°
20°
19°
18°
17°
16°
CAMPECHE BANK
YUCATAN CHANNEL
Alacran
Reef
YUCATAN PENINSULA
Campeche

FIG. 11.

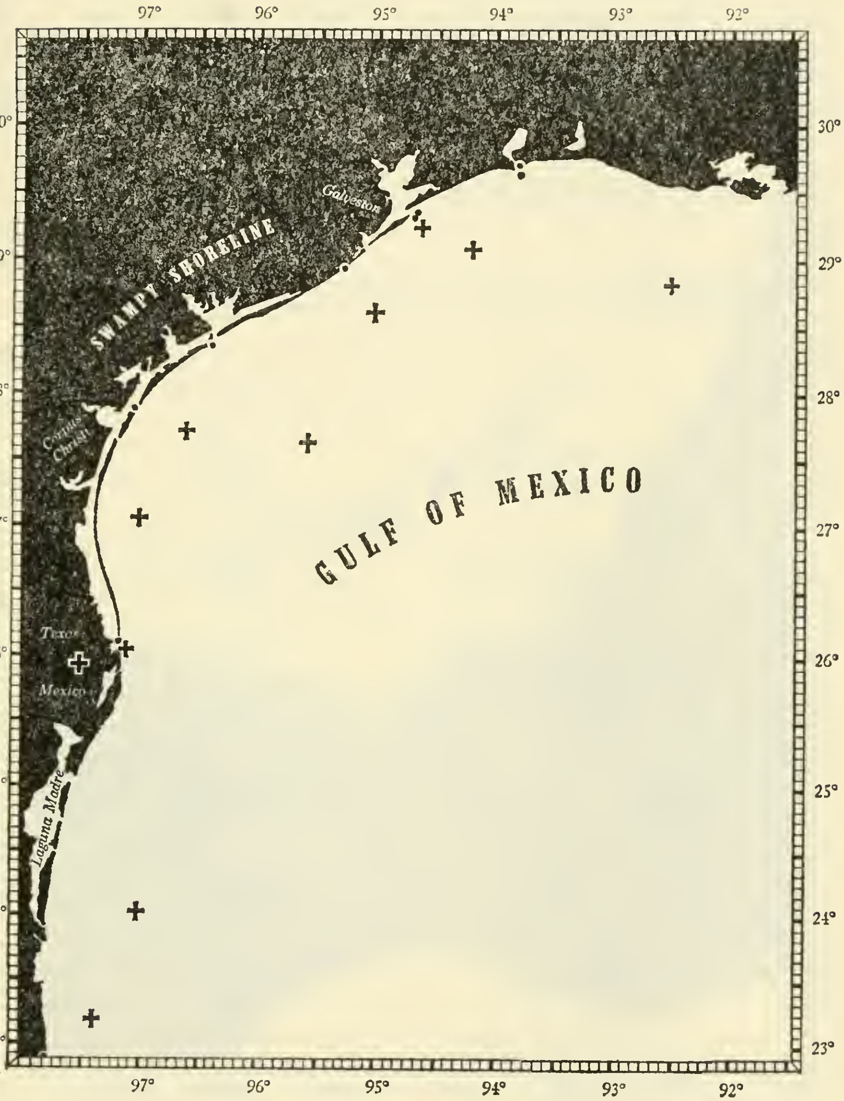
97°
96°
95°
94°
93°
92°
30°
29°
28°
27°
26°
25°
24°
23°
Galveston
SWAMPY SHORELINE
Corpus Christi
GULF OF MEXICO
Texas
Mexico
Laguna Madre

FIG. 12.

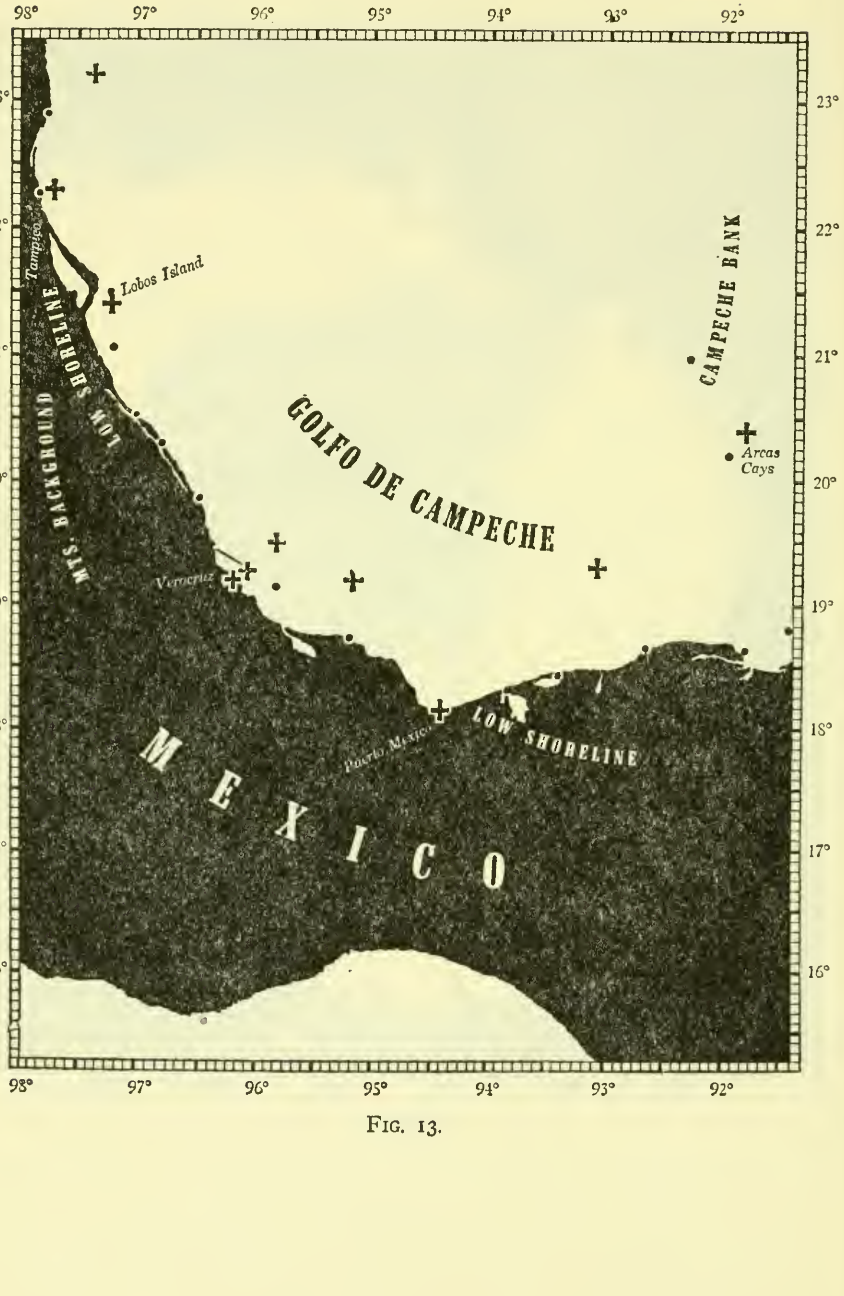
98°
97°
96°
95°
94°
93°
92°
23°
22°
21°
20°
19°
18°
17°
16°
Tampico
Lobos Island
MTS. BACKGROUND
LOW SHORELINE
GOLFO DE CAMPECHE
CAMPECHE BANK
Arcas Cays
Veracruz
Puerto Mexico
LOW SHORELINE
MEXICO

FIG. 13.

TABLE 1.—*Equation of hydrophotometer readings to equivalent Secchi Disc readings at stations studied*

A. WINTER

Location of station								
Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Off Ship John Light, Delaware Bay	39°17′42″	75°23′55″	3/9/48	1700	0–B	0	<1.5	—
Cape May Harbor	38°56′47″	74°54′08″	3/7/48	—	0–B	18–20	8.3	—
Do.	38°56′47″	74°54′08″	3/1/48	1625	0	40	11.5	—
					1′	40	11.5	
					2′	40	11.5	
					3′	38	11.2	
					4′	37	11	
					5′	36	10.9	
					6′	30	10	
					7′	34	10.6	
					8′	34	10.6	
					10′	32	10.3	
Do.	38°56′47″	74°54′08″	2/23/48	—	0–8′	8–10	6.4	—
					8′–B	4–5	5.2	—
Do.	38°56′47″	74°54′08″	2/22/48	2130	0	15	7.6	—
Brown Shoal, Delaware	38°54′.5	75°06′	3/9/48	1100	0	31	10.1	—
					6′	34	10.6	
					12′	35	10.7	
					18′	34	10.6	
					24′	27	9.6	
					30′	26	9.5	
					36′	25	9.4	
					42′	20	8.5	

(continued)

TABLE I.—(*continued*)

A. WINTER (*continued*)

Location of station								
Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Brown Shoal, Delaware	38°54'5	75°06'	3/9/48	1100	48'	18	8.1	
					B	15	7.6	
McCries Shoal (Occ.W)2	38°51'	74°51'	2/5/48	1000	0	60	16.3	—
					6'	60	16.3	
					12'	62	17	
					18'	62	17	
					24'	55	14.8	
					30'	55	14.8	
					36'	54	14.5	
					42'	50	13.5	
					B	50	13.5	
0.8 mile W. of Bloody Point Light, Chesapeake Bay	38°50'	76°25'	1/28/48	1312	0	20	8.5	5'
					6'	18	8.1	
					12'	18	8.1	
					18'	22	8.8	
					24'	25	9.4	
					30'	26	9.5	
					36'	22	8.8	
					42'	20	8.5	
					48'	18	8.1	
					54'	16	7.8	
					60'	13	7.2	
					66'	15	7.6	
Off Overfalls Light Ship	38°48'	75°01'5	2/5/48	1230	0	32	10.3	—
					6'	35	10.7	
					12'	37	11	
					18'	40	11.5	

					24′	38	11.2	
					30′	40	11.5	
					36′	38	11.2	
					42′	40	11.5	
					48′	45	12.4	
					54′	45	12.4	
					60′	45	12.4	
					66′	50	13.5	
2.6 miles S. of 5-Fathom Light Ship................	38°48′	74°35′.7	2/5/48	1500	0	95	61	—
					6′	95	61	
					12′	95	61	
					24′	95	61	
					36′	95	61	
					48′	95	61	
					60′	94	55	
					72′	94	55	
					78′	95	61	
					86′	94	55	
					B	94	55	
Lewes, Delaware, Breakwater Harbor..............	38°47′.75	75°06′.15	3/9/48	0900	0–B	0	<1.5	—
10.2 miles SE. of Overfalls Light Ship.............	38°42′	74°52′	2/4/48	1815	0	50	13.5	—
					6′	57	15.5	
					12′	70	20	
					18′	72	20.9	
					24′	72	20.9	
					30′	74	22	
					36′	74	22	
					42′	77	24	
					48′	74	22	
					60′	75	22.7	
					66′	72	20.9	
					72′	68	19.2	

(continued)

TABLE 1.—(*continued*)

A. WINTER (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
10.2 miles SE. of Overfalls Light Ship	38°42′	74°52′	2/4/48	1815	78′	45	12.4	
					B	40	11.5	
Point Patience, Solomons Island, Md.	38°19′30″	76°28′30″	1/8/43	1325	0	—	—	5½′
Off Cedar Point	38°19′	76°20′	1/29/48	1330	0	30	10	5½′
					6′	28	9.8	
					12′	28	9.8	
					18′	31	10.1	
					24′	30	10	
					30′	30	10	
					36′	28	9.8	
					42′	27	9.6	
					48′	25	9.4	
					54′	23	9	
					60′	20	8.5	
					66′	15	7.6	
Do.	38°19′	76°20′	1/29/48	1430	0	30	10	—
					6′	29	9.9	
					12′	32	10.3	
					18′	32	10.3	
					24′	31	10.1	
					30′	29	9.9	
					36′	29	9.9	
					42′	29	9.9	
					48′	25	9.4	
					54′	23	9	
					60′	16	7.8	
					66′	12	7	

Do.	38°19′	76°20′	1/29/48	1530	0	28	9.8	—
					6′	27	9.6	
					12′	31	10.1	
					18′	31	10.1	
					24′	30	10	
					30′	30	10	
					36′	30	10	
					42′	27	9.6	
					48′	23	9	
					54′	20	8.5	
					60′	12	7	
					66′	10	6.6	
Do.	38°19′	76°20′	1/29/48	1630	0	28	9.8	—
					6′	27	9.6	
					12′	30	10	
					18′	30	10	
					24′	29	9.9	
					30′	28	9.8	
					36′	27	9.6	
					42′	29	9.9	
					48′	29	9.9	
					54′	21	8.7	
					60′	10	6.6	
					66′	3	4.6	
Do.	38°19′	76°20′	1/29/48	1730	0	30	10	—
					6′	27	9.6	
					12′	30	10	
					18′	29	9.9	
					24′	30	10	
					30′	29	9.9	
					36′	29	9.9	
					42′	29	9.9	

(continued)

TABLE 1.—(*continued*)

A. WINTER (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Off Cedar Point	38°19′	76°20′	1/29/48	1730	48′	28	9.8	
					54′	23	9	
					60′	8	6.2	
					66′	2	4.1	
Off Cedar Point, (FLR) "16C"	38°19′	76°20′	1/29/48	1830	0	30	10	—
					6′	31	10.1	
					12′	30	10	
					18′	31	10.1	
					24′	31	10.1	
					30′	29	9.9	
					36′	29	9.9	
					42′	30	10	
					48′	30	10	
					54′	25	9.4	
					60′	13	7.2	
					66′	10	6.6	
Do.	38°19′	76°20′	1/29/48	1930	0	30	10	—
					6′	31	10.1	
					12′	32	10.3	
					18′	32	10.3	
					24′	30	10	
					30′	30	10	
					36′	32	10.3	
					42′	31	10.1	
					48′	31	10.1	
					54′	27	9.6	

					60′	25	9.4	
					66′	15	7.6	
Do.	38°19′	76°20′	1/9/48	2030	0	30	10	—
					6′	30	10	
					12′	32	10.3	
					18′	32	10.3	
					24′	32	10.3	
					30′	32	10.3	
					36′	32	10.3	
					42′	30	10	
					48′	29	9.9	
					54′	27	9.6	
					60′	23	9	
					66′	15	7.6	
Do.	38°19′	76°20′	1/29/48	2130	0	32	10.3	—
					6′	30	10	
					12′	31	10.1	
					18′	32	10.3	
					24′	32	10.3	
					30′	32	10.3	
					36′	32	10.3	
					42′	32	10.3	
					48′	30	10	
					54′	25	9.4	
					60′	20	8.5	
					66′	15	7.6	
Do.	38°19′	76°20′	1/29/48	2230	0	30	10	—
					6′	30	10	
					12′	30	10	
					18′	31	10.1	
					24′	29	9.9	

(continued)

TABLE 1.—(*continued*)

A. WINTER (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Off Cedar Point, (FLR) "16C"	38°19′	76°20′	1/29/48	2230	30′	28	9.8	
					36′	29	9.9	
					42′	30	10	
					48′	33	10.5	
					54′	31	10.1	
					60′	28	9.8	
					66′	15	7.6	
Do.	38°19′	76°20′	1/29/48	2330	0	28	9.8	—
					6′	28	9.8	
					12′	29	9.9	
					18′	27	9.6	
					24′	31	10.1	
					30′	30	10	
					36′	30	10	
					42′	31	10.1	
					48′	29	9.9	
					54′	29	9.9	
					60′	30	10	
					66′	15	7.6	
Off Fenwick Shoal	38°17′	75°02.′8	2/4/48	1616	0	65	18	—
					6′	67	18.7	
					12′	69	19.5	
					18′	62	17	
					24′	60	16.3	
					30′	60	16.3	
					36′	40	11.5	
					42′	30	10	

Off Great Gull Bank	38°16'.4	75°00'.4	2/4/48	1435	0	55	14.8	—
					6'	57	15.5	
					12'	58	15.7	
					18'	60	16.3	
					24'	59	16	
					30'	55	14.8	
					36'	48	13	
					42'	42	11.9	
					48'	15	7.6	
5-Fathom Curve, Off Assateague Island	38°02'.6	75°10'.7	2/4/48	1215	0	30	10	—
					6'	27	9.6	
					12'	27	9.6	
					18'	27	9.6	
					24'	20	8.5	
					30'	18	8.1	
					B	15	7.6	
10-Fathom Curve, off Winter Quarter Shoal	37°57'	75°05'.5	2/4/48	1100	0	53	14.3	—
					6'	62	17	
					12'	64	17.7	
					18'	64	17.7	
					24'	64	17.7	
					30'	63	17.3	
					36'	66	18.4	
					42'	70	20	
					48'	68	19.2	
					54'	65	18	
					60'	69	19.5	
					66'	65	18	
Assateague Anchorage	37°52'	75°22'	2/4/48	0745	0	5	5.5	—
					6'	6	5.7	
					12'	3	4.6	

(continued)

TABLE 1.—(*continued*)

A. WINTER (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Assateague Anchorage	37°52′	75°22′	2/4/48	0745	13′	2	4.1	
					14′	1	3.5	
					15′	1	3.5	
					16′	1	3.5	
					17′	1	3.5	
					18′	0	<1.5	
					19′	0	<1.5	
Off Black Fish Bank	37°47′	75°07′	2/4/48	0915	0	14	7.4	—
					6′	16	7.8	
					12′	16	7.8	
					18′	18	8.1	
					24′	16	7.8	
					30′	18	8.1	
					36′	10	6.6	
					B	5	5.5	
Off Cobb Island	37°25′	75°00′	2/3/48	1330	0	48	13	—
					6′	44	12.3	
					12′	32	10.3	
					18′	32	10.3	
					24′	38	11.2	
					30′	49	13.3	
					36′	40	11.5	
					42′	10	6.6	
					B	3	4.6	
Off Wolf Trap, Chesapeake Bay	37°20′30″	76°10′	1/9/43	1114	0	—	—	4½′
Thimble Shoal, Chesapeake Bay	37°05′36″	76°10′	1/10/43	1222	0	—	—	6½′

Do.	37°05′36″	76°10′	1/10/43	1400	0	—	—	6½′
Horseshoe Middle Grounds, Chesapeake Bay	37°05′35″	76°11′.5	2/3/48	0045	0	16	7.8	—
					6′	15	7.6	
					12′	16	7.8	
					13′	17	8	
					14′	16	7.8	
					15′	16	7.8	
					16′	14	7.4	
					17′	14	7.4	
					18′	14	7.4	
					19′	8	6.2	
					20′	5	5.5	
					21′	4	5	
					22′	2	4.1	
					23′	1	3.5	
					24′	1	3.5	
Do.	37°05′35″	76°11′.5	2/3/48	0145	0	15	7.6	—
					6′	16	7.8	
					12′	16	7.8	
					13′	16	7.8	
					14′	16	7.8	
					15′	17	8	
					16′	17	8	
					17′	17	8	
					18′	16	7.8	
					19′	16	7.8	
					20′	14	7.4	
					21′	12	7	
					22′	3	4.6	
					23′	1	3.5	
					24′	0	<1.5	

(continued)

TABLE I.—(*continued*)

A. WINTER (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Horseshoe Middle Grounds, Chesapeake Bay........	37°05′35″	76°11′.5	2/3/48	0245	0	18	8.1	—
					6′	17	8	
					12′	18	8.1	
					13′	18	8.1	
					14′	18	8.1	
					15′	18	8.1	
					16′	18	8.1	
					17′	16	7.8	
					18′	16	7.8	
					19′	16	7.8	
					20′	15	7.6	
					21′	14	7.4	
					22′	8	6.2	
					23′	2	4.1	
					24′	0	<1.5	
Do.	37°05′35″	76°11′.5	2/3/48	0345	0	19	8.3	—
					6′	18	8.1	
					12′	20	8.5	
					13′	21	8.7	
					14′	20	8.5	
					15′	19	8.3	
					16′	18	8.1	
					17′	16	7.8	
					18′	15	7.6	
					19′	14	7.4	
					20′	12	7	
					21′	9	6.5	

					22′	4	5	
					23′	0	<1.5	
					24′	0	<1.5	
Do.	37°05′35″	76°11′.5	2/2/48	2045	0	18	8.1	—
					6′	10	6.6	
					12′	17	8	
					18′	5	5.5	
					24′	0	<1.5	
Do.	37°05′35″	76°11′.5	2/2/48	2145	0	15	7.6	—
					6′	16	7.8	
					12′	20	8.5	
					13′	12	7	
					14′	12	7	
					15′	11	6.8	
					16′	8	6.2	
					17′	2	4.1	
					18′	2	4.1	
					19′	4	5	
					20′	5	5.5	
					21′	0	<1.5	
					22′	9	6.5	
					23′	10	6.6	
					24′	10	6.6	
Do.	37°05′35″	76°11′.5	2/2/48	2245	0	15	7.6	—
					6′	15	7.6	
					12′	14	7.4	
					17′	12	7	
					18′	8	6.2	
					19′	4	5	
					20′	3	4.6	
					21′	2	4.1	

(*continued*)

TABLE 1.—(*continued*)

A. WINTER (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Horseshoe Middle Grounds, Chesapeake Bay	37°05'35"	76°11'5	2/2/48	2245	22'	1	3.5	
					23'	0	<1.5	
Do.	37°05'35"	76°11'.5	2/2/48	2345	0	16	7.8	—
					6'	14	7.4	
					12'	17	8	
					18'	3	4.6	
					24'	1	3.5	
Chesapeake Light Ship	37°00'	75°.7	2/3/48	1100	0	59	16	—
					6'	58	15.7	
					12'	57	15.5	
					18'	57	15.5	
					24'	54	14.5	
					30'	52	14	
					36'	45	12.4	
					42'	38	11.2	
					48'	32	10.3	
					54'	30	10	
Little Creek, Virginia	36°54'39"	76°10'55"	2/4/50	1030	0	27	9.6	54"
					6'	25	9.4	
					12'	25	9.4	
23½ miles E. of Currituck Sound	36°17'.5	75°19'.5	2/4/50	1900	0	93	51	—
					6'	94	55	
					12'	94	55	
					18'	92	48	
					24'–72'	93	51	
13½ miles E. of Chicamacomico Coast Guard Station	35°36'	75°11'.5	2/5/50	0200	0–B	83–85	31.7	—

Alligator and Pungo River Canal	35°30'.5	76°15'	1/13/43	1217	0	—	—	2½'
Pamlico River	35°21'	76°35'	1/13/43	1630	0	—	—	7'
Off Cape Hatteras	35°16'.75	75°22'.7	2/5/50	0600	0	76	23.3	—
					B	60	16.3	
Do.	35°08'	75°20'.5	2/5/50	0800	0–B	100+	>115	78'
Off Ocracoke Inlet	34°58'	75°57'.5	2/5/50	1334	0–48'	94	55	48'
Off Cape Lookout	34°32'.5	76°19'	2/5/50	1750	0–90'	98	88	—
Moorehead City, North Carolina coast	34°42'	76°40'	1/14/43	1555	0	—	—	8'
Wreck Buoy	33°57'.5	77°02'	2/6/50	0011	0–78'	99–94	88–55	—
Off Frying Pan Light Ship	33°27'.2	77°35'.5	2/6/50	0550	0–B	98	88	—
34.2 miles from Frying Pan Light	33°10'34"	78°10'06"	2/6/50	0940	0–B	96–99	68–103	46'
Off Cape Romain	32°59'	78°53'.5	2/6/50	1600	0–82'	94	55	—
Charleston area, off Fort Sumter	32°45'30"	79°52'	1/21/43	0847	0	—	—	2'4"
Do.	32°45'30"	79°52'	1/20/43	0935	0	—	—	2'8"
Charleston, S. C.	32°45'.2	79°54'	2/8/50	1215	0–B	2–4	4.5	16"
Charleston area, outside jetties	32°44'	79°49'	1/21/43	0915	0	—	—	10'
Charleston, S. C.	32°42'	79°46'	2/8/50	1100	0–B	36	10.9	—
Charleston Sea Buoy No. 2C	32°40'30"	79°43'	1/21/43	1005	0	—	—	20'
East of Savannah, Ga.	32°00'	79°54'	2/8/50	1945	0–B	100+	>115	—
Savannah area, Savannah Light Ship	31°57'	80°40'	1/21/43	1725	0	—	—	20'
Off Savannah Light Ship	31°53'.5	80°25'	2/8/50	2330	0–60'	93	51	—
E. of Cumberland Islands, Ga.	30°54'	80°41'.5	2/9/50	0630	0–96'	100	>115	—
Off St. Johns Light Ship	30°27'.5	81°06'.5	2/9/50	1130	0	90	42	27'
					6'	88	37.5	
					18'	85	32	
					24'	85	32	
					36'	83	29.5	
					48'	80	26.3	
					54'	75	22.7	
					60'	75	22.7	
Mayport, Fla., dockside	30°23'.5	81°26'.5	2/12/50	1845	0–16'	24–26	9.4	—

(*continued*)

TABLE 1.—(*continued*)

A. WINTER (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Jetties entrance, Mayport, Fla.	30°23′.5	81°22′	2/13/50	0915	0–30′	30	10	—
St. Johns River, Fla.	30°19′	81°38′	2/12/50	1630	0–24′	3–6	5.1	
Off Neptune Beach, Fla.	30°19′	81°22′	2/13/50	1000	6′	47	12.9	—
					12′	46	12.7	
					18′	55	14.8	
					24′	67	18.7	
					30′	69	19.5	
					36′	40	11.5	
					42′	15	7.6	
					B	3	4.6	
Off Ponte Verde, Fla.	30°14′	81°21′.5	2/13/50	1041	0	54	14.5	—
					6′	53	14.3	
					12′	57	15.5	
					18′	68	19.2	
					24′	47	12.9	
					30′	30	10	
					36′	18	8.1	
Off St. Augustine, Fla.	29°56′.3	80°48′.7	2/13/50	1600	0–98′	100+	>115	—
Galveston, Tex., Sea Buoy	29°19′	94°39′	3/28/50	1300	0	15	7.6	2′
					6′	10	6.6	
					12′	8	6.2	
					18′	9	6.4	
					24′	8	6.2	
					30′	5	5.5	
Heald Bank, off Galveston	29°05′	94°12′.5	3/30/50	1345	0–24′	68	19.2	*12′
					30′	67	18.7	
					36′	65	18	

					42′	60	16.3	
					46′	58	15.7	
Bay NW. of Mississippi entrance	29°02′	89°42′.3	3/31/50	2340	0–24′	37	11	—
					30′	50	13.5	
					36′	70	20	
					42′	67	18.7	
					48′	64	17.7	
					54′	55	14.8	
					60′	53	14.3	
					66′	50	13.5	
					78′	70	20	
					90′	92	48	
Gulf of Mexico	28°49′	92°32′	3/31/50	0130	0–72′	76	23.3	—
					78′	67	18.7	
					84′	42	11.9	
					90′	41	11.7	
					96′	41	11.7	
					102′	40	11.5	
Old Mississippi Canyon	28°39′	89°56′.5	3/31/50	2030	0–42′	90	42	—
					48′	92	48	
					54′–90′	99.5	110	
Off False Cape, Fla.	28°38′	80°20′.5	2/14/50	0515	0–54′	60	16.3	—
					60′	57	15.5	
					66′	55	14.8	
					72′	55	14.8	
15-Fathom Curve, off Freeport, Tex.	28°37′	95°01′.5	3/28/50	0750	0–36′	95	61	*43′5″
					42′	55	14.8	
					48′	13	7.2	
					54′	10	6.6	
					60′	8	6.2	
					66′	0	<1.5	

* Indicates Secchi Disc reading taken on shady side of vessel or under foggy conditions

(*continued*)

TABLE 1.—(*continued*)

A. WINTER (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
10-Fathom Curve, off Ship Shoal	28°37′	90°59′.5	3/31/50	1230	0–48′	78–82	24.6–28.3	19′2″
					48′–60′	30–35	10.3	
Off Winter Beach, Fla.	27°44′	80°10′	2/14/50	1315	0–30′	97	77	—
					36′	95	61	
					42′	93	51	
					48′	93	51	
100-Fathom Curve, off Corpus Christi	27°43′.5	95°30′	3/27/50	2350	0–150′	100+	>115	—
Gulf of Mexico, off Corpus Christi	27°42′	96°35′	3/27/50	1600	0–30′	90	42	36′
					36′	94	55	
					42′	96	68	
					48′–78′	100	>115	
Gulf of Mexico	27°00′	97°00′	3/21/50	2040	0–24′	87	35.5	—
					30′	93	51	
					36′	95	61	
					42′	95	61	
					48′–110′	98–100+	88–>115	
Lauderdale area, off Hollywood, Fla.	26°31′20″	80°05′55″	1/25/43	1015	0	—	—	39′
Port Everglades Harbor, Fla.	26°05′35″	80°07′.2	2/17/50	1530	6′	10	6.6	—
					12′	10	6.6	
					18′	23	9	
					24′	35	10.7	
					30′	50	13.5	
					36′	65	18	
Do.	26°05′35″	80°07′.2	2/17/50	1645	0	12	7	—
					6′	22	8.8	
					12′	47	12.9	

					18′	58	15.7	
					24′	50	13.5	
					30′	40	11.5	
Do.	26°05′35″	80°07′.2	2/17/50	1900	0	26	9.5	—
					6′	50	13.5	
					12′	54	14.5	
					18′	54	14.5	
					24′	55	14.8	
					30′	58	15.7	
					36′	59	16	
Do.	26°05′35″	80°07′.2	2/17/50	2000	0	34	10.6	—
					6′	55	14.8	
					12′	57	15.5	
					18′	62	17	
					24′	62	17	
					30′	64	17.7	
					36′	64	17.7	
Do.	26°05′35″	80°07′.2	2/17/50	2100	0	60	16.3	—
					6′	64	17.7	
					12′	75	22.7	
					18′	73	21.5	
					24′	75	22.7	
					30′	77	24	
					36′	78	24.6	
Fort Lauderdale, Dock, N.S.B.	26°05′30″	80°07′30″	2/9/43	0840	0	—	—	8′
Do.	26°05′30″	80°07′30″	2/7/43	0841	0	—	—	6½′
Do.	26°05′30″	80°07′15″	3/18/43	1935	0	—	—	10′
Do.	26°05′30″	80°07′15″	3/13/43	1055	0	—	—	9½′
Do.	26°05′30″	80°07′15″	3/12/43	1120	0	—	—	8½′
Do.	26°05′30″	80°07′15″	3/9/43	0830	0	—	—	7′
Do.	26°05′30″	80°07′15″	3/8/43	1800	0	—	—	6′

(*continued*)

TABLE I.—(*continued*)

A. WINTER (*continued*)

Location of station								
Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Fort Lauderdale, Dock, N.S.B.	26°05′30″	80°07′15″	2/13/43	1530	0	—	—	14′
Do.	26°05′30″	80°07′15″	2/12/43	1357	0	—	—	13½′
Do.	26°05′30″	80°07′15″	2/10/43	0835	0	—	—	7′
Do.	26°05′30″	80°07′15″	2/10/43	1046	0	—	—	7½′
Do.	26°05′30″	80°07′15″	2/10/43	1142	0	—	—	8½′
Do.	26°05′30″	80°07′15″	2/10/43	1245	0	—	—	10′
Do.	26°05′30″	80°07′15″	2/10/43	1456	0	—	—	10½′
Do.	26°05′30″	80°07′15″	2/10/43	1548	0	—	—	8½′
Do.	26°05′30″	80°07′15″	2/10/43	1648	0	—	—	7′
Do.	26°05′30″	80°07′15″	2/10/43	1842	0	—	—	4′
Do.	26°05′30″	80°07′15″	1/30/43	1005	0	—	—	7½′
Do.	26°05′30″	80°07′15″	1/30/43	1355	0	—	—	10½′
Do.	26°05′30″	80°07′15″	1/28/43	0955	0	—	—	8′
Do.	26°05′30″	80°07′15″	1/28/43	1140	0	—	—	9′
Do.	26°05′30″	80°07′15″	1/28/43	1447	0	—	—	12′
Do.	26°05′30″	80°07′15″	1/28/43	1615	0	—	—	11′
Do.	26°05′30″	80°07′15″	1/23/43	1415	0	—	—	7½′
Do.	26°05′30″	80°07′15″	2/8/43	0828	0	—	—	6½′
Do.	26°05′30″	80°07′15″	2/6/43	0839	0	—	—	7½′
Do.	26°05′30″	80°07′15″	2/5/43	0835	0	—	—	7′2″
Do.	26°05′30″	80°07′15″	2/5/43	1041	0	—	—	7′1″
Do.	26°05′30″	80°07′15″	2/5/43	1105	0	—	—	7′
Do.	26°05′30″	80°07′15″	2/4/43	0855	0	—	—	7′3″
Do.	26°05′30″	80°07′15″	2/4/43	1246	0	—	—	5½′
Do.	26°05′30″	80°07′15″	2/4/43	1818	0	—	—	5′
Do.	26°05′30″	80°07′15″	2/3/43	0945	0	—	—	9′
Fort Lauderdale, Turning Basin	26°05′.5	80°07′	2/16/43	0900	0	—	—	15′

Do.	26°05′.5	80°07′	2/16/43	1000	0	—	—	10½′
Do.	26°05′.5	80°07′	2/16/43	1100	0	—	—	12½′
Do.	26°05′.5	80°07′	2/16/43	1200	0	—	—	12′
Do.	26°05′.5	80°07′	2/16/43	1300	0	—	—	11′
Do.	26°05′.5	80°07′	2/16/43	1400	0	—	—	10½′
Do.	26°05′.5	80°07′	2/16/43	1500	0	—	—	9½′
Do.	26°05′.5	80°07′	2/16/43	1600	0	—	—	10′
Do.	26°05′.5	80°07′	2/16/43	1700	0	—	—	10½′
Do.	26°05′.5	80°07′	2/16/43	1800	0	—	—	10′
Do.	26°05′.5	80°07′	2/16/43	1900	0	—	—	9½
Port Everglades Harbor	26°05′.5	80°05′.2	2/17/50	1430	0	52	14	15′
					6′	55	14.8	
					12′	85	32	
					18′–54′	92	48	
Port Everglades, Fla.	26°05′.5	80°05′.2	2/17/50	1845	0	83	29.5	—
					6′	83	29.5	
					12′	83	29.5	
					18′	89	40	
					24′–54′	96–92	68–48	
Do.	26°05′.5	80°05′.2	2/17/50	2145	0	98	88	—
					6′	98	88	
					12′	98	88	
					18′	98	88	
					24′	97	77	
					30′	96	68	
					36′	95	61	
					42′	93	51	
Lauderdale area, South Ship Channel	26°05′.5	80°05′	3/13/43	1300	0	—	—	60′
Santo Brazio, Sea Buoy	26°04′.5	97°06′.5	3/21/50	1135	0–36′	92	48	34′4″
					42′	88	37.5	
					48′	70	20	
					54′	50	13.5	

(*continued*)

TABLE 1.—(*continued*)

A. WINTER (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Lauderdale area, Gulf Stream	26°04′	80°07′	3/11/43	1300	0	—	—	83′
Lauderdale area, off Hollywood Beach	26°01′	80°05′.5	3/12/43	1440	0	—	—	39′
Do.	26°01′	80°05′.5	2/9/43	1130	0	—	—	55′
Do.	26°01′	80°05′.5	2/9/43	1600	0	—	—	53′
Do.	26°01′	80°05′.5	2/8/43	0918	0	—	—	37′
Do.	26°01′	80°05′.5	2/8/43	1532	0	—	—	44′
Do.	26°01′	80°04′.5	2/8/43	1618	0	—	—	55′
Off Hollywood Beach	26°00′	80°02′	2/1/43	0936	0	—	—	65′
Great Stirrup Bay	25°52′.5	77°51′.5	2/19/50	0330	0–166′	100+	>115	—
Entrance Nassau Harbor	25°05′	77°21′	2/19/50	1030	0–B	100+	>115	—
Middle Bight, Andros Island	24°20′	77°40′.7	2/22/50	1830	0–B	100+	>115	—
Tongue of the Ocean	24°07′	77°30′	2/23/50	0930	0	100+	>115	110′
Gulf of Mexico (approx.)	24°	97°	3/19/50	0230	0	100+	>115	—
Gulf of Mexico	23°09′.5	97°23′	3/18/50	2005	0	100+	>115	—
Havana Harbor, Central Port	23°09′	82°20′30″	3/3/50	1330	0	28	9.8	—
					6′	29	9.9	
					12′	48	13	
					18′	55	14.8	
					24′	75	22.7	
					30′	55	14.8	
Havana Harbor	23°09′	82°20′	3/2/50	1330	0	48	13	—
					6′	44	12.3	
					12′	57	15.5	
					18′	64	17.7	
					24′	48	13	
Off Matanzas, Cuba	23°04′.8	81°30′.2	2/25/50	0545	0	100+	>115	—
Dock at Matanzas, Cuba	23°03′.5	81°33′.4	2/27/50	1200	0–B	75–80	22.7–26.3	15′

Do.	23°03′.5	81°33′.4	2/27/50	1930	0	34	10.6	—
					6′	35	10.7	
					12′	43	12	
					18′	45	12.4	
					B	43	12	
Nicholas Channel	22°50′.1	79°10′.3	2/24/50	1400	0	100+	>115	114′
Yucatan Channel	22°49′	86°13′	3/4/50	1400	0	100+	>115	142′
Great Bahama Bank	22°49′	77°15′	2/24/50	0145	0	100+	>115	—
Campeche Bank	22°42′	89°18′	3/5/50	0830	0	100+	>115	—
Alacran Reef Anchorage	22°23′.5	89°41′.5	3/7/50	0933	6′	95	61	27′
				1030	6′	98½	95.5	
				1126	6′	98	88	
				1233	6′	99	103	
Do.	22°23′.5	89°41′.5	3/7/50	1315	6′	95	61	—
				1320	6′	95	61	
Do.	22°23′.5	89°41′.5	3/6/50	1320	0–B	99–89	103–40	24′
Off Tampico, Mexico	22°17′	97°43′	3/17/50	1440	0–84′	90–80	42–26.3	27′
Off Lobos Island	21°22′	97°14′	3/16/50	1300	0–54′	64	17.7	11′6″
					60′	50	13.5	
					66′	49	13.3	
					72′	44	12.3	
					78′	48	13	
Bay of Campeche	20°23′.5	91°50′	3/8/50	1130	0–100′	100+	>115	49′
Gulf of Campeche	19°25′.8	95°48′	3/15/50	1900	0–B	100+	>115	—
Do.	19°19′	93°03′	3/8/50	2200	0–50′	100+	>115	—
Mexico, off Vera Cruz Harbor	19°15′	96°05′	3/15/50	1530	0–24′	55	14.8	—
					24′–96′	60	16.3	
					102′–120′	61	16.7	
Vera Cruz Harbor, Mexico	19°12′05″	96°08′08″	3/12/50	1200	0	70	20	—
					6′	65	18	
					12′	65	18	
					B	60	16.3	

(continued)

TABLE 1.—(*continued*)

A. WINTER (*concluded*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Gulf of Campeche	19°11′.5	95°09′	3/11/50	1400	0–18′	68	19.2	12′
					24′	75	22.7	
					36′	80	26.3	
					48′	92	48	
					84′	100	>115	
Puerto Mexico Harbor	18°08′21″	94°24′43″	3/10/50	1200	0	35	10.7	6′
					6′	32	10.3	
					12′	37	11	
					18′	31	10.1	
					24′	31	10.1	
					B	23	9	

B. SPRING

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
New Castle, Del.	39°38′	75°34′	4/4/47	1340	S–B	0	<1.5	10″
Off Fords Landing	39°28′36″	75°56′54″	4/5/47	0730	0–15′	0	<1.5	8″
Off Howell Point, Chesapeake Bay	39°22′.5	76°06′53″	5/28/47	0930	0–B	0–2	<1.5–4.1	18″
Howell Point, Chesapeake Bay	39°22′.5	76°06′53″	4/5/47	1030	0–B	0	<1.5	8″
Sassafras River, Grove Point	39°22′36″	76°02′24″	6/23/47	1215	0	2	4.1	18″
					6′	0	<1.5	
					12′	0	<1.5	
					B	2	4.1	
Ordinary Point Anchorage, Sassafras River	39°22′20″	75°58′15″	6/23/47	0830	0–B	10–11	6.7	2′
					0–B	12–14	7.2	3′
Do.	39°22′20″	75°58′15″	6/22/47	1930	0–B	8	6.2	2½′
				2030	0–B	10–11	6.7	2½′
				2130	0–B	6–7	5.8	2½′

Do.	39°22′20″	75°58′15″	5/28/47	0830	0	8	6.2	$2\frac{1}{2}'$
					6′	7	6	
					12′	7	6	
					18′	7	6	
					B	4	5	
Do.	39°22′20″	75°58′15″	5/27/47	1615	0	7	6	$3\frac{1}{2}$
					6′	8	6.2	
					12′	7	6	
					18′	5	5.5	
					B	0	<1.5	
				1715	0	5	5.5	—
					6′	7	6	
					12′	6	5.7	
					18′	5	5.5	
					B	3	4.6	
Do.	39°22′20″	75°58′15″	5/27/47	1815	0	5	5.5	—
					6′	5	5.5	
					12′	5	5.5	
					18′	5	5.5	
					B	40	11.5	
				1915	0	7	6	—
					6′	5	5.5	
					12′	6	5.7	
					18′	5	5.5	
					B	5	5.5	
Do.	39°22′20″	75°58′15″	5/27/47	2015	0	3	4.6	—
					6′	4	5	
					12′	5	5.5	
					18′	5	5.5	
					B	4	5	
				2115	0	5	5.5	—

(continued)

TABLE 1.—(*continued*)

B. SPRING (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Ordinary Point Anchorage, Sassafras River	39°22′20″	75°58′15″	5/27/47	2115	6′	4	5	
					12′	5	5.5	
					18′	5	5.5	
					B	5	5.5	
Howell Point, Chesapeake Bay	39°22′18″	76°07′	6/23/47	1315	0–B	0	<1.5	8″
Ship John Light, Delaware River	39°17′42″	75°23′55″	4/19/49	1100	0	0	<1.5	—
					6′	0	<1.5	
					12′	0	<1.5	
					18′	0	<1.5	
					24′	0	<1.5	
					30′	0	<1.5	
					36′	0	<1.5	
Do.	39°17′42″	75°23′55″	4/19/49	1200	0	0	<1.5	—
					6′	0	<1.5	
					12′	0	<1.5	
					18′	0	<1.5	
					24′	0	<1.5	
					30′	0	<1.5	
					36′	0	<1.5	
Do.	39°17′42″	75°23′55″	4/19/49	1300	0	1	3.5	—
					6′	1	3.5	
					12′	1	3.5	
					18′	1	3.5	
					24′	1	3.5	
					30′	2	4.1	
Do.	39°17′42″	75°23′55″	4/19/49	1400	0	5	5.5	12″
					6′	3	4.6	

					12′	3	4.6	
					18′	2	4.1	
					24′	2	4.1	
					30′	2	4.1	
					36′	2	4.1	
Do.	39°17′42″	75°23′55″	4/19/49	1500	0	2	4.1	12″
					6′	2	4.1	
					12′	2	4.1	
					18′	2	4.1	
					24′	2	4.1	
					30′	3	4.6	
					36′	4	5	
Do.	39°17′42″	75°23′55″	4/19/49	1600	0	0	<1.5	15″
					6′	1	3.5	
					12′	1	3.5	
					18′	1	3.5	
					24′	0	<1.5	
					30′	0	<1.5	
					36′	1	3.5	
Do.	39°17′42″	75°23′55″	4/19/49	1700	0	1	3.5	14″
					6′	0	<1.5	
					12′	0	<1.5	
					18′	0	<1.5	
					24′	0	<1.5	
					30′	2	4.1	
					36′	2	4.1	
Do.	39°17′42″	75°23′55″	4/19/49	1800	0	2	4.1	14″
					6′	2	4.1	
					12′	2	4.1	
					18′	2	4.1	
					24′	3	4.6	
					30′	3	4.6	

(continued)

TABLE I.—(*continued*)

B. SPRING (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Ship John Light, Delaware River	39°17′42″	75°23′55″	4/19/49	1800	36′	5	5.5	
Do.	39°17′42″	75°23′55″	4/19/49	1900	0	0	<1.5	—
					6′	0	<1.5	
					12′	0	<1.5	
					18′	2	4.1	
					24′	2	4.1	
					30′	2	4.1	
					36′	1	3.5	
Do.	39°17′42″	75°23′55″	4/19/49	2000	0	0	<1.5	—
					6′	0	<1.5	
					12′	0	<1.5	
					18′	0	<1.5	
					24′	0	<1.5	
					30′	0	<1.5	
					36′	0	<1.5	
Do.	39°17′42″	75°23′55″	4/19/49	2100	0	0	<1.5	—
					6′	0	<1.5	
					12′	0	<1.5	
					18′	0	<1.5	
					24′	2	4.1	
					30′	5	5.5	
					36′	5	5.5	
Do.	39°17′42″	75°23′55″	4/19/49	2200	0	0	<1.5	—
					6′	0	<1.5	
					12′	0	<1.5	
					18′	0	<1.5	
					24′	0	<1.5	

					30′	0	<1.5	
					36′	0	<1.5	
Do.	39°17′42″	75°23′55″	4/19/47	0800	0	0	<1.5	8″
				0815	0–B	0	<1.5	—
				0915	0–B	0	<1.5	—
				0945	0–B	0	<1.5	—
Swan Point, Chesapeake Bay	39°07′40″	76°20′	5/8/49	1400	0	22	8.8	4′3″
					6′	21	8.7	
					12′	18	8.1	
					18′	5	5.5	
					24′	2	4.1	
Do.	39°07′40″	76°20′	6/24/47	0600	0	15	7.6	3½′
					6′	14	7.4	
					12′	25	9.4	
					15′	40	11.5	
					23′	18	8.1	
				0700	0	18	8.1	4′
					6′	21	8.7	
					12′	25	9.4	
					18′	41	11.7	
					24′	15	7.6	
Do.	39°07′40″	76°20′	6/24/47	0800	0	15	7.6	3′
					6′	20	8.5	
					12′	32	10.3	
					18′	41	11.7	
					24′	10	6.6	
				0900	0	11	6.8	3′
					6′	21	8.7	
					12′	31	10.1	
					18′	35	10.7	
					24′	10	6.6	

(continued)

TABLE I.—(*continued*)

B. SPRING (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Swan Point, Chesapeake Bay	39°07′40″	76°20′	6/24/47	1000	0	16	7.8	3½′
					6′	23	9	
					12′	36	10.9	
					18′	10	6.6	
					24′	5	5.5	
				1100	0	22	8.8	3′
					6′	26	9.5	
					12′	33	10.5	
					18′	16	7.8	
					24′	10	6.6	
Do.	39°07′40″	76°20′	6/24/47	1200	0	23	9	3½′
					6′	23	9	
					12′	31	10.1	
					18′	12½	7.1	
					24′	5	5.5	
				1300	0	30	10	4′
					6′	24	9.2	
					12′	27	9.6	
					18′	30	10	
					24′	10	6.6	
Do.	39°07′40″	76°20′	6/24/47	1400	0	24	9.2	4′
					6′	29	9.9	
					12′	37	11	
					18′	45	12.4	
					24′	10	6.6	
				1500	0	20	8.5	3½′
					6′	22	8.8	

					12′	36	10.9	
					18′	55	14.8	
					24′	24	9.2	
					B	10	6.6	
Do.	39°07′40″	76°20′	6/24/47	1600	0	20	8.5	4′
					6′	24	9.2	
					12′	42	11.9	
					18′	57	15.5	
					24′	10	6.6	
				1700	0	12	7	3½′
					6′	20	8.5	
					12′	48	13	
					18′	35	10.7	
					24′	10	6.6	
Do.	39°07′40″	76°20′	6/1/47	1030	0	12	7	1½′
					12′	6	5.7	
					18′	6	5.7	
					24′	22	8.8	
					30′	20	8.5	
					36′	20	8.5	
Do.	39°07′40″	76°20′	5/28/47	1130	0	5	5.5	2′
					6′	2	4.1	
					12′	2	4.1	
					18′	6	5.7	
					24′	4	5	
					B	4	5	
Do.	39°07′40″	76°20′	4/7/47	1215	0	4	5	—
					6′	3	4.6	
					12′	15	7.6	
					18′	22	8.8	
					24′	15	7.6	
					30′	7	6	

(continued)

TABLE 1.—(*continued*)

B. SPRING (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Swan Point, Chesapeake Bay	39°07′40″	76°20′	4/7/47	1230	6′	0	<1.5	—
					12′	0	<1.5	
					18′	17	8	
					24′	6	5.7	
					30′	3	4.6	
					36′	3	4.6	
					42′	0	<1.5	
					48′	0	<1.5	
Do.	39°07′40″	76°20′	4/5/47	1240	6′	5	5.5	4′
					12′	10	6.6	
					18′	15	7.6	
					24′	0	<1.5	
Gibson Island, Youth Club Anchorage	39°05′.1	76°25′.6	5/29/47	0745	0	30	10	—
					6′	30	10	
					12′	27	9.6	
Do.	39°05′.1	76°25′.6	5/28/47	1430	0	35	10.7	5′
					6′	25	9.4	
					12′	20	8.5	
				1900	0	20	8.5	—
					6′	20	8.5	
					12′	20	8.5	
				2000	0	20	8.5	—
					6′	20	8.5	
					12′	20	8.5	
				2100	0	25	9.4	—
					6′	24	9.2	
					12′	20	8.5	

Gibson Island, Chesapeake Bay (Inland Bay)	39°05′	76°26′.05	5/28/47	1500	0–15′	50–55	13.9	—
Magothy River, Mountain Point	39°03′30″	76°26′05″	6/23/47	1646	0	25	9.4	5′
					6′	14	7.4	
					12′	10	6.6	
					B	8	6.2	
				1746	0	22	8.8	—
					6′	15	7.6	
					12′	10	6.6	
					B	6	5.7	
				1946	0	10	6.6	—
					6′	8	6.2	
					12′	6	5.7	
					B	6	5.7	
Do.	39°03′30″	76°26′05″	6/23/47	2046	0	4	5	—
					6′	8	6.2	
					12′	10	6.6	
					B	8	6.2	
Eastern Bay, vicinity Claybourne	38°57′24″	76°15′30″	5/29/47	1220	0	70	20	—
					6′	65	18	
					12′	50	13.5	
					18′	50	13.5	
					24′	45	12.4	
					30′	20	8.5	
Brown Shoal, Delaware River	38°54′.5	75°06′	4/20/49	1100	0	45	12.4	5½′
					6′	34	10.6	
					12′	33	10.5	
					18′	34	10.6	
					24′	38	11.2	
					30′	37	11	
					36′	28	9.8	
					42′	26	9.5	
					45′	20	8.5	

(continued)

TABLE I.—(*continued*)

B. SPRING (*continued*)

Location of station								
Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Brown Shoal, Delaware River	38°54′.5	75°06′	4/20/49	1200	0	40	11.5	5′10″
					6′	25	9.4	
					12′	35	10.7	
					18′	33	10.5	
					24′	35	10.7	
					30′	25	9.4	
					36′	21	8.7	
					42′	20	8.5	
					B	15	7.6	
Do.	38°54′.5	75°06′	4/20/49	1300	0	40	11.5	5′
					6′	23	9	
					12′	24	9.2	
					18′	30	10	
					24′	33	10.5	
					30′	35	10.7	
					36′	34	10.6	
					42′	30	10	
					B	25	9.4	
Do.	38°54′.5	75°06′	4/20/49	1400	0	28	9.8	4½′
					6′	17	8	
					12′	27	9.6	
					18′	30	10	
					24′	37	11	
					30′	33	10.5	
					36′	29	9.9	
					42′	27	9.6	
					B	24	9.2	

Do.	38°54′.5	75°06′	4/20/49	1500	0	32	10.3	5½′
					6′	22	8.8	
					12′	30	10	
					18′	32	10.3	
					24′	37	11	
					30′	35	10.7	
					36′	32	10.3	
					42′	30	10	
					B	27	9.6	
Do.	38°54′.5	75°06′	4/20/49	1600	0	40	11.5	6½′
					6′	32	10.3	
					12′	34	10.6	
					18′	38	11.2	
					24′	38	11.2	
					30′	35	10.7	
					36′	27	9.6	
					42′	26	9.5	
					B	27	9.6	
Do.	38°54′.5	75°06′	4/20/49	1700	0	34	10.6	5½′
					6′	30	10	
					12′	33	10.5	
					18′	38	11.2	
					24′	38	11.2	
					30′	34	10.6	
					36′	28	9.8	
					42′	23	9	
					B	17	8	
Do.	38°54′.5	75°06′	4/20/49	1800	0	35	10.7	—
					6′	35	10.9	
					12′	33	10.5	
					18′	36	10.9	
					24′	34	10.6	

(continued)

TABLE I.—(*continued*)

B. SPRING (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Brown Shoal, Delaware River	38°54′.5	75°06′	4/20/49	1800	30′	36	10.9	
					36′	26	9.5	
					42′	22	8.8	
					B	20	8.5	
Tilghman Point, Chesapeake Bay	38°52′.5	76°15′.85	5/31/47	1045	0	50	13.5	9′
					6′	50	13.5	
					12′	49	13.3	
					18′	40	11.5	
					24′	40	11.5	
					30′	42	11.9	
					36′	42	11.9	
McCries Shoal Buoy	38°51′	74°51′	4/22/49	1100	0	66	18.4	13′6″
					6′	64	17.7	
					12′	63	17.3	
					18′	58	15.7	
					24′	57	15.5	
					30′	52	14	
					36′	47	12.9	
					42′	40	11.5	
					B	30	10	
1 mile W. of Bloody Point Light, Chesapeake Bay	38°50′	76°25′	6/26/47	1440	0	37	11	9′
					6′	39	11.4	
					12′	49	13.3	
					18′	50	13.5	
					24′	49	13.5	
					30′	51	13.8	
					36′	47	12.9	

					42′	53	14.3	
					48′	62	17	
					50′	65	18	
Do.	38°50′	76°25′	5/31/47	1200	0	21	8.7	4′
					6′	22	8.8	
					12′	36	10.9	
					18′	37	11	
					24′	37	11	
					30′	54	14.5	
					36′	50	13.5	
					40′	63	17.3	
					B	62	17	
Do.	38°50′	76°25′	5/29/47	1100	0	42	11.9	7′
					6′	41.5	11.8	
					12′	50	13.5	
					18′	55	14.8	
					24′	56	15.1	
					30′	52	14	
					36′	57.5	15.6	
					42′	56	15.1	
					48′	62.5	17.1	
					B	70	20	
Wye River, Chesapeake Bay	38°49′.7	76°12′.5	5/31/47	0955	0	54	14.5	10′
					6′	54	14.5	
					12′	54	14.5	
					18′	53	14.3	
					24′	50	13.5	
					B	40	11.5	
2.6 miles SE. x E. McCries Shoal	38°48′.6	74°47′.5	4/22/49	1000	0	66	18.4	10′6″
					6′	64	17.7	
					12′	62	17	

(continued)

TABLE I.—(*continued*)

B. SPRING (*continued*)

Location of station								
Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
2.6 miles SE. x E. McCries Shoal	38°48'.6	74°47'.5	4/22/49	1000	18'	66	18.4	
					24'	83	29.5	
					30'	83	29.5	
					36'	83	29.5	
					42'	83	29.5	
					48'	82	28.3	
					54'	82	28.3	
					60'	80	26.3	
					66'	78	24.6	
Overfalls Light Ship	38°48'	75°01'.5	4/22/49	1230	0	55	14.8	8'
					6'	45	12.4	
					12'	32	10.3	
					18'	33	10.5	
					24'	47	12.9	
					30'	51	13.8	
					36'	51	13.8	
					42'	50	13.5	
					48'	50	13.5	
					54'	50	13.5	
					60'	50	13.5	
					66'	50	13.5	
					72'	47	12.9	
Five-Fathom Light Ship	38°48'	74°35'40"	5/15/51	1445	0	90	42	37'
					12'	91	45	
					18'	92	48	
					24'	91	45	

					30′	91	45	
					36′	89	40	
					42′	81	27.2	
					48′	77	24	
					54′	74	22	
					66′	70	20	
					72′	78	24.6	
					78′	78	24.6	
Do.	38°48′	74°35′40″	4/22/49	0730	0	85	32	18′10″
					6′	82	28.3	
					12′	82	28.3	
					18′	82	28.3	
					24′	84	30.5	
					30′	88	37.5	
					36′	92	48	
					42′	92	48	
					48′	92	48	
					54′	90	42	
					60′	91	45	
					66′	92	48	
					72′	92	48	
					78′	93	51	
Vicinity of St. Michaels	38°47′18″	76°12′24″	5/30/47	0830	0	49	13.3	—
					6′	47	12.9	
					12′	46	12.7	
					B	46	12.7	
				0930	0	53	14.3	—
					6′	48	13	
					12′	48	13	
					B	46	12.7	
				1030	0	55	14.8	
					6′	52	14	

(continued)

TABLE 1.—(*continued*)

B. SPRING (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Vicinity of St. Michaels	38°47′18″	76°12′24″	5/30/47	1030	12′	50	13.5	
					B	48	13	
Do.	38°47′18″	76°12′24″	5/30/47	1130	0	44	12.3	—
					6′	41	11.7	
					12′	41	11.7	
					B	40	11.5	
				1200	0	44	12.3	—
					6′	40	11.5	
					12′	40	11.5	
					B	38	11.2	
				1330	0	45	12.4	—
					6′	43	12	
					12′	42	11.9	
					B	42	11.9	
Do.	38°47′18″	76°12′24″	5/30/47	1430	0	50	13.5	—
					6′	48	13	
					12′	48	13	
					B	45	12.4	
4 miles W. Five-Fathom Light Ship	38°47′	74°40″	4/22/49	0845	0	82	28.3	16′6″
					6′	82	28.3	
					12′	82	28.3	
					18′	85	32	
					24′	85	32	
					30′	86	33.5	
					36′	87	35.5	
					42′	87	35.5	

					48′	88	37.5	
					54′	90	42	
					60′	92	48	
					66′	92	48	
					72′	92	48	
					78′	92	48	
10.2 miles SE. Overfalls Light Ship	38°42′	74°52′	4/23/47	1010	0	90	42	18′
					6′	88	37.5	
					12′	86	33.5	
					18′	84	30.5	
					24′	82	28.3	
					30′	80	26.3	
					36′	90	42	
					42′	90	42	
					48′	92	48	
					54′	92	48	
					60′	93	51	
					66′	93	51	
					72′	92	48	
Oxford, Md.	38°41′42″	76°10′30″	6/27/47	0930	0	42	11.9	6′
					6′	33	10.5	
					12′	33	10.5	
					B	33	10.5	
Off Sharps Island, Chesapeake Bay	38°38′.4	76°25′.7	5/8/49	1030	0	55	14.8	8′4″
					6′	48	13	
					12′	44	12.3	
					18′	47	12.9	
					24′	44	12.3	
					30′	50	13.5	
					36′	38	11.2	
					42′	38	11.2	
					48′	27	9.6	

(*continued*)

TABLE 1.—(*continued*)

B. SPRING (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Potomac River	38°24′	77°05′	5/5/51	1600	0–B	0	<1.5	8″
Off Upper Cedar Point, Potomac River	38°24′	77°05′	5/6/49	0700	0	0	<1.5	10″
					6′	0	<1.5	
					12′	0	<1.5	
					18′	0	<1.5	
					24′	0	<1.5	
					30′	0	<1.5	
Do.	38°24′	77°05′	4/28/49	1400	0	4	5	4″
					6′	0	<1.5	
					12′	0	<1.5	
					18′	0	<1.5	
					24′	0	<1.5	
Bell (FLR) 16C	38°19′	76°20′	5/7/49	0730	0	54	14.5	9′9″
					6′	50	13.5	
					12′	49	13.3	
					18′	48	13	
					24′	48	13	
					30′	42	11.9	
					36′	45	12.4	
					42′	52	14	
					48′	50	13.5	
					54′	25	9.4	
					60′	28	9.8	
Do.	38°19′	76°20′	5/7/49	0830	0	54	14.5	8′5″
					6′	50	13.5	
					12′	47	12.9	
					18′	46	12.7	

					24′	47	12.9	
					30′	47	12.9	
					36′	40	11.5	
					42′	38	11.2	
					48′	50	13.5	
					54′	32	10.3	
					60′	28	9.8	
Do.	38°19′	76°20′	5/7/49	0930	0	56	15.1	9′4″
					6′	50	13.5	
					12′	45	12.4	
					18′	47	12.9	
					24′	50	13.5	
					30′	52	14	
					36′	44	12.3	
					42′	40	11.5	
					48′	38	11.2	
					54′	36	10.9	
					60′	30	10	
Do.	38°19′	76°20′	5/7/49	1030	0	64	17.7	9′8″
					6′	52	14	
					12′	48	13	
					18′	49	13.3	
					24′	50	13.5	
					30′	54	14.5	
					36′	50	13.5	
					42′	51	13.8	
					48′	42	11.9	
					54′	30	10	
					60′	26	9.5	
Do.	38°19′	76°20′	5/7/49	1130	0	70	20	9′9″
					6′	55	14.8	
					12′	50	13.5	

(*continued*)

TABLE I.—(*continued*)

B. SPRING (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Bell (FLR) 16C	38°19′	76°20′	5/7/49	1130	18′	50	13.5	
					24′	52	14	
					30′	54	14.5	
					36′	51	13.8	
					42′	53	14.3	
					48′	42	11.9	
					54′	22	8.8	
					60′	22	8.8	
Do.	38°19′	76°20′	5/7/49	1230	0	72	20.9	9′7″
					6′	58	15.7	
					12′	50	13.5	
					18′	51	13.8	
					24′	55	14.8	
					30′	57	15.5	
					36′	56	15.1	
					42′	60	16.3	
					48′	45	12.4	
					54′	35	10.7	
					60′	28	9.8	
Do.	38°19′	76°20′	5/7/49	1330	0	62	17	9′
					6′	55	14.8	
					12′	48	13	
					18′	48	13	
					24′	55	14.8	
					30′	58	15.7	
					36′	55	14.8	
					42′	58	15.7	

					48′	58	15.7	
					54′	28	9.8	
					60′	28	9.8	
Do.	38°19′	76°20′	5/7/49	1430	0	48	13	8′8″
					6′	42	11.9	
					12′	40	11.5	
					18′	45	12.4	
					24′	52	14	
					30′	55	14.8	
					36′	52	14	
					42′	56	15.1	
					48′	36	10.9	
					54′	30	10	
					60′	27	9.6	
Whistle Buoy off Fenwick Shoal	38°17′	75°02′.8	4/23/49	1300	6′	84	30.5	20′
					12′	81	27.2	
					18′	80	26.3	
					24′	78	24.6	
					30′	75	22.7	
					36′	76	23.3	
Breton Bay, Potomac River	38°14′	76°42′	4/28/49	0815	0	14	7.4	3′
					6′	10	6.6	
					12′	10	6.6	
					B	8	6.2	
Off Blackstone Island, Potomac River	38°11′.5	76°44′40″	5/6/49	1100	0	50	13.5	6′
					6′	35	10.7	
					12′	30	10	
					18′	32	10.3	
					24′	11	6.8	
					30′	10	6.6	
Do.	38°11′.5	76°44′40″	4/28/49	0915	0	22	8.8	4′
					6′	19	8.3	

(continued)

TABLE 1.—(*continued*)

B. SPRING (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Off Blackstone Island, Potomac River	38°11'.5	76°44'40"	4/28/49	0915	12'	18	8.1	
					18'	3½	4.8	
					20'	3	4.6	
					24'	3	4.6	
					30'	3	4.6	
Bell "B" (FLR)	38°01'	76°21'	5/6/49	1415	0	55	14.8	8'
					6'	46	12.7	
					12'	50	13.5	
					18'	54	14.5	
					24'	57	15.5	
					30'	57	15.5	
					36'	43	12	
					42'	38	11.2	
Do.	38°01'	76°21'	4/27/49	1530	0	28	9.8	6'
					6'	26	9.5	
					12'	35	10.7	
					18'	42	11.9	
					24'	43	12	
					30'	42	11.9	
					36'	44	12.3	
					42'	20	8.5	
					48'	20	8.5	
					54'	18	8.1	
Whistle Buoy (WQS) #6	37°57'	75°05'.5	4/23/49	1715	0	—	—	15'
					6'	72	20.9	
					12'	70	20	
					18'	70	20	

					24′	70	20	
					30′	70	20	
					36′	66	18.4	
					42′	66	18.4	
					48′	69	19.5	
					54′	70	20	
					60′	69	19.5	
					66′	40	11.5	
Bell Buoy (FLW) ZTL, off Chincoteague Inlet.....	37°48′	75°18′	4/24/49	0715	0	64	17.7	12′
					6′	63	17.3	
					12′	66	18.4	
					18′	30	10	
					24′	23	9	
					B	24	9.2	
Off Wolf Trap Light, Chesapeake Bay..............	37°23′	76°10′	4/27/49	1030	0	54	14.5	7′11″
					6′	52	14	
					12′	32	10.3	
					18′	26	9.5	
					24′	23	9	
					30′	20	8.5	
Mouth York River, off Crab Neck.................	37°11′30″	76°22′	4/27/49	0815	0	65	18	12′
					6′	62	17	
					12′	65	18	
					B	65	18	
Horseshoe Middle Grounds, Chesapeake Bay.........	37°05′35″	76°09′40″	4/26/49	1000	0	40	11.5	7½′
					6′	40	11.5	
					12′	39	11.4	
					18′	60	16.3	
					24′	62	17	
					30′	50	13.5	
Do.	37°05′35″	76°09′40″	4/26/49	1100	0	47	12.9	7′
					6′	45	12.4	

(continued)

TABLE 1.—(*continued*)

B. SPRING (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Horseshoe Middle Grounds, Chesapeake Bay.........	37°05′35″	76°09′40″	4/26/49	1100	12′	44	12.3	
					18′	65	18	
					24′	60	16.3	
					30′	53	14.3	
Do.	37°05′35″	76°09′40″	4/26/49	1200	0	42	11.9	7′
					6′	40	11.5	
					12′	47	12.9	
					18′	62	17	
					24′	62	17	
					30′	54	14.5	
Do.	37°05′35″	76°09′40″	4/26/49	1300	0	42	11.9	6½′
					6′	41	11.7	
					12′	55	14.8	
					18′	45	12.4	
					24′	45	12.4	
					30′	43	12	
Do.	37°05′35″	76°09′40″	4/26/49	1400	0	45	12.4	7′
					6′	42	11.9	
					12′	45	12.4	
					18′	54	14.5	
					24′	35	10.7	
					30′	27	9.6	
Do.	37°05′35″	76°09′40″	4/26/49	1500	0	41	11.7	6′
					6′	40	11.5	
					12′	45	12.4	
					18′	45	12.4	
					24′	40	11.5	

					30'	38	11.2	
Do.	37°05'35"	76°09'40"	4/26/49	1600	0	60	16.3	9'
					6'	60	16.3	
					12'	50	13.5	
					18'	50	13.5	
					24'	43	12	
					30'	42	11.9	
Do.	37°05'35"	76°09'40"	4/26/49	1700	0	60	16.3	11'
					6'	60	16.3	
					12'	53	14.3	
					18'	50	13.5	
					24'	45	12.4	
					30'	43	12	
Do.	37°05'35"	76°09'40"	4/26/49	1800	0	62	17	11'
					6'	63	17.3	
					12'	58	15.7	
					18'	54	14.5	
					24'	53	14.3	
					30'	38	11.2	
Do.	37°05'35"	76°09'40"	4/26/49	1900	0	58	15.7	—
					6'	60	16.3	
					12'	52	14	
					18'	50	13.5	
					24'	45	12.4	
					30'	30	10	
Do.	37°05'35"	76°09'40"	4/26/49	2000	0	57	15.5	—
					6'	55	14.8	
					12'	53	14	
					18'	47	12.9	
					24'	40	11.5	
					30'	36	10.9	

(continued)

TABLE 1.—(*continued*)

B. SPRING (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Chesapeake Light Ship	37°00′	75°.7	4/24/49	1345	0	84	30.5	22′
					6′	82	28.3	
					12′	81	27.2	
					18′	81	27.2	
					24′	80	26.3	
					30′	82	28.3	
					36′	85	32	
					42′	84	30.5	
					48′	85	32	
					54′	84	30.5	
Dockside, Pensacola, Fla.	30°24′	87°13′	4/3/50	0930	0	53	14.3	—
					6′–B	36	10.9	
Mayport, Fla., area	30°22′	81°21′	4/28/43	1345	0	—	—	18′
Do.	30°22′	81°21′	4/28/43	1620	0	—	—	21′
SE. of Pensacola, Fla.	30°12′.6	87°10′.2	4/7/50	1845	0–B	77–83	24–29.5	—
Southward of Mobile, Ala.	29°34′.5	88°13′.5	4/1/50	1300	0–78′	75	22.7	—
					78′–120′	70–55	20–14.8	
Westward of Swannee Sound	29°16′.7	83°42′.3	4/8/50	1600	0–B	98–100	88–>115	—
Southward of Cape San Blas	29°14′	85°24′.4	4/8/50	0600	0–B	100+	>115	—
Off Mississippi Entrance	28°48′.5	89°08′	4/1/50	0445	0–6′	65	18	—
					12′–18′	75	22.7	
					24′–60′	81–88	27.2–37.5	
					66′	93	51	
					72′	97	77	
					78′	99	103	
					84′	100	>115	
					90′	100	>115	

Tampa, Fla., Harbor	27°56′.5	82°26′40″	4/11/50	0900	0–18′	12	7	—
					18′–24′	35	10.7	
					24′–B	25	9.4	
Tampa Bay, mouth of Hillsboro Bay	27°47′.5	82°30′.5	4/11/50	1015	0–18′	54	14.5	11′4″
					24′	25	9.4	
					30′	10	6.6	
Off Tampa Bay, Sea Buoy	27°35′	82°56′	4/9/50	0414	0–42′	82–87	28.3–35.5	—
Off Sanibel Island	26°13′	82°23′.5	4/11/50	2315	0–B	85–86	32–33.5	—
Fort Lauderdale, Dock, N.S.B.	26°05′30″	80°07′15″	4/22/43	1052	0	—	—	12′
Smith Shoal Light, Key West	24°43′	81°54′.5	4/12/50	1005	0–24′	57–59	15.7	9′
					28′	65	18	
Tortugas Bank in 11 fathoms	24°38′45″	83°02′50″	5/26/45	1335	18′	100+	>115	—
SW. Channel, Dry Tortugas	24°35′30″	82°57′40″	5/26/45	1440	18′	96½–100	72–>115	—
Garden Key, Dry Tortugas	24°35′10″	82°54′55″	5/27/45	0920	18′	97	77	—
				1035	18′	97½	82.5	—
				1102	18′	98	88	—
				1133	18′	97½	82.5	—
				1305	6′	96	68	—
					12′	95½	64	
					18′	96	68	
					24′	96	68	
					30′	96	68	
				1355	18′	96½	72.5	
				1420	6′	94	55	—
					12′	93	51	
					18′	93	51	
					24′	94	55	
					30′	95	61	
Do.	24°35′10″	82°54′55″	5/22/45	0800	18′	97	77	—
				1200	18′	91	45	—
				1410	18′	90	42	—
				1430	6′	91	45	—

(continued)

TABLE 1.—(*continued*)

B. SPRING (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Garden Key, Dry Tortugas	24°35′10″	82°54′55″	5/22/45	1430	12′	90	42	
					18′	90	42	
					24′	89	40	
					30′	90	42	
Do.	24°35′10″	82°54′55″	5/23/45	0925	18′	97	77	—
				1010	18′	97	77	—
				1115	18′	97	77	—
				1205	18′	96	68	—
				1330	18′	97	77	—
Do.	24°35′10″	82°54′55″	5/24/45	1000	6′	99	103	—
					12′	99	103	
					18′	99½	110	
					24′	99	103	
				1225	18′	98½	95.5	—
				1300	18′	100+	>115	—
				1330	6′	100+	>115	—
					12′	100+	>115	
					18′	100+	>115	
					24′	100+	>115	
					30′	100	>115	
				1434	18′	100	>115	—
Do.	24°35′10″	82°54′55″	5/25/45	0945	18′	100	>115	—
				1030	6′	100	>115	—
					12′	100	>115	
					18′	100	>115	
					24′	99	103	
					30′	99	103	

				1135	6′	99	103	—
					12′	99½	110	
					18′	99½	110	
					24′	100	>115	
					30′	99½	110	
Do.	24°35′10″	82°54′55″	5/25/45	1225	6′	100+	>115	—
					12′	100+	>115	
					18′	100+	>115	
					24′	100+	>115	
					30′	100+	>115	
				1340	6′	100+	>115	—
					12′	100+	>115	
					18′	100+	>115	
					24′	99–100	103->115	
					30′	97	77	
Do.	24°35′10″	82°54′55″	5/26/45	1530	18′	92–95	48–61	—
				1540	18′	92½	49.5	—
Do.	24°35′10″	82°54′55″	5/17/45	1323	18′	100	>115	—
				1520	18′	100	>115	—
				1715	18′	95	61	—
Do.	24°35′10″	82°54′55″	5/18/45	1315	18′	94	55	—
Do.	24°35′	—	5/25/45	1530	6′	72	20.9	—
					12′	70	20	
					18′	65	18	
					22′	64	17.7	
				1700	6′	93	51	—
					12′	93	51	
					18′	93	51	
					22′	68	19.2	
					B	13	7.2	
				1702	B	55	14.8	—

(*continued*)

TABLE 1.—(*continued*)

B. SPRING (*concluded*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
American Shoal	24°31′	81°32′.7	4/13/50	1130	0–B	100+	>115	—
100-Fathom Curve, Garden Key, Dry Tortugas	24°19′	83°02′	5/26/45	1030	6′	100+	>115	—
					12′	100+	>115	
					18′	100+	>115	
					126′	100+	>115	
Key West, Fla.	24°	81°	5/21/45	0230	6′	63	17.3	—
					12′	58	15.7	
					18′	60	16.3	
					24′	58	15.7	
				0330	6′	59	16	—
					12′	60	16.3	
					18′	61	16.7	
					24′	55	14.8	
				0430	6′	67	18.7	—
					12′	75	22.7	
					18′	76	23.3	
					24′	72	20.9	
				0530	6′	73	21.5	—
					12′	69	19.5	
					18′	76	23.3	
					24′	67	18.7	
Do.	24°	81°	5/20/45	2230	6′	73	21.5	—
					12′	74	22	
					18′	70	20	
					24′	63	17.3	
				2330	6′	74	22	—
					12′	70	20	

					18′	61½	16.8	
					24′	56	15.1	
Do.	24°	81°	5/20/45	1930	6′	73	21.5	—
					12′	72	20.9	
					18′	66	18.4	
					24′	56	15.1	
				2030	6′	73	21.5	—
					12′	72	20.9	
					18′	69	19.5	
					24′	57	15.5	
				2130	6′	75½	23	—
					12′	75½	23	
					18′	68	19.2	
					24′	66	18.4	
Do.	24°	81°	5/20/45	1630	6′	68	19.2	—
					12′	68	19.2	
					18′	66	18.4	
					24′	68	19.2	
				1730	6′	70	20	
					12′	72	20.9	
					18′	69	19.5	
					24′	68	19.2	
				1830	6′	68	19.2	
					12′	76	23.3	
					18′	72	20.9	
					24′	56	15.1	
Rebecca Shoal, Dry Tortugas....................	20°34′30″	82°42′20″	5/17/45	0800	18′	96	68	—
C. SUMMER								
Red Bay, Labrador............................	51°45′	56°22′	8/21/48	0920	0	93	51	—
					6′	99	103	

(continued)

TABLE I.—(*continued*)

C. SUMMER (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Red Bay, Labrador	51°45′	56°22′	8/21/48	0920	12′	99	103	
					18′	99	103	
					24′	98	88	
					30′	98	88	
					36′	98	88	
					42′	98	88	
					B	97	77	
French Point, Newfoundland	51°40′	55°28′20″	8/23/48	1500	0	87	35.5	—
					6′	87	35.5	
					12′	87	35.5	
					18′	87	35.5	
					24′	87	35.5	
					30′	90	42	
					36′	90	42	
					42′	90	42	
					48′	90	42	
					54′	90	42	
					60′	90	42	
					66′	92	48	
					72′	94	55	
					78′	94	55	
Pistolet Bay	51°30′.2	55°43′	8/22/48	1600	0	67	18.7	—
					6′	68	19.2	
					12′	68	19.2	
					B	68	19.2	
Belle Isle Strait, Newfoundland	51°30′	56°37′.5	8/21/48	0600	0	90	42	58′
					6′	94	55	

					12′	94	55	
					18′	94	55	
					24′	94	55	
					30′	94	55	
					36′	95	61	
					42′	96	68	
					48′	96	68	
					54′	95	61	
					60′	96	68	
					66′	98	88	
					72′	99	103	
					78′	98	88	
Cape Fox, Newfoundland........................	50°51′40″	55°50′30″	8/26/48	1230	0	90	42	43′
					6′	90	42	
					12′	90	42	
					18′	88	37.5	
					24′	88	37.5	
					30′	88	37.5	
					36′	88	37.5	
					42′	88	37.5	
					48′	88	37.5	
					54′	88	37.5	
					60′	89	40	
					66′	89	40	
					72′	90	42	
					78′	90	42	
Riche Point, Newfoundland........................	50°43′30″	57°32′30″	8/20/48	2030	0	90	42	—
					6′	90	42	
					12′	90	42	
					18′	90	42	
					24′	90	42	
					30′	90	42	

(*continued*)

TABLE I.—(*continued*)

C. SUMMER (*continued*)

Location of station								
Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Riche Point, Newfoundland	50°43′30″	57°32′30″	8/20/48	2030	36′	90	42	
					42′	90	42	
					48′	90	42	
					54′	90	42	
					60′	90	42	
Fouche Harbor, Newfoundland	50°31′	56°18′	8/27/48	0830	0	63	17.3	10′
					6′	65	18	
					12′	69	19.5	
					18′	77	24	
					24′	84	30.5	
					30′	87	35.5	
					36′	90	42	
					42′	91	45	
					48′	92	48	
					54′	93	51	
					60′	93	51	
					66′	94	58	
					72′	95	61	
					78′	95	61	
Do.	50°29′	56°11.2′	8/27/48	0930	0	90	42	46′
					6′	92	48	
					12′	92	48	
					18′	92	48	
					24′	92	48	
					30′	91	45	
					36′	91	45	
					42′	91	45	

					48′	91	45	
					54′	91	45	
					60′	91	45	
					66′	91	45	
					72′	91	45	
					78′	91	45	
St. Barbe Island, channel	50°12′	55°47′	8/27/48	1245	0	89	40	55′
					6′	95	61	
					12′	94	56	
					18′	93	51	
					24′	92	48	
					30′	92	48	
					36′	92	48	
					42′	92	48	
					48′	92	48	
					54′	92	48	
					60′	92	48	
					66′	92	48	
					72′	92	48	
					78′	92	48	
Gull Island	49°59′	55°22′	8/27/48	1530	0	90	42	52.5′
					6′	90	42	
					12′	90	42	
					18′	89	40	
					24′	89	40	
					30′	89	40	
					36′	89	40	
					42′	89	40	
					48′	89	40	
					54′	88	37.5	
					60′	88	37.5	
					66′	90	42	

(*continued*)

TABLE I.—(*continued*)

C. SUMMER (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Gull Island	49°59′	55°22′	8/27/48	1530	72′	90	42	
					78′	90	42	
Brocalhou Light, Newfoundland	49°43′40″	54°30′30″	8/28/48	1130	0	90	42	50′+
					6′	90	42	
					12′	91	45	
					18′	91	45	
					24′	90	42	
					30′	91	45	
					36′	91	45	
					42′	92	48	
					54′	92	48	
					60′	92	48	
					66′	95	61	
					72′	95	61	
					78′	96	68	
Twillingate Harbor	49°40.′5	54°46′	8/28/48	1030	0	85	32	30′
					6′	83	29.5	
					12′	82	28.3	
					18′	85	32	
					24′	87	35.5	
					30′	88	37.5	
					36′	90	42	
					42′	90	42	
					48′	90	42	
					54′	92	48	
					60′	92	48	
Offer Wadham Island	49°37′25″	53°45′	8/29/48	1100	0	94	58.5	50′

					6′	94	58.5	
					12′	94	58.5	
					18′	93	51	
					24′	92	48	
					30′	92	48	
					36′	91	45	
					42′	91	45	
					48′	91	45	
					54′	91	45	
					60′	90	42	
					66′	90	42	
					72′	91	45	
					78′	91	45	
Approx. 10 miles S. of Funk Island................	49°37′	53°11′	8/29/48	1400	0	92	48	68′
					6′	93	51	
					12′	93	51	
					18′	92	48	
					24′	92	48	
					30′	92	48	
					36′	92	48	
					42′	93	51	
					48′	92	48	
					54′	92	48	
					60′	91	45	
					66′	92	48	
					72′	93	51	
Little Seldom-Come-By Harbor....................	49°35′45″	54°13′	8/28/48	1840	0	81	27.2	—
					6′	81	27.2	
					12′	81	27.2	
					18′	80	26.3	
					24′	79	25.5	
					30′	78	24.6	

(continued)

TABLE I.—(*continued*)

C. SUMMER (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Little Port Head Light, Newfoundland	49°07′	58°27′	8/17/48	2115	0	89	40	—
					6′	90	42	
					12′	90	42	
					18′	89	40	
					24′	90	42	
					30′	90	42	
					36′	90	42	
					42′	92	48	
					48′	92	48	
					54′	92	48	
					60′	92	48	
					66′	93	51	
					72′	94	56	
					78′	94	56	
Humber Arm, Newfoundland	49°01′	58°06′30″	8/20/48	0800	0	85	32	30′
					6′	86	33.5	
					12′	90	42	
					18′	92	48	
					24′	95	61	
					30′	95	61	
					36′	96	68	
					42′	97	77	
					48′	97	77	
					54′	96	68	
					60′	96	68	
					66′	96	68	
					72′	96	68	

					78′	97	77	
Cape Bonavista, Newfoundland	48°42′	52°47′	8/29/48	2030	0	90	42	—
					6′	90	42	
					12′	91	45	
					18′	91	45	
					24′	92	48	
					30′	92	48	
					36′	92	48	
					42′	92	48	
					48′	92	48	
					54′	91	45	
					60′	92	48	
					66′	92	48	
					72′	94	56	
					78′	95	61	
Cape Ray, Newfoundland	47°34′45″	59°22′	8/17/48	0930	0	90	42	37′
					6′	90	42	
					12′	90	42	
					18′	90	42	
					24′	90	42	
					30′	91	45	
					36′	90	42	
					42′	90	42	
					48′	90	42	
					54′	90	42	
					60′	90	42	
					66′	90	42	
					72′	90	42	
					78′	90	42	
Port Aux Basque Harbor, Newfoundland	47°34′37″	59°08′31″	8/17/48	0715	0	76	23.3	—
					6′	73	21.5	
					12′	77	24	

(continued)

TABLE 1.—(*continued*)

C. SUMMER (*continued*)

Location of station								
Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Port Aux Basque Harbor, Newfoundland	47°34′37″	59°08′31″	8/17/48	0715	18′	78	24.7	
					24′	78	24.7	
					30′	78	24.7	
					B	78	24.7	
St. John's Harbor, Newfoundland	47°33′47″	52°42′27″	9/3/48	1130	0	65	18	15′
					6′	67	18.7	
					12′	65	18	
					18′	63	17.4	
					B	65	18	
Cape Spear, Newfoundland	47°33′30″	52°36′.8	9/4/48	0900	0	95	61	62′
					6′	97	77	
					12′	97	77	
					18′	97	77	
					24′	98	88	
					30′	98	88	
					36′	98	88	
					42′	97	77	
					48′	96	69	
					54′	96	69	
					60′	97	77	
					66′	98	88	
					72′	98	88	
					78′	98	88	
Cape Race, Newfoundland	46°38′.3	52°59′.5	9/4/48	1535	0	89	40	32′
					6′	88	37.5	
					12′	88	37.5	

					18′	86	32.8	
					24′	86	32.8	
					30′	85	32	
					36′	85	32	
					42′	86	32.8	
					48′	87	35.5	
					54′	89	40	
					60′	90	42	
					66′	90	42	
					72′	94	56	
					78′	94	56	
Sydney Harbor, Nova Scotia	46°08′31″	60°12′02″	8/15/48	1830	0	30	10	—
					6′	57	15.5	
					12′	60	16.3	
					18′	65	18	
					24′	64	17.7	
Bras d'Or, Nova Scotia	46°05′30″	60°41′	8/13/48	1215	0	85	32	23′
					6′	84	30.5	
					12′	83	29.3	
					18′	82	28.2	
					24′	82	28.2	
					30′	82	28.2	
					36′	83	29.3	
					42′	83	29.3	
					48′	85	32	
					54′	87	35.5	
					60′	88	37.5	
					66′	90	42	
					72′	92	48	
					78′	92	48	
Bras d'Or Lake, Nova Scotia	45°50′15″	60°50′45″	8/13/48	0930	0	88	37.5	34′
					6′	87	35.5	

(continued)

TABLE I.—(*continued*)

C. SUMMER (*continued*)

Location of station								
Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Bras d'Or Lake, Nova Scotia	45°50'15"	60°50'45"	8/13/48	0930	12'	86	33.5	
					18'	86	33.5	
					24'	86	33.5	
					30'	84	30.5	
					36'	85	32	
					42'	86	33.5	
					48'	86	33.5	
					54'	87	35.5	
					60'	89	39.8	
					66'	92	48	
					72'	95	61	
					78'	97	77	
Horsehead Shoals, Nova Scotia	45°35'30"	60°52'45"	8/12/48	1700	0	75	22.7	19'
					6'	82	28.2	
					12'	82	28.2	
					18'	80	26.3	
					24'	80	26.3	
					30'	85	32	
					36'	89	39.8	
					42'	90	42	
					48'	92	48	
					54'	95	61	
					60'	92	48	
					66'	92	48	
					72'	90	42	
Saint Pierre Bank	45°34'	57°33'	9/5/48	1430	0	90	42	58'
					6'	90	42	

					12′	90	42	
					18′	90	42	
					24′	89	39.6	
					30′	89	39.6	
					36′	90	42	
					42′	92	48	
					48′	92	48	
					54′	92	48	
					60′	90	42	
					66′	92	48	
					72′	93	51	
					78′	94	58	
Cape Canso, Nova Scotia........................	45°21′07″	60°51′06″	8/12/48	1445	0	95	61	36′
					6′	94	56	
					12′	91	45	
					18′	93	51	
					24′	94	58	
					30′	94	58	
					36′	93	51	
					42′	92	48	
					48′	95	61	
					54′	95	61	
					60′	96	68	
					66′	96	68	
					72′	98	88.5	
					78′	99	103	
Country Harbor, Nova Scotia.....................	45°10′55″	61°43′10″	8/11/48	1130	0	77	24	18′
					6′	85	32	
					12′	84	30.5	
					18′	80	26.2	
					24′	79	25.5	
					30′	73	21.5	

(*continued*)

TABLE I.—(*continued*)

C. SUMMER (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Country Harbor, Nova Scotia	45°10′55″	61°43′10″	8/10/48	1730	0	78	24.7	—
					6′	78	24.7	
					12′	83	29.3	
					18′	78	24.7	
					24′	70	20	
Sea Buoy off Country Harbor	45°02′	61°32′42″	8/12/48	1915	0	91	45	*33′
					6′	91	45	
					12′	89	39.7	
					18′	89	39.7	
					24′	90	42	
					30′	90	42	
					36′	93	51	
					42′	92	48	
					48′	94	58.5	
					54′	93	51	
					60′	93	51	
					66′	94	58.5	
					72′	94	58.5	
					78′	93	51	
Yankee Jack, Nova Scotia	44°42′57″	62°28′52″	8/10/48	1020	0	96	68	60′
					6′	94	58.5	
					12′	94	58.5	
					18′	94	58.5	
					24′	94	58.5	
					30′	95	61	
					36′	95	61	
					42′	95	61	

					48′	96	68	
					54′	97	77	
					60′	98	88	
					66′	97	77	
					72′	98	88	
					78′	98	88	
Bedford Basin, Halifax	44°41′36″	63°38′24″	8/9/48	1200	0	90	42	26′
					6′	90	42	
					12′	86	33.5	
					18′	84	30.5	
					24′	85	32	
					30′	85	32	
					36′	86	33.5	
					42′	85	32	
					48′	94	56	
					54′	100	>115	
					60′	100	>115	
					66′	100	>115	
					72′	100	>115	
					78′	100	>115	
					84′	100	>115	
Halifax Harbor by Oil Dock	44°39′02″	63°34′18″	8/9/48	1020	0	—	—	24′
John Bank, Nova Scotia	44°35′30″	62°49′45″	8/10/48	0800	0	92	48	54′
					6′	90	42	
					12′	92	48	
					18′	92	48	
					24′	91	45	
					30′	90	42	
					36′	91	45	
					42′	92	48	
					48′	93	51	
					54′	95	61	

(continued)

TABLE I.—(*continued*)

C. SUMMER (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
John Bank, Nova Scotia	44°35′30″	62°49′45″	8/10/48	0800	60′	96	68	
					66′	96	68	
					72′	98	88	
					78′	98	88	
Entrance Halifax Harbor, Nova Scotia	44°31′48″	63°30′20″	8/9/48	0630	0	97	77	56′
					6′	97	77	
					12′	97	77	
					18′	97	77	
					24′	95	61	
					30′	95	61	
					36′	95	61	
					42′	95	61	
					48′	95	61	
					54′	95	61	
					60′	95	61	
					66′	97	77	
					72′	97	77	
					78′	98	88	
Blue Hill Harbor, Maine	44°24′20″	68°33′45″	7/27/48	1030	0	80	28.8	—
					6′	74	22	
					12′	71	20.5	
					18′	69	19.5	
					24′	69	19.5	
Off Long Island, Blue Hill Bay	44°18′20″	68°30′12″	7/26/48	1215	0	86	33.5	21′
					6′	83	29.3	
					12′	80	26.3	
					18′	75	22.7	

					24′	60	16.3	
					30′	65	18	
					36′	71	20.5	
					42′	74	22	
					48′	73	21.5	
					54′	74	22	
					60′	76	23.3	
					66′	78	24.7	
					72′	78	24.7	
					78′	78	24.7	
Eggemoggin Reach	44°16′12″	68°37′12″	7/25/48	1000	0	85	32	21′
					6′	85	32	
					12′	88	37.5	
					18′	82	28.2	
					24′	52	14	
					30′	52	14	
					36′	65	18	
					42′	60	16.3	
Off Long Island, Blue Hill Bay....................	44°18′20″	68°30′12″	8/5/48	1415	0	80	26.3	17′
					6′	78	24.7	
					12′	77	24	
					18′	74	22	
					24′	69	19.5	
					30′	68	19	
					36′	69	19.5	
					42′	72	20.9	
					48′	73	21.5	
					54′	74	22	
					60′	75	22.7	
					66′	74	22	
					72′	74	22	

(continued)

TABLE I.—(*continued*)

C. SUMMER (*continued*)

Location of station								
Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Frenchman's Bay	44°11′18″	68°14′54″	8/5/48	1600	0	90	42	31′
					6′	88	37.5	
					12′	89	39.8	
					18′	88	37.5	
					24′	87	35.5	
					30′	86	33.5	
					36′	87	35.5	
					42′	88	37.5	
					48′	88	37.5	
					54′	88	37.5	
					60′	89	39.8	
					66′	90	42	
					72′	90	42	
Mount Desert Rock	44°11′	68°01′30″	8/6/48	2200	0	75	22.7	—
					6′	76	23	
					12′	77	24	
					18′	75	22.7	
					24′	76	23	
					30′	79	25.5	
					36′	80	26.3	
					42′	77	24	
					48′	78	24.6	
					54′	75	22.7	
					60′	76	23	
					66′	77	24	
					72′	82	28.3	
					78′	83	29.5	

Jericho Bay	44°10′53″	68°21′12″	7/25/48	1245	0	68	19.1	14′
					6′	65	18	
					12′	62	17	
					18′	62	17	
					24′	64	17.6	
					30′	64	17.6	
					36′	64	17.6	
					42′	64	17.6	
					48′	68	19.1	
					54′	70	20	
					60′	68	19.1	
					66′	69	19.5	
					72′	68	19.1	
					78′	67	18.7	
Cross Ledge, Nova Scotia	44°10′30″	69°39′30″	8/9/48	0300	0	100	>115	—
					6′	95	61	
					12′	94	56	
					18′	95	61	
					24′	95	61	
					30′	95	61	
					36′	93	51	
					42′	93	51	
					48′	95	61	
					54′	95	61	
					60′	97	78	
					66′	100	>115	
					72′	98	88	
Swans Island Harbor	44°08′06″	68°26′42″	7/25/48	1400	0	65	18	11′
					6′	61	16.7	
					12′	60	16.3	
					18′	54	14.5	
					24′	52	14	

(*continued*)

TABLE I.—(*continued*)

C. SUMMER (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Swans Island Harbor	44°08′06″	68°26′42″	7/25/48	1400	30′	58	15.7	
					36′	45	12.4	
				2000	0	55	14.8	—
					6′	50	13.5	
					12′	50	13.5	
					18′	40	11.5	
					24′	42	11.9	
					30′	40	11.5	
Penobscot Bay	44°08′	69°00′18″	7/24/48	1245	0	88	37.5	28′
					6′	86	33.5	
					12′	86	33.5	
					18′	87	35.5	
					24′	82	28.3	
					30′	75	22.7	
					36′	62	17	
					42′	68	19.1	
					48′	73	21.5	
					54′	74	22	
					60′	76	23.3	
					66′	74	22	
					72′	75	22.7	
Swans Island Sea Buoy	44°07′30″	68°27′36″	7/26/48	0830	0	78	24.7	18′
					6′	78	24.7	
					12′	77	24	
					18′	78	24.7	
					24′	75	22.7	
					30′	77	24	

					36′	78	24.7	
					42′	80	26.3	
					48′	79	25.5	
					54′	80	26.3	
					60′	82	28.3	
					66′	83	29.5	
					72′	87	35.5	
					78′	85	37.5	
Emerald Bank	44°6′.5	62°20′.6	9/6/48	1230	0	100+	>115	60′
					6′	100	>115	
					12′	100	>115	
					18′	100	>115	
					24′	99	102	
					30′	99	102	
					36′	99	102	
					42′	99	102	
					48′	99	102	
					54′	99	102	
					60′	99	102	
					66′	98	88	
					72′	98	88	
					78′	97	77	
Blue Hill Bay..................................	44°04′	68°25′	7/26/48	0945	0	78	24.7	20′
					6′	78	24.7	
					12′	78	24.7	
					18′	81	27.2	
					24′	80	26.3	
					30′	81	27.2	
					36′	80	26.3	
					42′	77	24	
					48′	74	22	
					54′	73	21.5	

(continued)

TABLE I.—(*continued*)

C. SUMMER (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Blue Hill Bay	44°04′	68°25′	7/26/48	0945	60′	69	19.5	
					66′	67	18.7	
					72′	65	18	
					78′	68	19.1	
Bay of Fundy	44°01′30″	67°21′30″	8/7/48	0300	0	90	42	—
					6′	91	45	
					12′	90	42	
					18′	90	42	
					24′	90	42	
					30′	89	39.8	
					36′	87	35.5	
					42′	88	37.5	
					48′	85	32	
					54′	85	32	
					60′	85	32	
					66′	82	28.3	
					72′	82	28.3	
Two Bush Channel	43°58′18″	69°00′18″	7/22/48	1215	0	89	39.8	27′
					6′	87	35.5	
					12′	82	28.3	
					18′	75	22.7	
					24′	76	23.3	
					30′	78	24.7	
					36′	78	24.7	
					42′	78	24.7	
					48′	78	24.7	
					54′	78	24.7	

					60′	78	24.7	
					66′	78	24.7	
					72′	78	24.7	
					78′	78	24.7	
Pemaquid Harbor, Maine	43°52′51″	69°31′30″	7/21/48	1545	0	68	19.2	12′
					6′	65	18	
					12′	65	18	
					18′	66	18.4	
				2100	0	55	14.8	—
					6′	55	14.8	
					12′	55	14.8	
					18′	56	15.1	
					24′	57	15.4	
Yarmouth Harbor, Nova Scotia	43°50′15″	66°07′16″	8/8/48	0800	0	11	6.8	3′
					6′	17	8	
					12′	28	9.8	
					18′	32	10.3	
					B	28	9.8	
Do.	43°50′15″	66°07′16″	8/7/48	1545	0	28	9.8	4′
					6′	21	8.7	
					12′	21	8.7	
					18′	23	9	
					B	23	9	
Johns Bay, off Pemaquid	43°50′	69°32′	7/22/48	0900	0	88	37.5	38′
					6′	88	37.5	
					12′	88	37.5	
					18′	88	37.5	
					24′	88	37.5	
					30′	83	29.5	
					36′	76	23.3	
					42′	26	9.5	
					48′	50	13.5	

(*continued*)

TABLE 1.—(*continued*)

C. SUMMER (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Johns Bay, off Pemaquid	43°50′	69°32′	7/22/48	0900	54′	78	24.7	
					60′	85	32	
					66′	85	32	
					72′	88	37.5	
					78′	90	42	
					84′	90	42	
Lucker Light Ship, Nova Scotia	43°46′45″	66°33′40″	8/7/48	0700	0	96	68	36′
					6′	95	61	
					12′	95	61	
					18′	94	58.5	
					24′	94	58.5	
					30′	94	58.5	
					36′	94	58.5	
					42′	93	51	
					48′	93	51	
					54′	93	51	
					60′	93	51	
					66′	92	48	
					72′	94	58.5	
					78′	95	61	
Yarmouth Harbor Entrance, Nova Scotia	43°46′42″	66°09′13″	8/8/48	0900	0	78	24.7	22′
					6′	78	24.7	
					12′	78	24.7	
					18′	77	24	
					24′	77	24	
					30′	77	24	
					36′	77	24	

					42′	77	24	
					48′	75	22.7	
					54′	75	22.7	
					60′	74	22	
					66′	75	22.7	
					72′	75	22.7	
Falmouth Foreside	43°43′45″	70°12′10″	7/20/48	1730	0	69	19.5	—
					6′	66	18.3	
					12′	59	16	
					18′	50	13.5	
				2030	0	73	21.5	—
					6′	68	19.5	
					12′	70	20	
					18′	73	21.5	
					24′	70	20	
Port Joli, Nova Scotia..........	43°42′30″	64°42′	8/8/48	2200	0	90	42	—
					6′	83	29.5	
					12′	78	24.7	
					18′	80	26.3	
					24′	85	32	
					30′	85	32	
					36′	85	32	
					42′	85	32	
					48′	86	33.5	
					54′	87	35.5	
					60′	87	35.5	
					66′	90	42	
Off Bantam Rock..........	43°41′54″	69°38′06″	7/21/48	1350	0	90	42	36′
					6′	92	48	
					12′	94	55.5	
					18′	80	28.3	
					24′	62	17	

(*continued*)

TABLE 1.—(*continued*)

C. SUMMER (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Off Bantam Rock	43°41′54″	69°38′06″	7/21/48	1350	30′	45	12.5	
					36′	60	16.3	
					42′	55	14.8	
					48′	60	16.3	
					54′	85	32	
					60′	90	42	
					66′	90	42	
					72′	90	42	
					78′	92	48	
					84′	94	55.5	
Portland Harbor	43°39′57″	70°14′56″	7/19/48	1930	0	57	15.4	—
					6′	62	17	
					12′	62	17	
					18′	64	17.7	
					24′	65	18	
Off Outer Green Island	43°38′	69°37′30″	7/21/48	1000	0	90	42	20′
					6′	86	33.5	
					12′	83	29.5	
					18′	80	26.7	
					24′	86	33.5	
					30′	90	42	
					36′	95	61	
					42′	95	61	
					48′	95	61	
					54′	95	61	
					60′	95	61	
					66′	96	68	

					72′	97	77	
Portland Head Light	43°32′35″	70°12′24″	7/19/48	1615	0	50	13.5	11′
					6′	50	13.5	
					12′	59	16	
					18′	65	18	
					24′	67	18.7	
					30′	70	20	
					36′	75	22.7	
					42′	76	23.3	
					48′	78	24.7	
					B	80	26.3	
Old Anthony Rock	43°27′54″	70°27′54″	7/19/48	1530	0	69	19.5	15′
					6′	75	22.7	
					12′	72	20.8	
					18′	75	22.7	
					24′	78	24.7	
					30′	82	28.3	
					36′	89	40	
					42′	91	45	
					48′	91	45	
					54′	92	48	
					60′	92	48	
					66′	92	48	
					72′	90	42	
					78′	92	48	
Whale Rock Ledge	43°26′24″	70°17′30″	7/19/48	1415	0	84	30.5	25′
					6′	84	30.5	
					12′	83	29.5	
					18′	84	30.5	
					24′	93	51.5	
					30′	95	61	
					36′	96	68	

(continued)

TABLE 1.—(*continued*)

C. SUMMER (*continued*)

Location of station								
Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Whale Rock Ledge	43°26′24″	70°17′30″	7/19/48	1415	42′	96	68	
					48′	95	61	
					54′	97	77	
					60′	97	77	
					66′	84	30.5	
					72′	85	32	
					78′	85	32	
Cape Porpoise	43°20′18″	70°23′24″	7/19/48	1300	0	78	24.7	27′
					6′	84	30.5	
					12′	90	42	
					18′	88	37.5	
					21′	87	35.5	
					30′	85	32	
					36′	88	37.5	
					42′	90	42	
					48′	95	61	
					54′	95	61	
					60′	94	55.5	
					66′	95	61	
					72′	95	61	
					78′	95	61	
Southwest Ledge, Nova Scotia	43°20′08″	65°40′54″	8/8/48	1430	0	—	—	56′
Bald Head Cliff	43°12′06″	70°28′47″	7/19/48	1130	0	85	32	24′
					6′	92	48	
					12′	92	48	
					18′	90	42	

					24′	94	58.5	
					30′	95	61	
					36′	95	61	
					42′	94	58.5	
					48′	89	40	
					54′	85	32	
					60′	85	32	
					66′	87	35.5	
					72′	89	40	
					78′	90	42	
Portsmouth Harbor, N. H.	43°04′24″	70°43′28″	7/18/48	1530	0	82	28.3	—
					6′	80	26.3	
					12′	80	26.3	
					18′	80	26.3	
					24′	79	25.4	
					30′	80	26.3	
Do.	43°04′24″	70°43′28″	7/18/48	1830	0	73	21.5	—
					6′	74	22	
					12′	74	22	
					18′	75	22.6	
					24′	78	24.7	
					30′	79	25.5	
					36′	80	26.3	
Do.	43°04′24″	70°43′28″	7/18/48	2100	0	76	23.3	—
					6′	80	26.3	
					12′	82	28.3	
					18′	86	33.5	
					24′	86	33.5	
					30′	86	33.5	
					36′	87	35.5	
					42′	87	35.5	
York Ledge Whistle	43°04′24″	70°34′30″	7/19/48	1000	0	84	30.5	21′

(*continued*)

TABLE 1.—(*continued*)

C. SUMMER (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
York Ledge Whistle	43°04'24"	70°34'30"	7/19/48	1000	6'	83	29.5	
					12'	82	28.3	
					18'	81	27.3	
					24'	82	28.3	
					30'	85	32	
					36'	86	33.5	
					42'	88	37.5	
					48'	88	37.5	
					54'	91	45	
					60'	92	48	
					66'	94	55.5	
					72'	95	61	
					78'	95	61	
Off Portsmouth, N. H.	43°02'54"	70°41'24"	7/19/48	0900	0	84	30.5	23'
					6'	83	29.5	
					12'	85	32	
					18'	85	32	
					24'	86	33.5	
					30'	92	48	
					36'	95	61	
Off Newburyport, Mass.	42°50'27"	70°36'22"	7/18/48	1145	0	62	17	12'
					6'	80	26.3	
					12'	82	28.3	
					18'	90	42	
					24'	91	45	
					30'	91	45	
					36'	94	50.5	

					42′	97	77	
					48′	97	77	
					54′	98	88	
					60′	98	88	
					66′	99	102	
					72′	100	>115	
					78′	100	>115	
Off Cape Ann, Mass.	42°08′06″	70°36′18″	7/18/48	1045	0	85	32	29′
					6′	84	30.5	
					12′	82	28.3	
					18′	82	28.3	
					24′	86	33.5	
					30′	85	32	
					36′	89	40	
					42′	92	48	
					48′	92	48	
					54′	95	61	
					60′	96	68	
					66′	96	68	
					72′	97	77	
					78′	98	88	
					84′	98	88	
Gloucester Harbor, Mass.	42°36′20″	70°40′24″	7/15/48	1015	0	65	18	9′
					6′	55	14.8	
					12′	48	12.4	
					18′	41	11.7	
					24′	37	11	
				1115	0	65	18	9′
					6′	53	14.3	
					12′	46	12.7	
					18′	41	11.7	

(continued)

TABLE 1.—(*continued*)

C. SUMMER (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Gloucester Harbor, Mass.	42°36′20″	70°40′24″	7/15/48	1215	0	55	14.8	9′
					6′	52	14	
					12′	47	12.9	
					18′	47	12.9	
					24′	36	10.9	
				1320	0	62	17	8′
					6′	52	14	
					12′	48	13	
					18′	50	13.5	
Do.	42°36′20″	70°40′24″	7/15/48	1415	0	40	11.5	8′
					6′	50	13.5	
					12′	45	12.4	
					18′	43	12	
					24′	40	11.5	
				1515	0	40	11.5	8½′
					6′	40	11.5	
					12′	45	12.4	
					18′	47	12.9	
					24′	42	11.9	
Off Cape Ann, Mass.	42°34′14″	70°39′14″	7/18/48	0930	0	74	22	21′
					6′	74	22	
					12′	72	20.9	
					18′	82	28.3	
					24′	82	28.3	
					30′	82	28.3	
					36′	90	42	
					42′	90	42	

					48'	92	48	
					54'	92	48	
					60'	92	48	
					66'	94	55	
					72'	92	48	
					78'	95	61	
					84'	95	61	
Off Boston Light Ship....................	42°16'36"	70°36'36"	7/10/48	1500	0	80	26.3	23'
					6'	75	22.7	
					12'	77	24	
					18'	80	26.3	
					24'	81	27.2	
					30'	85	32	
					36'	86	33.5	
					42'	90	42	
					48'	91	45	
					54'	93	51	
					60'	95	61	
					66'	97	77	
					72'	97	77	
					78'	97	77	
					84'	97	77	
South of Browns Bank....................	42°05'	65°47'	9/7/48	1000	0	95	61	*55'
					6'	94	55	
					12'	97	77	
					18'	97	77	
					24'	97	77	
					30'	96	68	
					36'	96	68	
					42'	96	68	
					48'	97	77	
					54'	99	103	

(continued)

TABLE I.—(*continued*)

C. SUMMER (*continued*)

Location of station								
Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
South of Browns Bank	42°05′	65°47′	9/7/48	1000	66′	99	103	
					66′	100	>115	
					72′	100	>115	
					78′	100	>115	
Massachusetts Bay	42°01′39″	70°28′24″	7/10/48	1210	0	90	42	27′
					6′	90	42	
					12′	88	37.5	
					18′	88	37.5	
					24′	90	42	
					30′	90	42	
					36′	90	42	
					42′	92	48	
					48′	92	48	
					54′	94	55	
					60′	94	55	
					66′	95	61	
					72′	95	61	
					78′	98	88	
Cape Cod Canal	41°40′45″	70°40′35″	7/10/48	0915	0	60	16.3	10′
					6′	65	18	
					12′	63	17.3	
					18′	62	17	
					24′	62	17	
					30′	60	16.3	
Buzzards Bay	41°31′	75°50′30″	7/9/48	1230	0	80	26.3	13′
					6′	78	24.6	
					12′	74	22	

					18′	70	20	
					24′	65	18	
					30′	67	18.7	
					36′	62	17	
					42′	55	14.8	
					48′	52	14	
					54′	45	12.4	
					B	45	12.4	
Marthas Vineyard	41°28′25″	70°29′	7/9/48	0830	0	65	18	—
					6′	62	17	
					12′	60	16.3	
					18′	70	20	
					24′	75	22.7	
					30′	75	22.7	
					36′	72	20.9	
					42′	75	22.7	
					48′	70	20	
					54′	65	18	
Do.	41°28′25″	70°29′	7/8/48	1300	0	65	18	16′
					6′	60	16.3	
					12′	60	16.3	
					18′	62	17	
					24′	62	17	
					30′	60	16.3	
					36′	60	16.3	
					42′	62	17	
					48′	60	16.3	
					B	60	16.3	
Vineyard Sound	41°19′34″	71°14′20″	7/8/48	0215	0	70	20	—
					6′	70	20	
					12′	70	20	
					18′	70	20	

(*continued*)

Table 1.—(*continued*)

C. SUMMER (*continued*)

Location of station								
Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Vineyard Sound	41°19'34"	71°14'20"	7/8/48	0215	24'	69	19.5	
					30'	68	19.2	
					36'	69	19.5	
					42'	70	20	
					48'	70	20	
					54'	70	20	
					60'	68	19.2	
					66'	65	18	
					72'	65	18	
					78'	65	18	
Block Island Harbor..............................	41°11'40"	71°34'30"	7/7/48	1100	0	50	13.5	12'
					6'	45	12.4	
					12'	42	11.9	
					18'	40	11.5	
				1730	0	51	13.8	—
					6'	47	12.9	
					12'	40	11.5	
					18'	40	11.5	
Vineyard Sound	41°31'40"	70°44'30"	7/8/48	1045	0	70	20	17'
					6'	70	20	
					12'	65	18	
					18'	61	16.7	
					24'	58	15.7	
					30'	57	15.5	
					36'	56	15.1	
					42'	55	14.8	
					48'	55	14.8	

					54′	55	14.8	
Block Island Sound	41°04′42″	71°44′35″	7/7/48	1730	0	30	10	—
					6′	30	10	
					12′	32	10.3	
					18′	30	10	
					24′	30	10	
					30′	30	10	
					36′	30	10	
					42′	35	10.7	
					48′	28	9.8	
					54′	30	10	
					—	64	17.7	
Off Bridgehampton	40°52′30″	72°13′30″	7/6/48	1430	0	65	18	24′
					6′	65	18	
					12′	65	18	
					18′	65	18	
					24′	65	18	
					30′	63	17.3	
					36′	65	18	
					42′	70	20	
					48′	72	20.9	
					54′	75	22.7	
Nantucket Light Ship	40°49′	69°21′	9/8/48	0800	0	93	51	*36′
					6′	93	51	
					12′	93	51	
					18′	93	51	
					24′	90	42	
					30′	88	37.5	
					36′	88	37.5	
					42′	84	30.5	
					48′	84	30.5	
					54′	85	32	

(continued)

TABLE 1.—(*continued*)

C. SUMMER (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Nantucket Light Ship	40°49′	69°21′	9/8/48	0800	60′	87	35.5	
					66′	94	55	
					72′	95	61	
					78′	96	68	
Off Fire Island	40°35′33″	73°17′48″	7/6/48	0830	0	53	14.3	—
					6′	50	13.5	
					12′	62	17	
					18′	65	18	
					24′	50	13.5	
					30′	48	13	
					36′	48	13	
					42′	50	13.5	
					48′	52	14	
Off Coney Island	40°34′15″	74°00′57″	7/5/48	1345	0	0	<1.5	5½′
					6′	0	<1.5	
					12′	0	<1.5	
					18′	8	6.2	
					24′	10	6.6	
					B	10	6.6	
Off Far Rockaway	40°31′36″	73°43′40″	7/6/48	0530	0	0	<1.5	—
					6′	0	<1.5	
					12′	0	<1.5	
					18′	45	12.4	
					24′	50	13.5	
					30′	50	13.5	
					36′	45	12.4	
					42′	45	12.4	

					48′	45	12.4	
					54′	45	12.4	
					60′	45	12.4	
Scotland Light Ship	40°26′40″	73°56′	7/5/48	1000	0	25	9.4	4½′
					6′	20	8.5	
					12′	30	10	
					18′	50	13.5	
					24′	55	14.8	
					30′	65	18	
					36′	80	26.3	
					42′	82	28.3	
					48′	82	28.3	
West of Sandy Hook	40°26′40″	74°00′20″	7/5/48	0740	0–B	0	<1.5	—
Shewsbury Rock	40°20′39″	73°55′36″	7/5/48	1130	0	0	<1.5	5′
					6′	0	<1.5	
					12′	0	<1.5	
					18′	30	10	
					24′	45	12.4	
					30′	75	22.7	
					36′	65	18	
					42′	70	20	
					48′	70	20	
Barnegat Light Ship	39°46′45″	73°56′	7/4/48	1430	0	75	22.7	24′
					6′	72	20.9	
					12′	75	22.7	
					18′	70	20	
					24′	70	20	
					30′	70	20	
					36′	70	20	
					42′	70	20	
					48′	75	22.7	
					54′	80	26.3	

(continued)

TABLE I.—(*continued*)

C. SUMMER (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Barnegat Light Ship	39°46′45″	73°56′	7/4/48	1430	60′	80	26.3	
					66′	75	22.7	
					72′	70	20	
Hudson Canyon	39°36′.9	72°27′.25	9/9/48	0020	0	98	88	—
					6′	100	>115	
					12′	100	>115	
					18′	100	>115	
					24′	100	>115	
					30′	100	>115	
					36′	100	>115	
					42′	100	>115	
					48′	100	>115	
					54′	100	>115	
					60′	100	>115	
					66′	100	>115	
					72′	100	>115	
					78′	95	61	
Off Atlantic City, N. J.	39°18′	74°14′20″	7/4/48	1000	0	90	42	—
					6′	90	42	
					12′	85	32	
					18′	85	32	
					24′	85	32	
					30′	80	26.3	
					36′	85	32	
					42′	80	26.3	
					48′	80	26.3	

					54′	82	28.3	
					60′	85	32	
Ship John Light, Delaware River	39°17′42″	75°23′55″	7/1/48	1130	0	3	4.6	2′
					6′	2	4.1	
					12′	2	4.1	
					18′	9	6.5	
					24′	7	6	
					30′	0	<1.5	
Off Ship John Light, Delaware River	39°17′42″	75°23′55″	7/26/47	1300	0	2–3	4.4	14″
					6′	0	<1.5	
					12′	0	<1.5	
					18′	0	<1.5	
					24′	0	<1.5	
					30′	0	<1.5	
					36′	0	<1.5	
					B	0	<1.5	
Chesapeake Bay Bridge	38°59′.5	76°22′.7	7/31/51	1600	0	9	6.5	—
					6′	13	7.2	
					12′	18	8.1	
					18′	19	8.3	
					24′	30	10	
					30′	33	10.5	
					36′	36	10.9	
					42′	37	11	
					48′	31	10.1	
					B	30	10	
Cape May Harbor	38°56′47″	74°54′08″	7/3/48	1630	0–B	0	<1.5	—
Do.	38°56′47″	74°54′08″	7/18/47	1030	0	32	10.3	—
					6′	29	9.9	
					12′	27	9.6	
					18′	22	8.8	
					24′	24	9.2	

(continued)

TABLE 1.—(*continued*)

C. SUMMER (*continued*)

Location of station								
Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Cape May Harbor	38°56′47″	74°54′08″	7/18/47	1030	B	20	8.5	
				1130	0	32	10.3	—
					6′	30	10	
					12′	27	9.6	
					18′	26	9.5	
					24′	26	9.5	
					B	24	9.2	
Do.	38°56′47″	74°54′08″	7/16/47	1900	0	25	9.4	5′
					6′	25	9.4	
					12′	26	9.5	
					18′	22	8.8	
					24′	18	8.1	
					30′	18	8.1	
Brown Shoal, Delaware River	38°54′.5	75°06′	7/1/48	1700	0	25	9.4	—
					6′	32	10.3	
					12′	35	10.7	
					18′	40	11.5	
					24′	45	12.4	
					30′	45	12.4	
					36′	50	13.5	
					42′	50	13.5	
					48′	50	13.5	
Do.	38°54′.5	75°06′	7/26/47	0100	0	58	15.7	—
					6′	59	16	
					12′	54	14.5	
					18′	56	15.1	
					24′	57	15.5	

					30′	58	15.7	
					36′	60	16.3	
					42′	60	16.3	
					48′	58	15.7	
					54′	52	14	
					B	52	14	
Do.	38°54′.5	75°06′	7/26/47	0200	0	57	15.5	—
					6′	57	15.5	
					12′	55	14.8	
					18′	53	14.3	
					24′	55	14.8	
					30′	57	15.5	
					36′	55	14.8	
					42′	52	14	
					48′	45	12.4	
					54′	45	12.4	
					B	45	12.4	
Do.	38°54′.5	75°06′	7/26/47	0300	0	55	14.8	—
					6′	55	14.8	
					12′	54	14.5	
					18′	52	14	
					24′	55	14.8	
					30′	57	15.5	
					36′	58	15.7	
					42′	57	15.5	
					48′	56	15.1	
					54′	55	14.8	
					B	56	15.1	
Do.	38°54′.5	75°06′	7/25/47	1400	0	48	13	11′
					6′	52	14	
					12′	54	14.5	
					18′	52	14	

(continued)

TABLE 1.—(*continued*)

C. SUMMER (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Brown Shoal, Delaware River........................	38°54.5	75°06'	7/25/47	1400	24'	42	11.9	
					30'	45	12.4	
					36'	44	12.3	
					42'	42	12	
					48'	42	12	
					54'	42	12	
					B	42	12	
Do.	38°54'.5	75°06'	7/25/47	1500	0	48	13	9'
					6'	53	14.3	
					12'	54	14.5	
					18'	54	14.5	
					24'	52	14	
					30'	48	13	
					36'	49	13.3	
					42'	48	13	
					48'	42	11.9	
					54'	42	11.9	
					B	42	11.9	
Do.	38°54.5	75°06'	7/25/47	1600	0	40	11.5	7'
					6'	38	11.2	
					12'	42	11.9	
					18'	45	12.4	
					24'	53	14.3	
					30'	56	15.1	
					36'	55	14.8	
					42'	54	14.5	
					48'	55	14.8	

					54′	55	14.8	
					B	54	14.5	
Do.	38°54′.5	75°06′	7/25/47	1700	0	38	11.2	7′
					6′	35	10.7	
					12′	43	12	
					18′	50	13.5	
					24′	56	15.1	
					30′	55	14.8	
					36′	54	14.5	
					42′	54	14.5	
					48′	52	14	
					54′	52	14	
					B	52	14	
Do.	38°54′.5	75°06′	7/25/47	1800	0	43	12	7½′
					6′	42	11.9	
					12′	42	11.9	
					18′	52	14	
					24′	54	14.5	
					30′	56	15.1	
					36′	55	14.8	
					42′	56	15.1	
					48′	56	15.1	
					54′	55	14.8	
					B	54	14.5	
Do.	38°54′.5	75°06′	7/25/47	1900	0	46	12.7	8′
					6′	46	12.7	
					12′	47	12.9	
					18′	45	12.4	
					24′	50	13.5	
					30′	56	15.1	
					36′	57	15.5	
					42′	58	15.7	

(*continued*)

TABLE 1.—(*continued*)

C. SUMMER (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Brown Shoal, Delaware River	38°54′.5	75°06′	7/25/47	1900	48′	59	16	
					54′	58	15.7	
					B	56	15.1	
Do.	38°54′.5	75°06′	7/25/47	2000	0	50	13.5	—
					6′	50	13.5	
					12′	51	13.8	
					18′	56	15.1	
					24′	56	15.1	
					30′	57	15.5	
					36′	56	15.1	
					42′	59	16	
					48′	60	16.3	
					54′	61	16.7	
					B	60	16.3	
Do.	38°54′.5	75°06′	7/25/47	2100	0	53	14.3	—
					6′	53	14.3	
					12′	54	14.5	
					18′	54	14.5	
					24′	56	15.1	
					30′	58	15.7	
					36′	58	15.7	
					42′	57	15.5	
					48′	57	15.5	
					54′	60	16.3	
					B	60	16.3	
Do.	38°54′.5	75°06′	7/25/47	2200	0	46	12.7	—
					6′	42	11.9	

					12′	52	14	
					18′	55	14.8	
					24′	56	15.1	
					30′	57	15.5	
					36′	59	16	
					42′	59	16	
					48′	59	16	
					54′	58	15.7	
					B	59	16	
Do.	38°54′.5	75°06′	7/25/47	2300	0	51	13.8	—
					6′	49	13.3	
					12′	54	14.5	
					18′	57	15.5	
					24′	59	16	
					30′	63	17.3	
					36′	62	17	
					42′	59	16	
					48′	53	14.3	
					54′	52	14	
					B	50	13.5	
Do.	38°54′.5	75°06′	7/25/47	2400	0	55	14.8	—
					6′	55	14.8	
					12′	58	15.7	
					18′	61	16.7	
					24′	61	16.7	
					30′	61	16.7	
					36′	63	17.3	
					42′	59	16	
					48′	57	15.5	
					54′	56	15.1	
					B	56	15.1	

(*continued*)

TABLE I.—(*continued*)

C. SUMMER (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
3/10 mile off Tilghman Point Buoy	38°51′.5	76°14′.25	7/31/51	0850	0	35	10.7	6′
					6′	37	11	
					12′	36	10.9	
					18′	36	10.9	
					24′	37	11	
					30′	44	12.3	
					36′	47	12.9	
					42′	47	12.9	
Do.	38°51′.5	76°14′.25	7/29/51	1052	0	34	10.6	6′9″
					6′	31	10.1	
					12′	31	10.1	
					18′	32	10.3	
					24′	25	9.4	
					30′	15	7.6	
Shaw Bay, Eastern Bay	38°51′.5	76°11′12″	7/29/51	0945	0	18	8.1	—
					6′	14	7.4	
					12′	13	7.2	
					18′	14	7.4	
					24′	16	7.8	
					30′	17	8	
					36′	17	8	
McCries Shoal Buoy	38°51′	74°51′	7/25/47	0844	0	66	18.4	15′
					12′	62	17	
					18′	62	17	
					24′	59	16	
					30′	59	16	
					36′	59	16	

					42′	56	15.1	
McCries Shoal	38°50′.5	74°50′.3	7/16/47	1730	0	65	18	—
					12′	65	18	
					18′	68	19.2	
					24′	72	20.9	
					30′	72	20.9	
					36′	72	20.9	
					42′	70	20	
					48′	70	20	
½ mile W. of Bloody Point Light..................	38°50′	76°24′	7/31/51	1015	0	32	10.3	6′0″
					12′	27	9.6	
					18′	49	13.3	
					24′	54	14.5	
					30′	67	18.7	
					48′	67	18.7	
					54′	58	15.7	
					115′	45	12.4	
Off Woodland Creek entrance.....................	38°49′50″	76°12′.25	7/31/51	0805	0	35	10.7	4′6″
					6′	35	10.7	
					12′	34	10.6	
					18′	36	10.9	
					B	34	10.6	
Miles and Wye River entrance....................	38°49′50″	76°72′.25	7/29/51	0900	0	29	9.9	5′11″
					6′	27	9.6	
					12′	24	9.2	
					18′	12	7	
					B	0	<1.5	
Off McCries Shoal, Delaware Bay.................	38°49′24″	74°50′18″	7/3/48	1500	0	70	20	—
					6′	68	19.2	
					12′	68	19.2	
					18′	72	20.9	
					24′	72	20.9	

(continued)

TABLE I.—(*continued*)

C. SUMMER (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Off McCries Shoal, Delaware Bay	38°49′24″	74°50′18″	7/3/48	1500	30′	79	25.5	
					36′	79	25.5	
					42′	78	24.6	
					48′	78	24.6	
Halfway between McCries Shoal and Overfalls Light Ship	38°49′	74°56′.5	7/25/47	1030	0	60	16.3	13′
					12′	58	15.7	
					18′	63	17.3	
					24′	62	17	
					30′	62	17	
					36′	61	16.7	
					42′	60	16.3	
				—	0	55	14.8	12′
					12′	58	15.7	
					18′	61	16.7	
					24′	60	16.3	
					30′	59	16	
					36′	59	16	
					42′	59	16	
Off Overfalls Light Ship	38°48′	75°01′.5	9/9/48	1419	0	60	16.3	9½′
					6′	57	15.5	
					12′	55	14.8	
					18′	58	15.7	
					24′	58	15.7	
					30′	58	15.7	
					36′	57	15.5	
					42′	57	15.5	

					48′	58	15.7	
					54′	52	14	
					60′	42	11.9	
					66′	38	11.2	
Do.	38°48′	75°01′.5	7/25/47	1315	0	53	14.3	11′
					6′	53	14.3	
					12′	52	14	
					18′	53	14.3	
					24′	50	13.5	
					30′	47	12.9	
					36′	46	12.7	
					42′	48	13	
					48′	47	12.9	
					54′	47	12.9	
					60′	48	13	
Five-Fathom Light Ship..........................	38°48′	74°35′.7	9/23/50	1300	0–24′	90–92	45	32′
Off Five-Fathom Light Ship......................	38°48′	74°35′.40″	9/9/48	1126	0	100	>115	71′
					6′	100	>115	
					12′	100	>115	
					18′	100	>115	
					24′	100	>115	
					30′	100	>115	
					36′	100	>115	
					42′	98	88	
					48′	88	37.5	
					54′	85	32	
					60′	84	30.5	
					66′	85	32	
					72′	85	32	
					78′	80	26.3	
Do.	38°48′	74°35′40″	7/4/48	0530	0	65	18	—
					6′	70	20	

(continued)

TABLE 1.—(*continued*)

C. SUMMER (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Off Five-Fathom Light Ship	38°48′	74°35′40″	7/4/48	0530	12′	65	18	
					18′	65	18	
					24′	60	16.3	
					30′	60	16.3	
					36′	65	18	
					42′	65	18	
					48′	60	16.3	
					54′	62	17	
					60′	65	18	
					66′	65	18	
					72′	70	20	
Lewes, Del., Breakwater Harbor	38°47.′75	75°06.′15	4/22/49	1630	0	15	7.6	3′10″
					6′	14	7.4	
					12′	14	7.4	
Off Overfalls Light Ship	38°46′54″	75°01′18″	7/3/48	1200	0	60	16.3	9′
					6′	50	13.5	
					12′	64	17.7	
					18′	70	20	
					24′	74	22	
					30′	74	22	
					36′	73	21.5	
					42′	75	22.7	
					48′	76	23.3	
					54′	76	23.3	
					60′	76	23.3	
					66′	76	23.3	
					70′	76	23.3	

Off Five-Fathom Light Ship	38°44′	74°35′	7/23/47	1225	0	80	26.3	19′
					12′	78	24.6	
					18′	74	22	
					24′	70	20	
					30′	66	18.4	
					36′	64	17.7	
					42′	71	20.5	
					48′	73	21.5	
					54′	82	28.3	
					60′	84	30.5	
					72′	82	28.3	
					84′	82	28.3	
					90′	82	28.3	
					96′	82	28.3	
SE. Overfalls Light Ship	38°40′	74°52′	7/16/47	1615	0	44	12.3	—
					12′	44	12.3	
					18′	45	12.4	
					24′	49	13.3	
					30′	51	13.8	
					36′	51	13.8	
					42′	50	13.5	
					54′	50	13.5	
					60′	77	24	
					66′	70	20	
					72′	60	16.3	
					84′	60	16.3	
					96′	59	16	
Cove Point, Chesapeake Bay	38°23′12″	76°20′	7/1/47	0915	0	56	15.1	9′
					6′	48	13	
					12′	50	13.5	
					18′	46	12.7	
					24′	58	15.7	

(continued)

TABLE 1.—(*continued*)

C. SUMMER (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Cove Point, Chesapeake Bay	38°23′12″	76°20′	7/1/47	0915	30′	67	18.7	
					36′	71	20.5	
					42′	67	18.7	
					48′	65	18	
					54′	65	18	
					60′	63	17.3	
					72′	62	17	
					84′	50	13.5	
					B	47	12.9	
Do.	38°23′12″	76°20′	7/1/47	1120	0	55	14.8	9′
					12′	45	12.4	
					18′	49	13.3	
					24′	65	18	
					30′	72	20.9	
					42′	68	19.2	
					54′	65	18	
					66′	64	17.7	
					78′	62	17	
					90′	58	15.7	
					B	58	15.7	
Do.	38°23′12″	76°20′	7/1/47	1220	0	62	17	9′
					12′	45	12.4	
					18′	52	14	
					30′	71	20.5	
					42′	65	18	
					54′	64	17.7	
					66′	64	17.7	

					78′	50	13.5	
					90′	55	14.8	
					B	52	14	
Do.	38°23′12″	76°20′	7/1/47	1320	0	55	14.8	9′
					12′	45	12.4	
					24′	63	17.3	
					30′	71	20.5	
					42′	67	18.7	
					54′	67	18.7	
					66′	66	18.4	
					72′	54	14.5	
					B	28	9.8	
Do.	38°23′12″	76°20′	7/1/47	1420	0	49	13.3	8½′
					12′	47	12.9	
					18′	57	15.5	
					24′	75	22.7	
					36′	64	17.7	
					48′	69	19.5	
					60′	65	18	
					66′	65	18	
					72′	63	17.3	
					78′	62	17	
					B	50	13.5	
Off Fenwick Shoal..............................	38°17′	75°02′	7/16/47	1428	0	64	17.7	—
					12′	64	17.7	
					18′	64	17.7	
					24′	63	17.3	
					30′	65	18	
					36′	65	18	
					42′	65	18	
					48′	65	18	
					B	60	16.3	

(continued)

TABLE 1.—(*continued*)

C. SUMMER (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Off Great Gull Bank, Whistle Buoy	38°16'.4	75°00'.4	7/16/47	1319	0	80	26.3	—
					12'	78	24.6	
					18'	78	24.6	
					24'	80	26.3	
					30'	78	24.6	
					36'	80	26.3	
					42'	80	26.3	
(FLW) Bell NE. Winter Quarter Shoal	38°03'.85	75°02'.5	7/16/47	1145	0	90	42	—
					12'	90	42	
					18'	87	35.5	
					24'	92	48	
					30'	93	51	
					36'	93	51	
					42'	90	42	
1/10 mile E. of Solomons Lump Light	38°03'	76°00'54"	7/2/47	1530	0	36	10.9	6'
					9'	32	10.3	
					15'	32	10.3	
					25'	30	10	
					B	30	10	
				1630	0	35	10.7	6'
					6'	33	10.5	
					12'	32	10.3	
					18'	32	10.3	
					24'	32	10.3	
					B	32	10.3	
Do.	38°03'	76°00'54"	7/2/47	1730	0	32	10.3	6'

					6′	35	10.7	
					12′	35	10.7	
					18′	34	10.6	
					24′	33	10.5	
					B	33	10.5	
Do.	38°03′	76°00′54″	7/2/47	1930	0	32	10.3	—
					6′	30	10	
					12′	30	10	
					18′	32	10.3	
					24′	33	10.5	
					30′	30	10	
				2030	0	32	10.3	—
					6′	32	10.3	
					12′	33	10.5	
					18′	33	10.5	
					24′	34	10.6	
					30′	32	10.3	
Do.	38°03′	76°00′54″	7/2/47	2130	0	30	10	—
					6′	30	10	
					12′	30	10	
					24′	28	9.8	
					30′	28	9.8	
					B	30	10	
				2230	0	34	10.6	—
					6′	33	10.5	
					12′	33	10.5	
					18′	32	10.3	
					24′	30	10	
					B	31	10.1	
Do.	38°03′	76°00′54″	7/2/47	2330	0	35	10.7	—
					6′	34	10.6	
					12′	33	10.5	

(*continued*)

TABLE 1.—(*continued*)

C. SUMMER (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
1/10 mile E. of Solomons Lump Light	38°03′	76°00′54″	7/2/47	2330	18′	32	10.3	
					24′	34	10.6	
					30′	35	10.7	
5-Fathom Curve, off Assateague Island	38°02′.6	75°10′.7	7/16/47	1100	0	55	14.8	12′
					12′	54	14.5	
					18′	68	19.2	
					24′	64	17.7	
					30′	63	17.3	
					36′	60	16.3	
					B	40	11.5	
Do.	38°02′.6	75°10′.7	7/15/47	1130	0	—	—	12′
					6′	50	13.5	
					12′	48	13	
					18′	68	19.2	
					24′	65	18	
					30′	60	16.3	
					36′	77	24	
10-Fathom Curve, off Winter Quarter Shoal	37°57′	75°05′.5	7/16/47	1000	0	83	29.5	—
					12′	82	28.3	
					18′	82	28.3	
					24′	80	26.3	
					32′	82	28.3	
					36′	78	24.6	
					42′	74	22	
					48′	74	22	
					54′	72	20.9	
					60′	70	20	

Do.	37°57′	75°05′.5	7/15/47	1000	0	—	—	28′
					6′	85	32	
					12′	82	28.3	
					18′	78	24.6	
					24′	84	30.5	28′
					30′	80	26.3	
					36′	80	26.3	
					42′	75	22.7	
					48′	75	22.7	
					54′	77	24	
					B	77	24	
1 mile E. Tangier Island, Chesapeake Bay	37°48′	75°58′	7/3/47	1030	0	40	11.5	7′
					6′	40	11.5	
					12′	40	11.5	
					18′	39	11.4	
					24′	10	6.6	
					30′	4	5	
					B	3	4.6	
				1130	0	40	11.5	—
					6′	38	11.2	
					12′	38	11.2	
					18′	36	10.9	
					24′	34	10.6	
					30′	2	4.1	
Do.	37°48′	75°58′	7/3/47	1230	0	20	8.5	4′
					6′	20	8.5	
					12′	20	8.5	
					18′	30	10	
					24′	10	6.6	
					B	2	4.1	
				1330	0	25	9.4	—
					6′	20	8.5	

(continued)

TABLE 1.—(*continued*)

C. SUMMER (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
1 mile E. Tangier Island, Chesapeake Bay	37°48′	75°58′	7/3/47	1330	12′	20	8.5	
					18′	15	7.6	
					24′	10	6.6	
					B	2	4.1	
Do.	37°48′	75°58′	7/3/47	1430	0	24	9.2	—
					6′	24	9.2	
					12′	24	9.2	
					18′	23	9	
					24′	22	8.8	
					30′	10	6.6	
Bell Buoy (FLW) ZTL, off Chincoteague Inlet	37°48′	75°18′	7/16/47	0755	0	75	22.7	—
					12′	75	22.7	
					18′	40	11.5	
					24′	40	11.5	
					30′	35	10.7	
					B	20	8.5	
Off Black Fish Bank	37°47′	75°07′	7/16/47	0845	0	85	32	—
					12′	85	32	
					18′	85	32	
					24′	85	32	
					30′	80	26.3	
					36′	83	29.5	
					42′	78	24.6	
					48′	87	35.5	
					54′	75	22.7	
					60′	75	22.7	
Off Chincoteague Inlet	37°46′	75°25′	7/15/47	—	0	33	10.5	6′

					6′	24	9.2	
					12′	16	7.8	
					18′	8	6.2	
					B	2	4.1	
Chesapeake Bay Buoy............................	37°41′	76°12′.5	7/4/47	1330	0	45	12.4	8′
					6′	37	11	
					12′	36	10.9	
					18′	37	11	
					24′	38	11.2	
					30′	40	11.5	
					36′	38	11.2	
					42′	2	4.1	
					B	2	4.1	
Off Wolf Trap Light, Chesapeake Bay.............	37°23′	76°10′	7/5/47	1300	0	32	10.3	—
					6	20	8.5	
					12′	19	8.3	
					18′	29	9.9	
					24′	27	9.6	
					30′	22	8.8	
					36′	22	8.8	
					42′	19	8.3	
Horseshoe Middle Grounds, Chesapeake Bay.........	37°05′35″	76°09′40″	7/12/47	1000	0	53	14.3	10′
					6	49	13.3	
					12′	46	12.7	
					18′	45	12.4	
					24′	54	14.5	
					32′	50	13.5	
					B	50	13.5	
				1100	0	57	15.5	10′
					6′	51	13.8	
					12′	50	13.5	
					18′	52	14	

(continued)

TABLE 1.—(*continued*)

C. SUMMER (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Horseshoe Middle Grounds, Chesapeake Bay.........	37°05′35″	76°09′40″	7/12/47	1100	24′	42	11.9	
					32′	45	12.4	
Do.	37°05′35″	76°09′40″	7/12/47	1200	0	54	14.5	10′
					6′	47	12.9	
					12′	45	12.4	
					18′	50	13.5	
					24′	42	11.9	
					32′	46	12.7	
				1400	0	58	—	10′
					6′	45	12.4	
					12′	46	12.7	
					18′	49	13.3	
					24′	42	11.9	
					32′	20	8.5	
Do.	37°05′35″	76°09′40″	7/12/47	1500	0	53	14.3	10′
					6′	52	14	
					12′	43	12	
					18′	47	12.9	
					24′	30	10	
					32′	30	10	
				1600	0	50	13.5	—
					6′	50	13.5	
					12′	42	11.9	
					18′	42	11.9	
					24′	20	8.5	
					32′	12	7	
Do.	37°05′35″	76°09′40″	7/12/47	1700	0	49	13.3	—

					6′	48	13	
					12′	46	12.7	
					18′	40	11.5	
					24′	27	9.6	
					32′	20	8.5	
					B	18	8.1	
				1800	0	46	12.7	—
					6′	46	12.7	
					12′	44	12.3	
					18′	37	11	
					24′	28	9.8	
					32′	35	10.7	
					B	30	10	
Do.	37°05′35″	76°09′40″	7/12/47	1900	0	45	12.4	—
					6′	44	12.3	
					12′	35	10.7	
					18′	25	8.1	
					24′	33	10.5	
					32′	30	10	
				2000	0	48	13	—
					6′	44	12.3	
					12	42	11.9	
					18′	30	10	
					24′	28	9.8	
					32′	26	9.5	
Do.	37°05′35″	76°09′40″	7/12/47	2100	0	47	12.9	—
					6′	45	12.4	
					12	38	11.2	
					18′	36	10.9	
					24′	38	11.2	
					32′	38	11.2	
				2200	0	48	13	—

(*continued*)

TABLE 1.—(*continued*)

C. SUMMER (*concluded*)

Location of station								
Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Horseshoe Middle Grounds, Chesapeake Bay........	37°05′35″	76°09′40″	7/12/47	2200	6′	49	13.3	
					12′	47	12.9	
					18′	40	11.5	
					24′	38	11.2	
					32′	37	11	
Chesapeake Light Ship..........................	37°00′	75°7	7/14/47	1300	0	84	30.5	30′
					12′	82	28.3	
					18′	92	48	
					24′	95	61	
					30′	95	61	
					36′	94	55	
					42′	94	55	
					48′	90	42	
					B	78	24.6	
Do.	37°00′	75°7	7/14/47	1400	0	84	30.5	26½′
					18′	92	48	
					24′	95	61	
					30′	95	61	
					36′	94	55	
					42′	95	61	
					48′	82	28.3	
					B	80	26.3	
Do.	37°00′	75°7	7/14/47	1500	0	84	30.5	—
					18′	87	35.5	
					24′	95	61	
					30′	94	55	
					36′	94	55	

					42′	92	48	
					48′	86	33.5	
					54′	80	26.3	
					B	80	26.3	
Do.	37°00′	75°.7	7/14/47	1600	0	82	28.3	—
					12′	84	30.5	
					18′	95	61	
					24′	94	55	
					30′	92	48	
					36′	92	48	
					42′	94	55	
					48′	80	26.3	
					B	80	26.3	
	D. AUTUMN							
Swan Point, Chesapeake Bay	39°07′40″	76°20′	11/1/47	1445	0	28	9.8	5′
					6′	25	9.4	
					12′	23	9	
					18′	20	8.5	
					24′	5	5.5	
Chesapeake Bay Bridge	38°59′.5	76°22′.7	11/11/51	1410	0	48	13	8′
					6′	44	12.3	
					12′	46	12.7	
					18′	53	14.3	
					24′	57	15.5	
					30′	47	12.9	
					36′	40	11.5	
					42′	42	11.9	
					48′	38	11.2	
Cape May, Sea Buoy	38°56′47″	74°54′08″	11/5/51	0950	0	9	6.5	35″
					6′	7	6	

(continued)

TABLE 1.—(*continued*)

D. AUTUMN (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Cape May, Sea Buoy	38°56′47″	74°54′08″	11/5/51	0950	12′	8	6.2	
					18′	6	5.7	
					24′	6	5.7	
Cape May Harbor, dock	38°56′47″	74°54′08″	11/4/51	1240	0	13	7.2	60″
					6′	13	7.2	
					12′	12	7	
					B	13	7.2	
Do.	38°56′47″	74°54′08″	11/4/51	1210	0	15	7.6	—
					6′	16	7.8	
					12′	13	7.2	
					B	14	7.4	
Do.	38°56′47″	74°54′08″	11/4/51	1205	0	20	8.5	44″
					6′	20	8.5	
					12′	12	7	
					B	12	7	
Do.	38°56′47″	74°54′08″	10/31/51	0820	0	27	9.6	4′9″
					6′	27	9.6	
					12′	27	9.6	
					18′	27	9.6	
					22′	24	9.2	
					B	17	8	
Do.	38°56′47″	74°54′08″	10/31/51	0650	0	22	8.8	4½′
					6′	24	9.2	
					12′	20	8.5	
					B	10	6.6	
Do.	38°56′47″	74°54′08″	10/29/51	2030	0	20	8.5	5′
					6′	20	8.5	

				12′	12	7	
				B	5	5.5	
Brickhouse Bay, Chesapeake Bay	38°55′.2	76°22′.75	11/7/49	0930	0–B	52–55	14.4	10′
Brown Shoal, Delaware River	38°54′.5	75°06′	11/5/51	1150	0	34	10.6	6′
					6′	34	10.6	
					12′	48	13	
					18′	33	10.5	
					24′	36	10.9	
					30′	39	11.4	
					36′	27	9.6	
					42′	23	9	
					48′	24	9.2	
					54′	17	8	
Off Tilghman Point, Eastern Bay, Chesapeake Bay	38°51′.5	76°14′.25	11/13/51	1613	0	52	14	15′5″
					6′	52	14	
					12′	57	15.5	
					18′	69	19.5	
					24′	70	20	
					B	70	20	
Do.	38°51′.5	76°14′.25	11/12/51	1505	0	64	17.7	12′
					6′	63	17.3	
					12′	65	18	
					18′	70	20	
					24′	72	20.9	
					30′	73	21.5	
					B	73	21.5	
Do.	38°51′.5	76°14′.25	11/12/51	1130	0	61	16.7	14′
					6′	65	18	
					12′	62	17	
					18′	66	18.4	
					24′	74	22	
					30′	78	24.6	

(continued)

TABLE 1.—(*continued*)

D. AUTUMN (*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Shaw Bay, Eastern Bay	38°51′.5	76°11′12″	11/15/51	0845	0	68	19.2	15′8″
					6′	66	18.4	
					12′	71	20.5	
					18′	74	22	
Do.	38°51′.5	76°11′12″	11/14/51	1459	0	67	18.7	14+
					6′	69	19.5	
					12′	60	16.3	
					18′	60	16.3	
Overfalls Shoal vicinity	38°51′.5	74°56′.5	11/5/51	1050	0	20	8.5	58″
					6′	19	8.3	
					12′	13	7.2	
					18′	17	8	
					24′	11	6.8	
					30′	9	6.5	
McCries Shoal	38°51′	74°51′	10/30/51	1200	0–B	60–64	17	14′
East of Kent Point, Chesapeake Bay	38°50′11″	76°21′15″	11/15/51	1635	0	49	13.3	10′
					6′	58	15.7	
					12′	59	16	
					18′	61	16.7	
					24′	61	16.7	
					30′	62	17	
Do.	38°50′11″	76°21′15″	11/15/51	1505	0	50	13.5	8′4″
					6′	52	14	
					12′	62	17	
					18′	64	17.7	
					24′	58	15.7	
					B	58	15.7	

Do.	38°50′11″	76°21′15″	11/15/51	1329	0	45	12.4	10′2″
					6′	49	13.3	
					12′	56	15.1	
					18′	64	17.7	
					24′	66	18.4	
					30′	66	18.4	
1.3 miles W. of Bloody Point Light, Chesapeake Bay	38°50′	76°25′	11/2/47	1200	0	48.5	13.1	14′
					6′	47	12.9	
					12′	46	12.7	
					18′	46	12.7	
					24′	46	12.7	
					30′	47	12.9	
					36′	47	12.9	
					42′	55	14.8	
					48′	30	10	
Chesapeake Bay, Choptank	38°39.′5	76°12.′3	11/6/47	1150	0	66	18.4	13′
					6′	65	18	
					12′	61	16.7	
					18′	68	19.2	
					24′	64	17.7	
				—	0	60	16.3	—
					6′	60	16.3	
					12′	60	16.3	
					18′	66	18.4	
					24′	63	17.3	
Cambridge, Md., Harbor	38°34.′35	76°04.′4	11/6/47	1530	0	35	10.7	6′
					6′	25	9.4	
					12′	25	9.4	
					B	25	9.4	
Choptank off Cambridge, Md	38°34.′85	76°03.′7	11/2/47	1640	0–B	37	11	—
Do.	38°34.′85	76°03.′7	11/6/47	1500	0–B	52–53	14.1	10′

(*continued*)

TABLE 1—(*concluded*)

D. AUTUMN (*concluded*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Date	Time	Depth	Hydro. reading	Equiv. S.D.	Actual S.D.
Off Mouth of Popes Creek, Potomac River	38°20'	77°00'35"	11/30/42	1458	0	—	—	3½'
Point Patience, Solomons Island, Md.	38°19'30"	76°28'30"	11/29/42	0835	0	—	—	8½'
Do.	38°19'30"	76°28'30"	11/29/42	1035	0	—	—	8'
Do.	38°19'30"	76°28'30"	11/28/42	1000	0	—	—	8½'
Do.	38°19'30"	76°28'30"	11/28/42	1055	0	—	—	8½'
Do.	38°19'30"	76°28'30"	11/28/42	1153	0	—	—	8½'
Do.	38°19'30"	76°28'30"	11/28/42	1303	0	—	—	8½'
Do.	38°19'30"	76°28'30"	11/28/42	1400	0	—	—	8½'
Do.	38°19'30"	76°28'30"	11/28/42	1445	0	—	—	8½'
Do.	38°19'30"	76°28'30"	11/27/42	0803	0	—	—	8'2"
Do.	38°19'30"	76°28'30"	11/27/42	0902	0	—	—	8'4"
Do.	38°19'30"	70°28'30"	11/27/42	0958	0	—	—	8'
Do.	38°19'30"	76°28'30"	11/27/42	1055	0	—	—	9'
Do.	38°19'30"	76°28'30"	11/27/42	1155	0	—	—	8½'
Do.	38°19'30"	76°28'30"	11/27/42	1300	0	—	—	9'
Do.	38°19'30"	76°28'30"	11/27/42	1404	0	—	—	8½'
Do.	38°19'30"	76°28'30"	11/27/42	1449	0	—	—	8½'
Do.	38°19'30"	76°28'30"	11/27/42	1555	0	—	—	8½'
Do.	38°19'30"	76°28'30"	11/26/42	1053	0	—	—	8'
Do.	38°19'30"	76°28'30"	11/26/42	1239	0	—	—	9'4"
Do.	38°19'30"	76°28'30"	11/26/42	1310	0	—	—	9'
Off Cedar Point, Potomac River	38°18'36"	76°20'	11/29/42	1445	0	—	—	8'
Off Piney Point, Potomac River	38°08'	76°30'45"	11/30/42	0940	0	—	—	7½'
Do.	38°08'	76°30'45"	11/30/42	1055	0	—	—	8½'

TABLE 2.—*Various types of information concerning transparency of water at stations listed*

Location of station: Description	Latitude (N.)	Longitude (W.)	Depth	Nat. lt. (Ball)	Letter	Lamp (point source)	Photometer (incident light) ft.-candles	Par-aqua-meter	Scattering (units of scatter matter)
Harbor, Red Bay, Labrador	51°45′	56°22′	0	39′2″	57′				
			6′						5
			30′						6
Off French Point, Newfoundland	51°40′	55°28′20″	0	20′7″	36′2″				
			6′						8
			36′						14
			72′						12
Pistolet Bay, Newfoundland	51°30′.2	55°43′.0	0	13′3″	21′10″	32′			
			6′						12
Belle Isle Strait, Newfoundland	57°30′.0	56°37′.5	0	33′10″	65′	114′	4200		
			6′						3
			36′						3
			72′						3
Off Cape Fox, Newfoundland	50°51′10″	55°50′30″	0	26′2″	46′4″	105′	1500		
			6′						6
			42′						7
			72′						6
Off Riche Point, Newfoundland	50°43′30″	57°32′30″	6′						4
Fouche Harbor, off NE. Cove, Newfoundland	50°31′.0	56°18′.0	0	6′2″	14′	21′2″	900		
			6′						14
			36′						7
			72′						5
Off Fouche Harbor, Newfoundland	50°29′.0	56°11′.2	0	29′3″	49′6″	110′	1000		
			6′						5
			36′						5
			72′						6

(*continued*)

TABLE 2.—(*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Depth	Nat. lt. (Ball)	Letter	Lamp (point source)	Photometer (incident light) ft.-candles	Paraquameter	Scattering (units of scatter matter)
Channel beween St. Barbe Islands..........	50°12.0′	55°47.0′	0	39′4″	59′		1200		
			6′						6
			36′						8
			72′						8
Off Gull Island, 1 mile S. of Newfoundland..	49°59.0′	55°20.0′	0				2000		
			6′						6
			36′						7
			72′						6
Off Brocalhou Light, Newfoundland.........	49°43′40″	54°30′30″	0				1500		
			6′						6
			72′						5
Twillingate Harbor, Newfoundland..........	49°40.5′	54°46.0′	0	18′9″	31′2″	52′6″	1800		
			6′						9
			36′						10
			54′						7
Off Offer Wadham Island, Newfoundland...	49°37′25″	53°45.0′	6′						4
			36′						5
			72′						4
Approx. 10 miles S. of Funk Island, Newfoundland	49°37.0′	53°11.0′	0				6300		
			6′						5
			36′						5
			72′						5
Little Seldom-Come-By Harbor, Newfoundland	49°35′45″	54°13.0′	0	17′6″	32′	66′			
			6′						7
Off Little Port Head Light, Newfoundland..	49°07′00″	58°27′00″	0		45′2″	84′			
			6′						5

			36′					6
			72′					6
Off Fox Point, Humber Arm, Newfoundland.	49°01′00″	58°06′30″	0	18′5″	36′6″	74′	625	
			6′					7
			36′					5
			72′					4
Off Cape Bonavista, Newfoundland..........	48°42′.0	52°47′.0	6′					3
			36′					5
			72′					4
Off Cape Ray, Newfoundland...............	47°34′45″	59°22′00″	0	18′7″	38′2″	77′	2000	
			6′					10
			36′					8
			72′					8
Port Aux Basque Harbor, Newfoundland....	47°34′37″	59°08′31″	0		25′	37′11″		
			6′					12
			24′					9
St. John's Harbor, Newfoundland...........	47°33′47″	52°42′27″	0	10′10″	18′1″	34′	7200	
			18′					14
Cape Spear, bearing 217°T—distant 1.3 miles, Newfoundland	47°33′.5	52°36′.8	0				7000	
			6′					3
			36′					3
			72′					3
Cabot Strait, Newfoundland................	46°55′58″	59°38′00″	0	46′10″	89′			
			6′					4
			36′					5
			72′					4
Cape Race, bearing 288°T—distant 11.3 miles, Newfoundland	46°38′.3	52°59′.5	0				1800	
			6′					8

(continued)

TABLE 2.—(*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Depth	Nat. lt. (Ball)	Letter	Lamp (point source)	Photometer (incident light) ft.-candles	Par-aqua-meter	Scattering (units of scatter matter)
Cape Race, bearing 288°T—distant 11.3 miles Newfoundland	46°38.'3	52°59.'5	36'						8
			72'						6
10 miles off Sydney Harbor, Sea Buoy, Nova Scotia	46°27'00"	60°01'30"	0	35'	77'8"				
			6'						8
			36'						5
			72'						6
Sydney Harbor, Sea Buoy, Nova Scotia	46°18'12"	60°08'00"	0	19'6"	22'5"				
			6'						10
			30'						10
Sydney Harbor, Nova Scotia	46°08'31"	60°12'02"	0		17'3"	24'4"			
			6'						16
Bras d'Or Lake, Nova Scotia	46°05'30"	60°41'00"	0	11'7"	23'8"	34'2"			
			6'						11
			36'						8
			72'						15
Bras d'Or, Nova Scotia	55°50'15"	60°50'45"	0	17'10"	28'5"	41'2"	6000		
			6'						5
			36'						6
			72'						5
Off Horsehead Shoals, Nova Scotia	45°35'30"	60°52'45"	0	13'1"	23'6"	36'4"			
			6'						15
			36'						10
			66'						6
St. Pierre Bank, Nova Scotia	45°34'	57°33'	0				7800		
			6'						5
			36'						6
			72'						4

Off Cape Canso, Nova Scotia	45°21′07″	60°51′06″	0	23′11″	34′	50′2″	5200	
			6′					5
			36′					4
			78′					4
Country Harbor, Nova Scotia	45°10′55″	61°43′10″	0	16′5″	26′4″	39′	7000	
			6′					11
			24′					5
Do.	45°10′55″	61°43′10″	0		38′8″	49′2″		
			6′					12
			24′					4
Sea Buoy off Country Harbor, Nova Scotia	45°02′00″	61°32′42″	0	22′11″	38′4″	53′7″	2500	
			6′					12
			36′					12
			72′					10
Off Yankee Jack, Nova Scotia, Sheet Harbor, Sea Buoy	44°42′57″	62°28′52″	0	44′2″	53′5″	85′	5800	
			6′					4
			36′					7
			72′					4
Bedford Basin, Halifax, Nova Scotia	44°41′36″	63°38′24″	0	11′6″	19′1″	35′1″	8200	
			6′					12
			36′					13
			72′					3
Halifax Harbor, Nova Scotia, by oil dock	44°39′02″	63°34′18″	0					5
Whst'l John Bank, Nova Scotia	44°35′30″	62°49′45″	0	34′11″	52′9″	over 98′	8200	
			6′					3
			36′					4
			72′					6
Entrance Halifax Harbor, Nova Scotia	44°31′48″	63°30′20″	6′					3
			36′					3
			72′					3

(continued)

TABLE 2.—(*continued*)

Location of station									
Description	Latitude (N.)	Longitude (W.)	Depth	Nat. lt. (Ball)	Letter	Lamp (point source)	Photometer (incident light) ft.-candles	Par-aqua-meter	Scattering (units of scatter matter)
Blue Hill Harbor, Maine	44°24'20"	68°33'45"	0	8'3"	14'4"	23'3"	4200		
			6'						19
Off Long Island, Blue Hill Bay	44°18'20"	68°30'12"	0	12'2"	20'10"	31'1"	4200		
			6'						6
			24'						8
			72'						7
Eggemoggin Beach, Spar 12	44°16'12"	68°37'12"	0	9'11"	21'6"	37'4"	8800		
			6'						7
			30'						22
Off Long Island, Blue Hill Bay	44°18'20"	68°30'12"	0	9'9"	17'7"	29'8"	7400		
			6'						8
			36'						7
			72'						15
Off Little Duck Island, Frenchman's Bay	44°11'18"	68°14'54"	0	22'	31'	55'	6800		
			6'						6
			36'						11
			72'						4
14 miles N. of Mt. Desert Rock Lighthouse	44°11'00"	68°01'30"	0		21'6"	33'5"			
			6'						16
			36'						14
			72'						16
Jericho Bay, off Sunken Egg Rock	44°10'53"	68°21'12"	0	7'11"	13'6"	23'11"	5000		
			6'						12
			36'						8
			72'						6
Off Cross Ledge, Nova Scotia	44°10'30"	63°39'30"	6'						3
			36'						2
			72'						3

Swan's Island Harbor	44°08′36″	68°26′42″	0	8′5″	11′8″	18′9″	7200	
			6′					15
			24′					14
Do.	44°08′36″	68°26′42″	0		13′1″	19′1″		
			6′					14
Penobscot Bay Buoy Whst'l "CIA" Ref.	44°08′00″	69°00′18″	0	15′8″	28′3″	49′2″	8400	
			6′					6
			36′					8
			72′					9
Swan's Island Sea Buoy	44°07′30″	68°27′36″	0	8′6″	17′6″	27′8″	6200	
			6′					15
			36′					13
			72′					12
30 miles N. of Emerald Bank	44°06′.5	62°20′.6	0				7000	
			6′					3
			36′					3
			78′					4
Off Long Island, Blue Hill Bay	44°04′00″	68°25′00″	0	11′5″	17′5″	27′6″	5400	
			6′					14
			36′					14
			72′					8
Mouth, Bay of Fundy	44°01′30″	67°21′30″	0		40′4″	62′6″		
			6′					5
			48′					7
Two Bush Channel Whst'l. (S-L FLW) "TBI"	43°58′18″	69°00′18″	0	19′4″	27′7″	42′4″	6000	
			6′					9
			36′					18
			72′					10
Pemaquid Harbor, Maine	43°52′51″	69°31′30″	0	7′9″	8′11″	13′4″		
			6′					20

(*continued*)

TABLE 2.—(*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Depth	Nat. lt. (Ball)	Letter	Lamp (point source)	Photometer (incident light) ft.-candles	Par-aqua-meter	Scattering (units of scatter matter)
Pemaquid Harbor, Maine	43°52′51″	69°31′30″	0		21′11″	24′2″			
			6′						10
Yarmouth Harbor, Nova Scotia	43°50′15″	66°07′16″	0	2′	4′4″	8′2″			
			6′						37
Do.	43°50′15″	66°07′16″	0	4′6″	4′6″	9′1″			
			6′						30
John's Bay, off Pemaquid Light	43°50′00″	69°32′00″	0	15′10″	30′	46′8″	7200		
			6′						3
			42′						5
			78′						4
Off Lucker Light Ship, Nova Scotia	43°46′45″	66°33′40″	0	33′4″	38′5″	70′+	6400		
			6′						9
			54′						8
Yarmouth Harbor entrance, Nova Scotia, Bell #11.34 Cat Rock	43°46′42″	66°09′13″	0	13′4″	20′	31′5″	8200		
			6′						13
			36′						15
			66′						13
Falmouth-Foreside, Maine	43°43′45″	70°12′10″	0	5′2″	12′7″	19′7″			
			6′						14
			0		11′3″	20′4″			
			6′						16
Southeast of Port Joli, Nova Scotia	43°42′30″	64°42′00″	0		46′	97′			
			6′						3
			36′						5
			66′						5

Off Bantam Rock, Whst'l (FLW) "16 BR"..	43°41'54"	69°38'06"	0	14'1"	21'7"	39'3"	7200	
			6'					13
			30'					11
			72'					4
Portland Harbor Anchorage...............	43°39'57"	70°14'56"	0		11'7"	19'5"		
			6'					12
			18'					11
Off Outer Green Island....................	43°38'00"	69°37'30"	0	9'2"	14'4"	30'3"	8800	
			6'					10
			36'					11
			72'					6
Off Portland Head Light..................	43°32'35"	70°12'24"	0	3'4"	9'1"	13'1"	6000	
Old Antony Rock (FLW) "22" Whst'l......	43°27'54"	70°27'54"	0	6'1"	12'6"	21'4"	2200	
			6'					18
			30'					23
Off Whale Rock Ledge..................	43°26'24"	70°17'30"	0	9'10"	18'8"	33'2"	2200	
			6'					13
			42'					24
			72'					8
Cape Porpoise Buoy (FLW) "2CP"........	43°20'18"	70°23'24"	0	8'	17'5"	35'5"	3400	
			6'					15
			48'					11
			78'					14
Whst'l (FLR) off Southwest Ledge, Nova Scotia	43°20'08"	65°40'54"	0	40'2"	44'	92'	7000	
			6'					3
			36'					3
			72'					4
Off Bald Head Cliff......................	43°12'06"	70°28'47"	0	11'4"	21'10"	43'4"	4800	
			6'					6

(continued)

TABLE 2.—(*continued*)

Location of station									
Description	Latitude (N.)	Longitude (W.)	Depth	Nat. lt. (Ball)	Letter	Lamp (point source)	Photometer (incident light) ft.-candles	Par-aquameter	Scattering (units of scatter matter)
Off Bald Head Cliff	43°12′06″	70°28′47″	54′						7
			78′						5
Portsmouth Harbor, N. H.	43°04′24″	70°43′28″	0	7′5″	11′	21′4″			
			6′						14
			24′						15
Do.	43°04′24″	70°43′28″	0	9′	16′9″	28′10″			
			6′						18
			30′						17
Do.	43°04′24″	70°43′28″	0		26′9″	42′8″			
			6′						7
			30′						10
York Ledge Whst'l (FLR) "24 YL"	43°04′24″	70°34′30″	0	9′4″	16′5″	30′2″	7200		
			6′						12
			42′						21
			78′						27
Kitts Rock Whst'l Buoy "2 KR," off Portsmouth, N. H.	43°02′54″	70°41′24″	0	12′9″	25′	36′3″	8800		
			6′						11
			30′						6
9.2 miles off Newburyport, Mass.	42°50′27″	70°36′22″	0	3′6″	6′9″	15′4″			
			6′						13
			36′						15
			78′						24
Off Cape Ann, Mass., Whst'l (FLO) "2"	42°38′06″	70°36′18″	0	11′	20′8″	39′7″	7800		
			6′						9
			42′						8
			84′						5

Gloucester Harbor, Mass., Can No. 5........	42°36′20″	70°40′24″	0					25
			18′					22
			0					23
			18′					21
Do.	42°36′20″	70°40′24″	0					24
			18′					21
			0					20
			18′					22
Do.	42°36′20″	70°40′24″	0					20
			18′					15
			0					22
			18′					13
Off Cape Ann, Mass., 3 miles E. of (FLR) "2 A"	42°34′14″	70°39′14″	0	5′2″	12′2″	22′10″	7200	
			6′					13
			48′					8
6.6 miles E. of Boston Light Ship...........	42°16′36″	70°36′36″	0	10′3″	18′0″	32′8″	7200	
			6′					13
			42′					11
			78′					4
? S. of Brown's Bank......................	42°05′	65°47′	6′					3
			36′					5
			72′					4
Whst'l Buoy, Massachusetts Bay............	42°01′39″	70°28′24″	0	9′9″	17′10″	37′3″	8200	
			6′					12
			36′					10
			72′					12
Buzzards Bay entrance, Cape Cod Canal.....	41°40′45″	70°40′35″	0	3′3″	12′10″	18′9″	7500	
			6′					9
			24′					9

(continued)

TABLE 2.—(*continued*)

Location of station									
Description	Latitude (N.)	Longitude (W.)	Depth	Nat. lt. (Ball)	Letter	Lamp (point source)	Photometer (incident light) ft.-candles	Par-aqua-meter	Scattering (units of scatter matter)
(FLW) "5," Buzzards Bay, off New Bedford.	41°31′00″	70°50′30″	0	5′9″	11′11″	20′5″	7900		
			6′						13
			30′						14
			54′						22
(FLW) "16" Gong, off Edgartown Harbor, Marthas Vineyard	41°28′25″	70°29′00″	0	6′4″	10′	16′2″	8200		
			6′						25
			24′						25
			42′						30
(FLW) "16" Gong, off Edgartown Harbor, Marthas Vineyard	41°28′25″	70°29′00″	0		13′7″	21′5″	7000		
			6′						23
			30′						20
			48′						26
Between Block Island and Vineyard Sound..	41°19′34″	71°14′20″	0	5′8″	35′8″	72′5″			
			6′						6
			30′						6
			72′						5
Harbor (Great Salt Pond), Block Island...	41°11′40″	71°34′30″	0			20′3″			
			6′						14
			0		12′5″	17′5″			
			6′						15
Off Nashawena Island, Vineyard Sound.....	41°31′40″	70°44′30″	0		14′6″	21′4″	9000		
			6′						6
			30′						7
			48′						10

Off (FLG) "3" Gong, 2½ miles SE. entrance Block Island Sound	41°04′42″	71°44′35″	0	17′11″	27′10″		
			6′				14
			30′				15
			54′				17
(FLW) "2A" Bell, off Bridgehampton	40°52′30″	72°13′30″	0	18′10″	28′8″		
			6′				5
			30′				6
			54′				5
6 miles off Nantucket Light Ship	40°49′	69°21′	42′				10
			78′				12
Whst'l Buoy (FLW) "4," off Fire Island	40°35′33″	73°17′48″	0	13′6″	23′11″		
			6′				8
			36′				10
New York Harbor Narrows, off Coney Island	40°34′15″	74°00′57″	0	4′7″	6′6″		
			6′				30
			24′				20
Whst'l Buoy "4," off Far Rockaway	40°31′36″	73°43′40″	0	7′11″	11′6″		
			6′				21
			30′				10
			54′				11
New York Harbor approach, South Channel, vicinity Scotland Light Ship	40°26′40″	73°56′00″	0	3′5½″	5′7″	7200	
			6′				30
			30′				10
			48′				7
Anchorage W. of Sandy Hook	40°26′40″	74°00′20″	0	2′0″	4′6″		
			15′				32
Off Shewsbury Rock Light Buoy (FLW) Bell "1"	40°20′39″	73°55′36″	0	3′11″	5′4″		
			6′				35

(continued)

TABLE 2.—(*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Depth	Nat. lt. (Ball)	Letter	Lamp (point source)	Photometer (incident light) ft.-candles	Paraquameter	Scattering (units of scatter matter)
Off Shewsbury Rock Light Buoy (FLW) Bell "I"	40°20′39″	73°55′36″	24′						10
			42′						7
Barnegat Light Ship	39°46′45″	73°56′00″	0	12′	21′3″	40′8″			
			6′						15
			36′						18
Hudson Canyon	39°36′.9	72°27′.25	6′						1
			36′						1
			78′						3
1½ miles E. of (QK FLR) Gong, off Atlantic City	39°18′00″	74°14′20″	0			43′10″			
			6′						13
			36′						10
			54′						12
Sta. 1, off Ship John Light, Delaware River	39°17′42″	75°23′55″	18′						35
Do.	39°17′42″	75°23′55″	0						62
			6′						63
			18′						62
			30′						60
Do.	39°17′42″	75°23′55″	0						56
			18′						53
			36′						54
Do.	39°17′42″	75°23′55″	0						50
			18′						47
			30′						53
Do.	39°17′42″	75°23′55″	0				2500		49
			18′						68
			30′						72

Do.	do.	do.	0				6500	48
			18′					61
			30′					59
Do.	do.	do.	0				4800	43
			18′					56
			30′					47
Do.	do.	do.	0				3600	42
			18′					53
			30′					40
Do.	do.	do.	0		23′	25′	1100	42
			18′					42
			30′					38
Do.	do.	do.	0		23″			52
			18′					39
			30′					38
Do.	do.	do.	0					45
			18′					32
			30′					35
Do.	do.	do.	0					65
			18′					39
			30′					55
Do.	do.	do.	0					70
			18′					52
			30′					49
Do.	do.	do.	0		22″	46″		
Do.	do.	do.	0		0	4″		
Sta. 10, off Swan Point, Chesapeake Bay....	39°07′40″	76°20′	0				6400	11
			18′					22
Do.	do.	do.	0	27″				
Do.	do.	do.	0	48″				
Chesapeake Bridge	38°59′.5	76°22′.7	0				4900	

(*continued*)

TABLE 2.—(*continued*)

Location of station									
Description	Latitude (N.)	Longitude (W.)	Depth	Nat. lt. (Ball)	Letter	Lamp (point source)	Photometer (incident light) ft.-candles	Par-aqua-meter	Scattering (units of scatter matter)
Cape May Harbor (Rafferty Marina Dock)	38°56′47″	74°54′08″	0				4200		16
Do.	38°56′47″	74°54′08″	0				4500		17
Do.	do.	do.	0				600		9
Do.	do.	do.	0				8		2.1
Do.	do.	do.	0						22½
Do.	do.	do.	0–B						40
			5′		5′7″	8′			
Do.	do.	do.	0		64″	78″			19
Do.	do.	do.	0	73″					12
Do.	do.	do.	0	38″					32
Buckhouse Bar, Chesapeake Bay	38°55′.2	76°22′.75	0–B					152″	4
Sta. 2, Brown Shoal, Delaware Bay	38°54′.5	75°06′	0				6800		13
			24′						12½
			42′						18
Do.	do.	do.	0				6600		12½
			24′						13
			42′						20½
Do.	do.	do.	0				5400		11
			30′						14
			42′						17
Do.	do.	do.	0				5400		13½
			24′						12
			42′						18
Do.	do.	do.	0				4400		13
			24′						10
			42′						17

Do.	do.	do.	0			5400		10
			24′					13
			42′					18½
Do.	do.	do.	0			4100		11
			24′					14
			42′					18
Do.	do.	do.	0	11′3″	16′9″			10
			24′					11
			42′					18
Do.	do.	do.	0	50″	7′9″			
			6′					19
			24′					25
			42′					26
Do.	do.	do.	0	79″	130″			24
			12′					23
			30′					39
			42′					41
Do.	do.	do.	0			6200		
Do.	do.	do.	0			3000		
Do.	do.	do.	0			180		
Do.*	do.	do.	0					
Off Tilghman Point, Eastern Bay, Chesapeake Bay	38°51′.5	76°14′.25	0			420		
Do.	do.	do.	0			2800		
Do.	do.	do.	0			4200		7
3/10 mile off Tilghman Point Buoy	38°51′.5	76°14′.25	0			4400		
			12′				116″	

* Screen Point, 11′8″.

(continued)

TABLE 2.—(*continued*)

Location of station									
Description	Latitude (N.)	Longitude (W.)	Depth	Nat. lt. (Ball)	Letter	Lamp (point source)	Photometer (incident light) ft.-candles	Par-aqua-meter	Scattering (units of scatter matter)
Shaw Bay, Eastern Bay, Chesapeake Bay....	38°51′.5	76°11′12″	0				650		5
Do.	do.	do.	0				280		
Do.	do.	do.	0					80″	
McCries Shoal	38°51′	70°51′	0–B						10
Do.	do.	do.	0				1400		6½
			18′						9
			36′						14
Do.	do.	do.	0	74″		94″			
E. of Kent Point 16 miles E. of Eastern Bay, Chesapeake Bay	38°50′11″	76°21′15″	0				320		
Do.	do.	do.	0				3000		4½
Do.	do.	do.	0				1600		5½
½ mile W. of Bloody Point Light, Chesapeake Bay	38°50′	76°24′	0				4400		
Bloody Point Light, Chesapeake Bay (0.8 mile W. of)	38°50′	76°25′	0	41″					22
			30′						24
			60′						26
Do.	do.	do.	0	5′					
Off Woodland Creek entrance, Eastern Bay, Chesapeake Bay	38°49′50″	76°12′.25	0				5000		
Miles and Wye River entrance , Eastern Bay, Chesapeake Bay	38°49′50″	76°72′.5	0				1800	102″	
			6′					112″	
			12′					104″	
			18′					90″	
			Bot.					60″	

Off McCries Shoal, Delaware Bay..........	38°49′24″	74°50′18″	0	5′	127′	200″		
			6′					15
			24′					14
			42′					12
2.6 miles SE. x E. of McCries Shoal Buoy...	38°48′.6	74°47′.5	0	13′4″	16′6″	25′10″	1800	
			6′					6½
			36′					4
			60′					4
Overfalls Light Ship......................	38°48′	75°01′.5	0	9′4″	15′1″	26′7″	900	6½
			36′					12
			66′					11½
			0	5′	10′	18′		
Off Overfalls Light Ship..................	do.	do.	6′					15
			54′					21
Five-Fathom Light Ship....................	38°48′	74°35′40″	0					5
			0		27′8″	43′3″	1300	
Do.	do.	do.	6′					5
			36′					3½
			66′					4
Off Five-Fathom Light Ship................	do.	do.	0	57′		>125′	5200	
			6′					1
			36′					3
			78′					10
Do.	do.	do.	0	5′		36′		
			6′					7
			36′					7
			60′					8
Five-Fathom Light Ship....................	38°48′	74°35′.7	0					10
Lewes, Del., Breakwater Harbor............	38°47′.75	75°06′.15	0				500	
			6′					23
Do.	do.	do.	0–B		28″	35″		85

(continued)

TABLE 2.—(*continued*)

Location of station									
Description	Latitude (N.)	Longitude (W.)	Depth	Nat. lt. (Ball)	Letter	Lamp (point source)	Photometer (incident light) ft.-candles	Par-aquameter	Scattering (units of scatter matter)
4 miles W. of Five-Fathom Light Ship......	38°47′	74°40′	0	26′1″	40′11″		1800		
			6′						4
			36′						3½
			72′						4
Off Overfalls Light Ship, Delaware Bay...	38°46′54″	75°01′18″	5′	88″	10′3½″				
			6′						23
			30′						18
			60′						19
Off Delaware Capes.....................	38°42′	74°52′	0						15
			42′						4
			72′						8
10.2 miles SE. of Overfalls Light Ship.......	38°42′	74°52′	0				400		
			6′						4
			36′						3½
			72′						3½
Chesapeake Bay, Choptank (off Spar WS "G")	38°39′.5	76°12′.3	0		15′1½″				
			0				7000		4
			30′						4
Chesapeake Bay, Cambridge, Md. Harbor...	38°34′.35	76°04′.4	0	6′8″					
Potomac River, off upper Cedar Point (Maryland Point Light).......................	38°24′	77°05′	0						66
Do.	do.	do.	0				1200		65
			24′						76
Do.	do.	do.	0				5000		
			6′						60
Cove Point, Chesapeake Bay...............	38°23′12″	76°20′00″	0	56″					

Off mouth Popes Creek, Potomac River......	38°20'00"	77°00'36"	0			3200	
Point Patience, Solomons Island, Md.........	38°19'30"	76°28'30"	0			600	
Do.	do.	do.	0			2000	
Do.	do.	do.	0			4000	
Do.	do.	do.	0			3200	
Do.	do.	do.	0			4000	
Do.	do.	do.	0			3200	
Do.	do.	do.	0			2400	
Do.	do.	do.	0			3200	
Do.	do.	do.	0			3200	
Do.	do.	do.	0			2400	
Bell (FLR) "16C," off Patuxent River, Chesapeake Bay	38°19'	76°20'	0	11'4"	17'6"	1800	5
			30'				6
			54'				11
Do.	do.	do.	0	10'7"	16'7"	2900	4
			30'				4½
			54'				8½
Do.	do.	do.	0	9'10"	16'7"	5400	4
			30'				5
			54'				8
Do.	do.	do.	0	9'3"	14'	4000	3
			30'				5
			54'				11
Do.	do.	do.	0	7'8"	13'6"	3800	4
			30'				5
			54'				13
Do.	do.	do.	0	7'8"	12'7"	4500	4
			30'				4
			54'				10

(continued)

TABLE 2.—(*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Depth	Nat. lt. (Ball)	Letter	Lamp (point source)	Photometer (incident light) ft.-candles	Par-aqua-meter	Scattering (units of scatter matter)
Bell (FLR) "16C," off Patuxent River, Chesapeake Bay	38°19′	76°20′	0	6′	7′5″		4400		3½
			30′						5
			54′						7
Do.	do.	do.	0				3000		5
			30′						4
			54′						7½
Off Cedar Point, Chesapeake Bay, (FLR) "16C"	38°19′	76°20′	0	60″					16
			30′						16
			66′						27
Do.	do.	do.	0		51″	95″			
Whistle Buoy (IFIS), Fenwick Island Shoal	38°17′	75°02′.8	0				6400		
			6′						3
			24′						4
Off Fenwick Shoal (FLW) "IFIS" Whst'l..	do.	do.	0						4
			24′						5
			36′						12
Off Great Gull Bank (FLW) "H" Whst'l...	38°16′.4	75°00′.4	0						11
			24′						8
			36′						14
Breton Bay, Potomac River	38°14′	76°42′	0				7000		
			6′						12
Potomac River, off Blackstone Island	38°11′.5	76°44′40″	0				5400		4
			24′						13
Do.	do.	do.	0				2000		11
			24′						37

Off Piney Point, Potomac River	38°08′00″	76°36′45″	0			4000	
Bell "B" (FLR), mouth of Potomac River	38°01′	76°21′	0			5000	3
			24′				5
Do.	do.	do.	0	7′7″	10′7″	600	7
			30′				7
			54′				14
Whistle Buoy (WQS) #6 Winter Quarter Shoal	37°57′	75°05′.5	6′				4
			30′				3½
			54′				6
10-Fathom Curve off Winter Quarter Shoal (WQS) 6 Whst'l	do.	do.	0				11
			42′				5
			60′				5
Bell Buoy (FLW) "2TL," off Chincoteaque Inlet	37°48′	75°18′	0	14′10″	22′4″	5200	6
			18′				11
Off Wolf Trap Light, Chesapeake Bay	37°23′	76°10′	0	11′10″	19′9″	1050	5
			18′				14
			30′				17
Off Wolf Trap, Chesapeake Bay	37°20′30″	76°10′	0			1300	
Mouth York River, off Crab Neck	37°11′30″	76°22′	0	17′9″	26′1″	850	
			6′				4
Thimble Shoals, Chesapeake Bay	37°05′36″	76°10′	0			1600	
Do.	do.	do.	0			800	
Horseshoe Middle Grounds, Chesapeake Bay	37°05′35″	76°11′.5	0				30
			6′				36
			12′				31
			18′				97
Do.	37°05′35″	76°09′40″	0			7200	8
			24′				5

(continued)

TABLE 2.—(*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Depth	Nat. lt. (Ball)	Letter	Lamp (point source)	Photometer (incident light) ft.-candles	Par-aqua-meter	Scattering (units of scatter matter)
Horseshoe Middle Grounds, Chesapeake Bay..	37°05′35″	76°09′40″	0				5800		7
			24′						5
Do.	do.	do.	0				5200		7
			24′						6
Do.	do.	do.	0				5000		7
			24′						11
Do.	do.	do.	0				6000		6
			24′						17
Do.	do.	do.	0				5700		5
			24′						10
Do.	do.	do.	0				6400		3½
			24′						10
Do.	do.	do.	0				5000		4
			24′						8
Do.	do.	do.	0		16′	21′4″	2800		2½
			24′						5
Do.	do.	do.	0		20′3″	28′4″			5
			24′						8
Do.	do.	do.	0		19′5″	26′9″			5
			24′						8
Do.	do.	do.	0	52″		58″			
Chesapeake Light Ship....................	37°	75°.7	0				1200		
			6′						3
			30′						3
			54′						4
Do.	do.	do.	0						11
			30′						13
			48′						17

Little Creek, Va., Amphut East Annex Training Base, Pier 1	36°54′39″	76°10′55″	0			7200	62″	5
East of Curituck Sound, 23½ miles	36°17′.5	75°19′.5	0	30′	66′			2
East of Chicamacomico C. G. Station, 13½ miles	35°36′.0	75°11′.5	0		43′		20′	2½
Pamlico River	35°21′.0	76°35′.0	0			800		
Off Cape Hatteras, Cape Hatteras Lighthouse, bearing 263°T—distant 8 miles	35°16′.75	75°22′.7	0				9′6″	4
Off Cape Hatteras (QK FLW) R & B Whst'l, bearing 039°T—distant 2 miles	35°08′	75°20′.5	0			4000		½
Off Ocracoke Inlet	34°58′.0	75°57′.5	0			7000		1
Off Cape Lookout	34°32′.5	76°19′	0					1
Moorehead City, N. C. Coast	34°42′.0	76°40′.0	0			2400		
Wreck Buoy (QK FLR) "W2" dis. ½ mile	33°57′.5	77°02′	0					½
Off Frying Pan Light Ship, Edge of 10-Fathom Curve	33°27′.2	77°35′.5	0					½
Frying Pan Light Ship, bearing 246°T—distant 34.2 miles	33°10′34″	78°10′06″	0			5800		½
Off Cape Romain (FLW) "2CR" Whst'l, bearing 180°T—distant 0.2 mile	32°59′	78°53′.5	0					1
Charleston area, off Fort Sumter	32°45′30″	79°52′	0			125		
Do.	do.	do.	0			1100		
Charleston, S. C., Harbor	32°45′.2	79°54′	0			2000	14″	10
Charleston, S. C., off entrance	32°42′	79°46′	0				68″	5
Charleston Sea Buoy No. 2C	32°40′30″	79°43′	0			250		
East of Savannah, Ga.	32°00′	79°54′	0					3
Savannah area, Savannah Light Ship	31°57′	80°40′	0			1000		
Off Savannah Light Ship	31°53′.5	80°25′	0				13′	1½
East of Cumberland Island, Ga.	30°54′	80°41′.5	0					½
Off St. Johns Light Ship	30°27′.5	81°06′.5	0	20′6″		4000		1½

(continued)

TABLE 2.—(*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Depth	Nat. lt. (Ball)	Letter	Lamp (point source)	Photometer (incident light) ft.-candles	Paraquameter	Scattering (units of scatter matter)
Dockside, Pensacola, Fla.	30°24′	87°13′	0					6′8″	3
			14′					4′2″	4
Mayport, Fla., dockside	30°23′.5	81°26′.5	0	4′		1½′		6′2″	3
St. Johns River	30°19′	81°38′	0				3200		2
			18′					2′3″	
SE. of Pensacola, Fla.	30°12′.6	87°10′.2	25′					14′10″	1
Southward of Mobile, Ala.	29°34′.5	88°13′.5	0–78′						1
			78′–120′					>22′	
Galveston, Texas, Sea Buoy, 2/10 mile NE. (FLW) "1" Whst'l	29°19′	94°39′	0				6200		
			20′					36″	5
Westward Swannee Sound	29°16′.7	83°42′.3	0				4000		
			0–B					>22′	
			30′						1¼
Southward of Cape San Blas	29°14′	85°24′.4	0				3000		
			30′					>22′	½
Heald Bank off Galveston, Tex., about 0.8 mile E. of (OCCW) "2" Whst'l	29°05′	94°12′.5	0				7000		
			20′					17′3″	1
Bay NE. of Mississippi entrance	29°02′	89°42′.3	12′					9′6″	2
			36′					14′	¾
Gulf of Mexico	28°49′	92°32′	0			40′			
			20′					17′2″	¾
			90′					18′8″	½
Off Mississippi entrance	28°48′.5	89°08′	6′					15′10″	1
			80′						½
Old Mississippi Canyon, off False Cape, Fla.	28°38′	89°56′.5	0			61′		>22′	⅔

Hetzel Shoal Buoy (FLW) "8" Whst'l close by	28°38′	80°20′.5	0		4600	6′11″	½
15-Fathom Curve, off Freeport, Tex.	28°37′	95°01′.5	0				1
			20′			4′5″	4
			60′				
10-Fathom Curve, off Ship Shoal (FLW) "2" Whst'l close by	28°37′	90°59′.5	0		6400		1
			25′			17′	½
			55′				
Tampa Bay, mouth Hillsboro Bay, off NW. end of Quarantine Anchorage	27°47′.5	82°30′.5	0		5600		2
			12′				3
			25′				
Off Winter Beach, Fla. (FLW) Whst'l close by Bethel Shoal Buoy	27°44′	80°10′	0	298′		12′6″	⅔
100-Fathom Curve, off Corpus Christi	27°43′.5	95°30′	0				½
			40′				
Gulf of Mexico, off Corpus Christi	27°42′	96°35′	0		4800		1½
			20′				½
			60′				
Off Tampa Bay Sea Buoy dist. ½ mi. (S.-L FLW) Whst'l	27°35′	82°56′	20′			14′	⅔
Gulf of Mexico	27°	97°	18′				½
			48′				½
Lauderdale area, off Hollywood Beach, Fla.	26°31′20″	80°05′55″	0	60′	3000	18′6″	¾
Off Sanibel Island	26°13′	82°23′.5	25′			3′8″	3
Port Everglades Harbor, turning basin	26°05′35″	80°07′.2	6′			10′8″	1½
			35′				
Fort Lauderdale, Fla., Dock, N.S.B.	26°05′30″	80°07′30″	0		1120		
Do.	do.	do.	0		650		
Do.	26°05′30″	80°07′15″	0		6400		

(continued)

TABLE 2.—(*continued*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Depth	Nat. lt. (Ball)	Letter	Lamp (point source)	Photometer (incident light) ft.-candles	Paraquameter	Scattering (units of scatter matter)
Fort Lauderdale, Fla., Dock, N.S.B.	26°05′30″	80°07′15″	0				500		
Do.	do.	do.	0				5120		
Do.	do.	do.	0				6400		
Do.	do.	do.	0				8000		
Do.	do.	do.	0				6400		
Do.	do.	do.	0				5100		
Do.	do.	do.	0				4800		
Do.	do.	do.	0				215		
Do.	do.	do.	0				200		
Do.	do.	do.	0				6400		
Do.	do.	do.	0				1900		
Do.	do.	do.	0				5600		
Do.	do.	do.	0				4800		
Do.	do.	do.	0				6000		
Do.	do.	do.	0				400		
Do.	do.	do.	0				300		
Do.	do.	do.	0				288		
Do.	do.	do.	0				4800		
Do.	do.	do.	0				4800		
Do.	do.	do.	0				1280		
Do.	do.	do.	0				6400		
Do.	do.	do.	0				1200		
Do.	do.	do.	0				3200		
Port Everglades Harbor, off harbor entrance, C "1 A" close by	26°05′.5	80°05′.2	0				6800		
			6′					13′8″	1
			35′						$\frac{1}{4}$

Do.	do.	do.	25′					½
Santa Brazio, Sea Buoy	26°04′.5	97°06′.5	0			4200		¾
Lauderdale, Fla., area off Hollywood Beach	26°01′	80°05′.5	0			3200		
Do.	do.	do.	0			5600		
Do.	do.	do.	0			3200		
Do.	do.	do.	0			5600		
Lauderdale, Fla., area, 2 miles off Hollywood Beach	26°01′	80°04′.5	0			4800		
Great Stirrup Bay	25°52′.5	77°51′.5	0		336′			
			50′					¼
Dock, Brownsville, Texas	25°50′	97°.5	0		21′			
Nassau, N. P., B. W. I.	25°05′	77°22′	0			5200		
			6′	81′4″				
			18′	92′5″				
			0			2200		
			6′	76′				
			18′	62′				
			0			3800		
			6′	74′				
			22′	74′				
			0			2200		
			6′	41½′				
			22′	47′				
Entrance Nassau Harbor, close by Sea Buoy	25°05′	77°21′	0					¼
Smith Shoal Light, Key West	24°43′	81°54′.5	0			5000	8′10″	½
Garden Key, Dry Tortugas, Fla.	24°35′10″	82°54′55″	0	50′				
Do.	do.	do.	B	20′				
Do.	do.	do.	0	48′				
			0	40′				
Do.	do.	do.	0	108′				
			0	108′				
			0	42′				

(continued)

TABLE 2.—(*concluded*)

Location of station: Description	Latitude (N.)	Longitude (W.)	Depth	Nat. lt. (Ball)	Letter	Lamp (point source)	Photometer (incident light) ft.-candles	Paraquameter	Scattering (units of scatter matter)
Garden Key, Dry Tortugas, Fla.	24°35′10″	82°54′55″	0	46′					
Do.	do.	do.	0	38′					
American Shoal	24°31′	81°32′.7	0				6200		
Middle Bight, Andios Island	24°20′	77°40′.7	0						1½
Tongue of the ocean off Long Bay Cays	24°07′	77°30′	0				3000		2
Gulf of Mexico	24°	97°	0						½
Do.	23°09′.5	97°23′	0						½
Havana Harbor	23°09′	82°20′	0					7′8″	4
			6′					11′2″	2
			12′					10′8″	1
Off Matanzas, Cuba	23°04′.8	81°30′.2	0			275′			1½
Dock at Matanzas, Cuba	23°03′.5	81°33′.4	0				6400	14′	1
Do.	do.	do.	0			12′9″		7′8″	3
Nicholas Channel	22°50′.1	79°10′.3	0	122′			6000		1
Yucatan Channel	22°49′	86°13′	0				6200		⅓
Great Bahama Bank	22°49′	77°15′	0						1
Campeche Bank	22°42′	89°18′	0						¼
Alacran Reef Anchorage	22°23′.5	89°41′.5	0	36′			5050		
			6′						2
			0	35′			2450		
			6′						1¾
			0	29′6″			2200		
			6′						1½
			0	26′			3400		
			6′						1

Do.	do.	do.	0	28′6″		5000		
			6′					2
			0	22′		3800		
Do.	do.	do.	0			6600		3
Off Tampico, Mexico	22°17′	97°43′	0	15′		5000		1
Off Lobos Island	21°22′.0	97°14′	0	9′8″		5200	15′	1
Bay of Campeche	20°23′.5	91°50′	0			7000		1½
Gulf of Campeche	19°25′.8	95°48′	0		>300′			½
Do.	19°19′	93°03′	0					1½
Mexico, off Vera Cruz Harbor	19°15′	96°05′	0	9′6″		4000	14′	4
Vera Cruz, Mexico, Harbor, dockside	19°12′.05″	96°08′08″	0	15′		4000	19′2″	1
Gulf of Campeche, off Roca Partida, 5 miles	19°11′.5	95°09′	0			3000	19′8″	5
			24′					1½
Puerto Mexico, Harbor Pier #2, Coatzacoalcos River	18°08′21″	94°24′45″	0				5′10″	2½