

XI.—LISTS OF THE DREDGING STATIONS OF THE UNITED STATES FISH COMMISSION FROM 1871 TO 1879, INCLUSIVE, WITH TEMPERATURE AND OTHER OBSERVATIONS.

[Arranged for publication by SANDERSON SMITH and RICHARD RATHBUN.]

The following lists include all the recorded dredging stations made by, or in connection with, the United States Fish Commission, from its organization up to date. The stations are, for the most part, arranged chronologically, and are designated by four series of numbers or letters, as follows: One series of numbers, from 1 to 87, with letters appended, represents the stations for 1871. The 1872 stations (in the Bay of Fundy) are designated by letters from *t* to *z*. Those for 1873 are indicated by a second series of numbers, from 1 to 212, with B. (Bache) or Bl. (Bluelight) added, according as the dredgings were carried on from the steamers Bache or Bluelight. In this series, however, are also included the stations of the Bache for 1872 and 1874, as well as those for 1873. The last series combines all the stations from 1874 to 1879, inclusive (omitting 1876, during which year sea-work was suspended), in numbers running from 1 to 769. For the sake of obtaining greater uniformity in recording the stations on charts, as explained further on, the stations for 1874 and 1875, originally numbered separately, have been united with those from 1877 to 1879, and given numbers following 1879. The numbers for these later years run as follows: 1874, from 400 to 580; 1875, from 600 to 769; 1877, from 1 to 128; 1878, from 129 to 238; 1879, from 239 to 378.

A chart has been prepared by Mr. Smith to illustrate the dredgings of the Commission north of Cape Cod, exclusive of those of 1872 in the Bay of Fundy; those of the Bache, on the Banks, in 1872; and of the Speedwell, off the coast of Nova Scotia, in 1877. On this chart the stations of the Speedwell for 1877, 1878, and 1879 are indicated by numbers only, and are readily distinguished from those of the Bache and Bluelight, which have B. or Bl. affixed to them. In such of the following tables as refer to this chart, the localities given are taken from the original record books, whenever such exist (*i. e.*, for all the work of the Speedwell and much of that of the Bluelight—101 Bl. to 166 Bl.), with some other notes added to facilitate the finding of the localities on the chart. In many cases the positions were marked, at the time, on the steamers' charts by the commanding officer, and all such positions have been adopted, even though differing somewhat from those given by the record books. From the nature of the operations of dredging and trawling, it becomes almost impossible to estimate exactly the changes of position caused by currents, &c., especially when out of sight of land, and in a

few cases the positions were not placed on the charts at the time, and the bearings given do not suffice to fix them very accurately. It is believed, however, that but few positions laid down on the chart are rendered uncertain to any great extent by either of these causes. A large part of the positions determined by the Bache were originally given by latitude and longitude. The other latitudes and longitudes given in the tables are taken from the accompanying chart, and are intended to serve as the readiest means of finding the localities, all of which are either thus designated or are referred to as being near others, which are so. Of the dredging stations *north of Cape Cod*, Nos. 79 B to 97 B, 37 to 123 are outside of the limits of the chart. These, and all others of the *northern stations*, not placed upon the chart, are marked with + before the serial number. The bearings given for the Speedwell's work in 1879 are true; the others, with a few (unrecognizable) exceptions, are magnetic.

In the last column of the tables the letter indicates the apparatus employed in dredging: D., Dredge; Ag. D., Agassiz Dredge; R. D., Rake Dredge; T., Trawl; Ag. T., Agassiz Trawl; O. T., Otter Trawl; Tan., Tangles.

STATIONS FOR 1871, IN AND ABOUT VINEYARD SOUND, MASSACHUSETTS.

During this, the first year of the Commission, the dredgings in shallow water were made partly from a sail-boat, and partly from a steam-launch, and those in the deeper waters, from the United States revenue-cutter Moccasin, Capt. J. G. Baker. The dredging stations numbered in all about 250, but to avoid confusion in laying them out on the chart, they were combined into 87 groups or lines, each including from 2 to 9 stations, the lines being designated by numbers, the stations by letters. In this manner they were represented on the large chart accompanying the Report of the United States Fish Commissioner for 1871-'72. In making up the present list the same arrangement has also been followed, and where all the stations of a group were of the same nature, they have been located collectively; otherwise the exact position of each station has been given.

Dates are not prefixed to all of the inner groups, as many of these include stations made on different days. Temperature observations (with Miller-Casella self-registering thermometers) were taken at most of the outer stations, as recorded in the list, but were omitted at the inner ones. The dredge was the implement most commonly used for scraping the bottom, but the beam-trawl was also frequently employed on the smooth inner grounds. The rake-dredge was worked a few times off Gay Head, and the tangles very rarely, in only a few places. The characters of the many localities gone over in 1871, as well as the species of animals found inhabiting them, are fully discussed in the "Report upon the Invertebrate Animals of Vineyard Sound and the adjacent waters, with an account of the physical characters of the region," by Prof. A. E. Verrill; contained in the Report of the United States Fish Commissioner, Part I, for 1871-'72.

Serial number.	Date.	Locality.	Depth in fathoms.	Nature of bottom.	Temperature.		
					Air.	Surface.	Bottom.
1	1871.						
2	June 30	a, b. Off Little Harbor, Wood's Holl...	1½-2	Covered with eel-grass	.....	.....	.....
3	July 11	a, b. Off Little Harbor, Wood's Holl, between Nobska Point and Nonamesset Island.	2-3½	Rocky, small stones...	.....	.....	.....
4	June 30	a, b, c. Off Great Harbor, Wood's Holl, from south of buoy R. No. 4 to Great Ledge.	2½-3½	Rocks, gravel, &c. ....	.....	.....	.....
5	.....	a, b, c, d, e. Beginning nearly the same as No. 3 and extending to beyond buoy R. No. 2.	3½-12½	Rocks, small stones, &c. ....	.....	.....	.....
6	July 20	Wood's Holl:					
7	.....	a, b. Southeast of Nonamesset Island.	3½-5½	Sand, gravel .....	.....	.....	.....
8	June 30	c, d. Between Nonamesset Island and Great Ledge.	3½	Rocks, stones, dead shells.	.....	.....	.....
9	June 29	e. Off Mink Point, Nonamesset Island.	8½	do .....	.....	.....	.....
10	July 24	f, g. Mouth of Great Harbor.	5½-9½	do .....	.....	.....	.....
11	.....	Vineyard Sound:					
12	.....	a, b. Between Nobska Point and Falmouth.	2-3	Covered with eel-grass.	.....	.....	.....
13	.....	c. Between Nobska Point and Falmouth.	3-5	Gravel and shells. ....	.....	.....	.....
14	.....	d. About ½ mile south of Falmouth.	4½	do .....	.....	.....	.....
15	.....	e, f. Between Falmouth Harbor and Western end of L'Homme Dieu Shoal.	5½-9	do .....	.....	.....	.....
16	.....	a. Lackey's Bay, Vineyard Sound.		Covered with eel-grass	.....	.....	.....
17	June 30	b, c, d. Lackey's Bay, Vineyard Sound.		Gravel .....	.....	.....	.....
18	June 29	a, b, c, d, e, f, g. Vineyard Sound, off Nonamesset Island and Wood's Holl.	7-10	Rocks, gravel, small stones.	.....	.....	.....
19	.....	a, b, c, d. Vineyard Sound, south of Little Harbor, Wood's Holl, ½ to 1½ miles from Nobska Point.	7-12	Rocks.	.....	.....	.....
20	July 24	Wood's Holl:					
21	.....	a, b, c. Passages between Nonamesset and Naushon Islands.	1½-2½	Soft mud .....	.....	.....	.....
22	.....	d. Hadley Harbor	3½	do .....	.....	.....	.....
23	.....	e, f. Between Long Neck and Nonamesset Island.	3-6½	Hard gravel .....	.....	.....	.....
24	.....	Wood's Holl Passage:					
25	.....	a, b, c. Off Nonamesset Island.	3½-4½	Fine gravel, dead weeds.	.....	.....	.....
26	.....	d, e, f, g. Off Uncatena Island	3½-5	Sand, stones .....	.....	.....	.....
27	.....	a, b, c. Wood's Holl Passage, between Long Neck and Nonamesset Island.	2½-5½	Sand, gravel .....	.....	.....	.....
28	.....	a, b. Mouth of Great Harbor, Wood's Holl, from off Bar Neck wharf to midway between Mink Point and Parker's Neck.	1½-7	Gravel, &c. ....	.....	.....	.....
29	.....	Wood's Holl, in the passage-way to the east and south of Ram and Bluff Islands:					
30	.....	a, b	3½-5½	Rocky .....	.....	.....	.....
31	.....	c, d	2½-5½	do .....	.....	.....	.....
32	.....	e, f, g. In Great Harbor.	5-10	Rocky, sand .....	.....	.....	.....
33	.....	a, b, c. Wood's Holl, buoy No. 3, Middle Ledge to Lone Rock Spindle.	½-2½	Gravel, small stones, shells	.....	.....	.....
34	.....	a, b, c. Great Harbor, Wood's Holl, near buoys No. 12 and 14.	1½-14	Rocks .....	.....	.....	.....
35	.....	Mouth of Great Harbor, from Bar Neck to east of Nonamesset Island.	1½-14½	.....	.....	.....	.....
36	.....	a, b		Mud and eel-grass	.....	.....	.....
37	.....	c, d, e, f		Rocks, &c. ....	.....	.....	.....
38	July 24	a, b, c, d. Mouth of Great Harbor, from off Bar Neck wharf to midway between Parker's Neck and Nonamesset Island.	2½-12½	Hard gravel.	.....	.....	.....
39	.....	a, b. Mouth of Great Harbor, between Parker's Neck and Lone Rock Spindle.	1-8½	Gravel, mud, weeds .....	.....	.....	.....
40	.....	a, b, c. Mouth of Great Harbor, between Nonamesset Island and Parker's Neck.	1½-6½	Gravel, &c. ....	.....	.....	.....
41	June 27 } June 28 }	a, b, c, d, e. Vineyard Sound, southeasterly from Nobska Point about ½ mile; all near together.	6-10	Rocks, gravel, small stones.	.....	.....	.....
42	.....	Vineyard Sound, between Nobska Point and Falmouth Harbor.	4-5½	.....	.....	.....	.....
43	.....	a, b, c.		Stones, dead shells.	.....	.....	.....
44	.....	.....		Sand, gravel .....	.....	.....	.....

Serial number.	Date.	Locality.	Depth in fathoms.	Nature of bottom.	Temperature.		
					Air.	Surface.	Bottom.
23	1871. June 30 } July 3 } July 8 }	a, b, c, d, e, f. Between Nobska Point and Falmouth, and south of Falmouth, about 1 mile.	4½-10	Gravel, small stones, shells.	.....	.....	.....
24	.....	Vineyard Sound: a, b. About 1½ miles south of Falmouth. c, d. North of west end of L'Homme Dieu Shoal.	5½-10 5-13	.....	.....	.....	.....
25	.....	a, b, c, d, e. Vineyard Sound, between Waquoit Bay and Falmouth.	3-5	Sand, shells, eel-grass.	.....	.....	.....
26	.....	a, b, c, d, e. Vineyard Sound; a line of dredgings parallel to No. 25, and from ¾ mile further south.	5-13	Gravel, shells.	.....	.....	.....
27	.....	a, b. Vineyard Sound, about midway between the western part of L'Homme Dieu Shoal and the mainland.	5½-13	Sand, shells, eel-grass.	.....	.....	.....
28	July 20	Vineyard Sound: a, b. Off western entrance to channel between L'Homme Dieu Shoal and Hedge Fence. c, d, e, f. South of western end of Hedge Fence.	5-6 10-12	Sand, stones, sea-weeds Sand, gravel, small stones.	.....	.....	.....
29	.....	a, b, c. Vineyard Sound; a line parallel to, and just south of, eastern half of Hedge Fence.	5½-12	Gravel, &c.	.....	.....	.....
30	.....	a, b. Mouth of Vineyard Haven, between East and West Chop.	5-7	Sand, eel-grass, algæ.	.....	.....	.....
31	July 20	Vineyard Sound: a, b. Between Hedge Fence and East Chop. c, d, e. North of East Chop and off Vineyard Haven.	10-13 9-11½	Sand, gravel, small stones. do.	.....	.....	.....
32	.....	a, b, c. Vineyard Sound; line running east and west, north of eastern half of Hedge Fence.	11-12½	Gravel, &c.	.....	.....	.....
33	.....	Vineyard Sound: a, b. South of eastern end of L'Homme Dieu Shoal. c, d. Southeast of same shoal.	5½-13½ 5-8½	do.	.....	.....	.....
34	.....	a, b, c, d, e, f. Vineyard Sound, between eastern end of L'Homme Dieu Shoal and Wreck Shoal.	5-7	Gravel, hard mud, sand.	.....	.....	.....
35	.....	a, b, c, d, e. Vineyard Sound; line running east and west between Wreck Shoal and 1 mile off Waquoit Bay.	4-7½	Gravel, shells.	.....	.....	.....
36	.....	a, b, c, d. Nantucket Sound, between Wreck Shoal and Horse-Shoe Shoal.	4½-15½	Astrangia, sponges, &c.	.....	.....	.....
37	.....	Vineyard Sound, off north side of Martha's Vineyard and nearly parallel with the shore, distant from shore ¼ mile: a, b, c, d. Between Martha's Vineyard and Middle Ground. e, f, g. Off West Chop. h, i. Off East Chop.	5-11 9-13 4½-9	Gravel, stones, rocks. Rocks, sand. Sand, stones.	.....	.....	.....
38	.....	Vineyard Sound: a. About ½ mile north of center of Middle Ground. b, c. Just off center of Middle Ground.	10-14 9½-13½	Gravel. do.	.....	.....	.....
39	June 29	a, b. Vineyard Sound, about midway between Nobska Point and Middle Ground.	12-13½	Stones, gravel.	.....	.....	.....
40	.....	a, b, c, d. Vineyard Sound, between Wood's Holl and Middle Ground.	10-13	Gravel, stones, sand.	.....	.....	.....
41	.....	Vineyard Sound: a. About 1½ miles east of Nobska Point. b. About 1½ miles southeast of Nobska Point.	4½-6½ 10-12	Small stones. do.	.....	.....	.....
42	July 17	a, b. Vineyard Sound, off Tarpaulin Cove.	10½-15½	Gravel.	.....	.....	.....
43	.....	Vineyard Sound: a, b, c. Line of dredgings off northern half of Naushon Island, parallel to shore, distant about ¼ mile. d. Continuation of same, ½ mile off Nonamesset Island.	10½-13½ 10½-11½	Gravel, hard sand. Gravel.	.....	.....	.....

Serial number.	Date.	Locality.	Depth in fathoms.	Nature of bottom.	Temperature.		
					Air.	Surface.	Bottom.
44	1871.	a, b, c, d, e. Vineyard Sound; line about parallel to last, off northern half of Naushon Island, about 1 mile from shore.	104-154	Gravel			
45		a, b. Vineyard Sound, off Quick's Hole.	64-84	Coarse gravel, shells			
46		Vineyard Sound, off the Elizabeth Islands.	7-142				
		a, b. Off Pasque Island		Sand, shells			
		c. Off Robinson's Hole		do			
		d, e. Off south end of Naushon Island		Sand, shells, and gravel			
47		a, b, c, d, e. Vineyard Sound, off west side of Martha's Vineyard, between Menemsha Bight and Cedar Tree Neck, $\frac{1}{2}$ to $1\frac{1}{2}$ miles from shore, and nearly parallel to it.	10-172				
		a, b, c, d		Black mud, dead mussels, &c.			
48		e		Sand			
		a, b, c, d. Vineyard Sound, same as last, $\frac{1}{2}$ mile from shore, and extending about $1\frac{1}{2}$ miles both north and south of Cape Higgon.	42-11	Sand, gravel, shells			
49		Vineyard Sound:					
		a. About northeast of Gay Head, $4\frac{1}{2}$ miles.	72-13				
		b. About west of Lucas Shoal, $1\frac{1}{2}$ miles.	5-6				
50		a, b. Vineyard Sound, Menemsha Bight.	4-8				
51		Vineyard Sound, Menemsha Bight:					
		a, b, c	14-24	Mud, fine sand			
		d	42	do			
		e	6-9	do			
52	July 14 } July 17 }	a, b, c, d. Vineyard Sound, north of southwestern extremity of Martha's Vineyard, $\frac{1}{2}$ -1 mile from shore (c, d, off Menemsha Bight).	10-12	Sand			
53	July 14	a, b, c, d, e. Vineyard Sound, north and northeast of Devil's Bridge, Gay Head, $\frac{1}{2}$ to 1 mile from shore.	5-12	Sand, rocks			
54		Vineyard Sound, north of Gay Head:					
		a. About $1\frac{1}{2}$ miles from shore	16	Mussels			
		b. About 24 miles from shore	14-154	do			
55	July 22	a, b, c. Vineyard Sound, north of Devil's Bridge, Gay Head, $\frac{1}{2}$ mile.	62-132	Rocky, dead mussels, &c.			
56	July 22	a, b, c, d. Vineyard Sound, northwesterly from Gay Head, about 1 mile.	5-11	do			
57		a, b, c, d, e. About same position as last, forming a line about $\frac{1}{2}$ mile further off.	5-132	Rocky			
58		a, b, c, d, e. Vineyard Sound, northwesterly from Gay Head, $1\frac{1}{2}$ -2 miles.	10-10				
		a, b, c		Rocky			
		d		Mud, dead mussels			
59		a, b, c. Vineyard Sound, northwesterly from Gay Head, $\frac{1}{2}$ -1 $\frac{1}{2}$ miles.	52-112	Rocky			
60		a, b, c. Vineyard Sound, northwesterly from Gay Head, 1-2 miles.	6-112	do			
61		a, b, c. Vineyard Sound, northwesterly from Gay Head, 1-2 miles; more easterly than 60.	52-132	do			
62		a, b, c. Vineyard Sound, northwesterly from Gay Head, 1-2 miles; more easterly than 61.	52-102	do			
63		a, b, c, d. Vineyard Sound, north of Devil's Bridge, Gay Head, $\frac{1}{2}$ mile.	6-82	Rocks, sand, shells			
64	July 12	Buzzard's Bay, Cataumet Harbor:					
		a. In harbor	32	Sand, eel-grass			
65		b. At mouth of harbor	32-42	do			
66		a, b. Buzzard's Bay, off Cataumet Harbor.	42				
67		a, b. Buzzard's Bay, between Long Neck and Quamquisset Harbor.	5-62	Hard sand			
68	July 24	a, b. Just outside of Buzzard's Bay, west of Quamquisset Harbor:	5-62	Sand, mud			
		a. About 2 miles	72	Fine sandy mud			
		b. About 1 mile	72	do			
		c. About $\frac{1}{2}$ mile	6-7	Mud			
69		a, b. Buzzard's Bay, west of Quamquisset Harbor, about $1\frac{1}{2}$ miles.	52-72				

Serial number.	Date.	Locality.	Depth in fathoms.	Nature of bottom.	Temperature.		
					Air.	Surface.	Bottom.
70	1871	a, b, c, d. Buzzard's Bay, westward of Quamisset Harbor, about 1½-2½ miles.	7½	Sand, gravel, stones			
71		a, b. Wood's Holl Passage, between Long Neck and Uncatena Island.	3½-6½	Fine gravel			
72		c, d. West of Long Neck, ½-¾ mile.	3½-6½	Rocks, hard sand			
73		a, b, c, d. Buzzard's Bay, northward from Woepecket Island, 1½-2 miles, forming a line running about north-east and southwest.	7½-8½				
		Buzzard's Bay, north of northern part of Naushon Island.					
		a, b, c. Parallel and near to shore from Uncatena Island to south of Woepecket Island.	6½-10½	Sand, mud			
		d. About west of Woepecket Island, ½ mile.	6½	Rocks			
		e, f, g. Northwesterly from Woepecket; e, ½ mile; f, 1 mile; g, 1½ miles.	7½-8½	Sand and muddy sand.			
74		a, b. Buzzard's Bay, northward of Woepecket Island, 1½-2½ miles.	7½	Mud			
75		Buzzard's Bay, forming a line of dredgings parallel to the Elizabeth Islands and distant from them ¾-1 mile.	7-9				
		a, b, c. Off Naushon Island.		Blue mud			
		d, e. Off Pasque Island.		do			
		f, g, h. Off Cuttyhunk Harbor.	3½-5				
76		a, b, c. Buzzard's Bay, between Quick's Hole and Lone Rock.	3½-8½	Gravel, dead weeds, &c			
77		a, b, c, d, e, f. Quick's Hole, between Pasque Island and Nashawena Island.	5½-8½	Rocks, gravel, sand			
78		a, b, c, d, e. Buzzard's Bay, off northern entrance to Robinson's Hole.	3½-7½				
		a		Mud, eel-grass, and dead weeds.			
		b		Black mud			
		c		Blue clay			
79		In channel between Chappaquiddick Island, Martha's Vineyard, and Hawo's Shoal:					
		a. Northern part of channel	3½-4½				
		b. Southern part of channel	4½-5				
80	Sept. 12.	Southeasterly from Martha's Vineyard, 3½ to 9 miles:					
		a. 10 miles south from Cape Poge	16½	Sand and silicious sponges.		64	60
		b. 13 miles south from Cape Poge	18½	Sand		64	60
		c. 1½ miles west of b	21	Sandy mud		61.5	59
81	Sept. 12	South of Martha's Vineyard, 5 to 8 miles:					
		a. Southeast of Gay Head, 12½ miles	16½	Sand			61
		b. Southeast of Gay Head, 8 miles	10½	do			
82	Sept. 9	South and southwest from Gay Head, about 5 miles; northwest of No-man's Land:					
		a. 5 miles south-southwest of Gay Head	8-12	Gravel and stones			62
		b. 5 miles south of Gay Head	16	do			
83		a, b, c, d. Vineyard Sound, off Gay Head, parallel to No. 58, and slightly more distant from shore.	10-16	Rocky			
84	Sept. 11	South and southwest of Gay Head:					
		a. 1½ miles southwest of Gay Head	13	Rocks, gravel			
		b. 4 miles southwest of Gay Head	10½	Sandy mud			
		c. 2½ miles a little west of south of Gay Head.	12	Rocks, gravel			
		d. 3½ miles a little east of south of Gay Head.	7	do			
85	Sept. 9	West of Gay Head, 2 to 5 miles:					
		a. 8 miles; b. 3½ miles; west of Gay Head.	15½	Sand		07	63
		c. 4 miles west of Gay Head	18	Soft, sticky mud		02	53
		d. 1 mile north-northwest from c	19	do		02	57
		e. 5 miles a little north of west from Gay Head.	11	do		63	50
86	Sept. 13	West-southwest of Gay Head, 10 to 13 miles:					
		a. 13 miles west-southwest from Gay Head.	25	Gravel, sand, with some mud.			
		b. 10½ miles west-southwest from Gay Head.	25	do		64	

Serial number.	Date.	Locality.	Depth in fathoms.	Nature of bottom.	Temperature.		
					Air.	Surface.	Bottom.
57	1871. Sept. 14	a. 10½ miles west-southwest of Gay Head.	29	Sandy mud.....			
		b. 18½ miles west-southwest of Gay Head.	29	do		62	59

STATIONS FOR 1872, WITH HEADQUARTERS AT EASTPORT, ME.

The dredgings for 1872 were mostly carried on from a large sail-boat; but those in the deeper waters of the Bay of Fundy were made from the United States revenue-cutter *Mosswood*, Captain Hodgdon. The regions explored were about as follows: Eastport Harbor, South Bay, and Passamaquoddy Bay, all of which are comparatively shallow-water areas; the shallow waters about the island of Grand Menan, especially those among the small islands to the east of Grand Menan; and the deeper waters east of Campobello Island, west of Grand Menan; and toward the center of the Bay of Fundy, between Grand Menan and Nova Scotia.

In connection with the shallow-water dredgings no complete record of observations was kept, but the collections made were appropriately labeled with the precise locality, depth of water, nature of bottom, &c. The more important hauls in deep water, mostly accompanied by temperature observations, are as follows, the letters used to designate them being the same as were employed in the original records:

Serial letter.	Date.	Locality.	Depth in fathoms.	Temperatures.		
				Air.	Surface.	Bottom.
+t.	1872. Aug. 24	Bay of Fundy, off Grand Menan, beginning at a point 8 miles SE. by E. of north end of White Head Island, and running NE. for a distance of nearly 3 miles. (Temperatures taken at the beginning and close, and the same at both.)	106-90	°	°	°
+v.	...do...	Bay of Fundy, off Grand Menan, north of last; beginning 8½ miles E. of White Head Island, and extending about 2 miles SW.	96-100	.....	48	37½
+u.	Aug. 23	Bay of Fundy, E. of Grand Menan, about 2½ miles E. of north end of White Head Island.	26-52	.....	53	39½
v.	...do...	Bay of Fundy, E. of Grand Menan, 1½ miles E. by S. ½ S. of north end of White Head Island.	29	.....		44
+v.	Aug. 28	Grand Menan channel, west of Grand Menan Island; 2½ miles N. by W. ½ W. of Southern Head, G. M.	40	.....	48	45½
+v.	...do...	Grand Menan channel, west of Grand Menan Island; 4½ miles NNW. ½ W. of Southern Head, G. M.	54	.....	47	40
+v.	...do...	Grand Menan channel, west of Grand Menan Island; 6 miles N. ½ W. of Southern Head, G. M.	55	.....		40
+w.	Aug. 16	Bay of Fundy, about 3½ miles east of Herring Cove Head, Campobello Island. (Soft muddy bottom.)	60	.....		43
+w.	...do...	Bay of Fundy, just off Herring Cove, Campobello Island.	27	.....		46
+z.	Aug. 2	Bay of Fundy, 2½ miles, about SE. of Head Harbor Light, Campobello Island.	90	.....	48½	39½
+z.	...do...	About 2½ miles ENE. of Head Harbor Light, Campobello Island.	77	.....		42
+z.	...do...	About 1½ miles NE. of Head Harbor Light.	80	.....		46
+y.	...do...	Midway between Head Harbor Light and Spruce Island.	73	.....	48	45
+z.	Aug. 5	Passamaquoddy Bay, off North Harbor, Deer Island.	25	.....	57½	47
+z.	...do...	Passamaquoddy Bay, 1½ miles north of last.	32	.....	58	46

STATIONS FOR 1873, WITH HEADQUARTERS AT PEAK'S ISLAND, CASCO BAY, MAINE; AND ALSO STATIONS OF THE UNITED STATES COAST SURVEY STEAMER BACHE FOR 1872, 1873, AND 1874, IN THE GULF OF MAINE, &c.

In this list the dredgings indicated by the above heading have been grouped together, as they appear on the chart prepared for publication. Numbers ranging from 1 B. to 78 B. were originally assigned to the Bache dredgings for 1873 and 1874, in papers published by Professor Verrill in the *American Journal of Science* for April, 1874, and June, 1875, and elsewhere. To these the dredging stations of the Bache for 1872, 18 in number, have been added, thus increasing the list to 97 B. As to the regular series of dredgings made by the *Bluelight*, under command of Lieut. Commander L. A. Beardslee, in and off Casco Bay, no serial numbers were given to the hauls until the commencement of the temperature observations, July 21. To the numbers (1 to 66), given to such of the subsequent hauls as were accompanied by temperature observations, 100 has been added (101 Bl. to 166 Bl.), and numbers from 167 Bl. to 190 Bl. have been given to the hauls from July 12 to July 21, and from 191 Bl. to 212 Bl. to those taken after July 20, but not included in the temperature series. The descriptions of localities from 101 Bl. to 166 Bl. are taken from the record books for temperatures, with some additions, and from 167 Bl. to 212 Bl. from the eight books of dredging lists, which were kept. Additions to 101 Bl. to 166 Bl., taken from the dredging books, are marked D. L.

The dredging stations of the Bache for 1872 were on and about Saint George's Bank and La Have Bank, and extended as far as Halifax, N. S.; in 1873 they were mostly in the Gulf of Maine, especially in the region of Jeffrey's and Cashe's Ledges, a few being made in Massachusetts Bay; those for 1874 were entirely in the Gulf of Maine.

DREDGINGS BY THE BACHE, 1873.

Serial number.	Date.	Latitude.	Longitude.	Locality.	Depth in fathoms.	Nature of bottom.	Temperature.			Apparatus used.
							Air.	Surface.	Bottom.	
1 B.	Sept. 3	43 39	69 22	Off Monhegan Island.	52	Soft gray mud	58	55	42	°
2 B.	do	43 39	69 22	7 miles SW. from Monhegan Island.		Soft mud.	58	55	44	°
3 B.	do	43 38	69 17	8 miles S. from Monhegan Island.	64	Mud and sand	56	54	43	°
4 B.	do	43 37	69 05	13 miles SE. by S. from Monhegan Island.	60	Brown mud, sand.	00	55	43	°
5 B.	do	43 37	68 59	17 miles SE. from Monhegan Island.	72	Brown mud.	60	54	44	°
6 B.	do	43 38	69 01	15 miles SE. from Monhegan Island.	82	do				°
7 B.	do	43 38	69 01	do	83	Mud and gravel.	56	55		°
8 B.	do	43 36	68 32	18 miles SE. by S. from Matinicus Rock.	94	Sticky brown mud.	56	57	39	°
9 B.	do	43 36	68 24	23 miles SE. from Matinicus Rock.	107					°
10 B.	Sept. 4	43 34	68 27	22 miles SE. by S. from Matinicus Rock.	104	Soft brown mud.	56	57	41	°
12 B.	Sept. 13	43 20	68 33	Jeffrey's Bank.	60	Brown mud.	58	54	42	°
13 B.	do	43 23	68 30	do	103	do	58	54	40	°
14 B.	do	43 25	68 40	do	80	do	62	60	43	°
15 B.	do	43 23	68 44	do	72	do	60	58	47	°
16 B.	do	43 19	68 49	do	79	do	62	58	40	°
17 B.	do	43 15	68 54	SW. from Jeffrey's Bank.	100	Brown mud, gravel.	59	57	52	°
18 B.	do	43 15	69 06	do	106	Brown mud.	59	56	40	°
20 B.	Sept. 16	43 01	70 10	15 miles SE. from Boon Island Light.	95	Mud.	58	58	37	°
21 B.	do	42 49	68 50	Cashe's Ledge.	52-90	Rocky.	52	57	43	°
22 B.	do	42 52	68 23	56 miles E. of Cape Ann.	90	Blue mud.	52	56	40	°
23 B.	do	42 52	69 35	47 miles E. of Cape Ann.	118	Mud.	54	57	30	°
24 B.	do	42 56	70 00	E. of Jeffrey's Ledge.	114	Soft mud.	50	57	30	°
24 B.	do	42 56	70 17	6 miles farther W.	114		58	58	40	°
25 B.	do	42 28	70 44	24 miles SE. from Halfway Rock.	29			54	43	°
26 B.	do	42 32	70 50	Salem Harbor.	6					°
27 B.	do	42 40	70 27	Jeffrey's Ledge, 6 miles E. of Thatcher's Island Lights.	24	Gravel and stones.	57	58	48	°
28 B.	do	42 41	70 24	8 miles E. by N. of Thatcher's Island Lights.	26	do	57	58	46	°
29 B.	do	42 47	70 20	14 miles NE. by E. 1/4 E. from Thatcher's Island Lights.	33	do	70	54	49	°
30 B.	do	42 26	70 35	Massachusetts Bay.	50	Soft mud.	60	58	42	°

DREDGINGS BY THE BACHE, 1873—Continued.

Serial number.	Date.	Latitude.	Longitude.	Locality.	Depth in fathoms.	Nature of bottom.	Temperature.		Apparatus used.
							Air.	Surface.	
31 B.		42 19	70 29	Massachusetts Bay.	56	Mud	62	60	41½
32 B.		42 19	70 23	West of Stellwagen's Bank.	23	Hard, rocky	64	58	44
33 B.		42 20	70 18	On Stellwagen's Bank	22	do	64		48½
34 B.		42 22	70 11	East of Stellwagen's Bank	44½	Sand	61		50½
35 B.		42 08	70 15	Between Stellwagen's Bank and Race Point.	34	do	59	57	44
36 B.		42 18	69 49	2¾ miles ENE. ¼ N. from Race Point.	142	Soft blue mud.	60	53	48
37 B.		42 20	70 00	1¾ miles NE. from Race Point.	117	do			39

No record exists of any hauls corresponding to Nos. 11 B. and 19 B.

DREDGINGS BY THE BACHE, 1874.*

38 B.	Sept. 2	42 48½	70 37	Thatcher's Island Light, about 10 miles south	41	Soft blue mud.	70	66	45
39 B.	do	42 51½	70 34	Thatcher's Island Light, about 13 miles south	48	Mud	70	69	45½
40 B.	do	42 54½	70 35½	Thatcher's Island Light, about 16 miles south.	43	Blue mud	70	69	47
41 B.	do	42 57½	70 35	Thatcher's Island Light, about 18½ miles south.	36-27	Mud and rocks	70½	67	47½
42 B.	Sept. 3	43 05½	70 20	Boon Island Light, N.W. by W. ½ W. 6 miles.	63	Brown mud.	69½	67	52½
43 B.	do	43 04½	70 28	Boon Island Light, N. by E.; hotel on Isles of Shoals, SW. by W. ½ W.	43	do	75	65	47
44 B.	do	43 00½	70 35	Star Island SW.; Duck Island, W.	25	Rocky	75	67½	51
45 B.	Sept. 4	43 03	70 11½	Boon Island Light, WNW 12½ miles	88	Soft mud.	65	61	40
46 B.	do	43 03	70 04	Agamenticus Mountain, N.W. by W. ½ W.	51	Hard sandy mud.	65	63½	42
47 B.	do	43 02½	70 03	Jeffrey's Ledge, near No. 40 B.	25	Sand and gravel	64	58½	45½
48 B.	do	43 01½	70 03½	Jeffrey's Ledge, near No. 47 B.; Agamenticus Mountain, NW. ½ W.	36	Gravel.	64	56½	47½
49 B.	do	43 02½	69 52	Boon Island Light, WNW 27 miles	113		64	65	40
50 B.	do	43 01½	69 45	W. of Cashe's Ledge.	109		60	56	40
51 B.	Sept. 5	42 56	69 08	Cashe's Ledge.	105	Mud and gravel	60	55	41
52 B.	do	42 51	68 50	Cashe's Ledge.	27	Rock and gravel	60	55	42
53 B.	do	42 51	68 50	do	73	Soft mud.	63	55	42
54 B.	do	42 49	68 49½	Off SE. edge of Cashe's Ledge	110	Mud	61	61	42
55 B.	do	42 53½	68 53½	Cashe's Ledge.	40	Gravel.	69½	65	43

60 B.	do	42	52	68	54	do	30	do	59	46
57 B.	do	42	51	68	53	do	37	Rocky	62	59
57 B.	do	42	51	68	53	do	39	do	60	57
58 B.	do	43	52	69	54	NW. of Cache's Ledge.	65	Mud and gravel	61	55
59 B.	do	43	52	69	54	do	61	Mud and sand	61	57
60 B.	do	43	52	69	54	Booth Bay Harbor, Maine	5	Mud	64	58
61 B.	Sept. 6	43	51	69	35	Pemaquid Point, N. 10 miles	48	do	62	62
62 B.	do	43	51	69	35	Pemaquid Point, N. 12 miles	42	Brown mud	68	65
63 B.	do	43	40	69	30	Pemaquid Point, N. 12 miles	58	Mud	61	57
64 B.	do	43	38	69	29	Monhegan Island, E. by N. 2 miles	47	do	64	59
65 B.	do	43	44	69	22	Monhegan Island, N.E. 2 E. 14 miles	47	Soft mud	68	64
66 B.	do	43	34	69	31	Seguin Island Light, N. 8° W. 19 miles	63	Brown mud and gravel	68	64
67 B.	do	43	25	69	34	Seguin Island Light, N. 8° W. 19 miles	86	Brown mud	68	64
68 B.	do	43	31	69	31	On Platt's Bank	91	Mud	64	59
69 B.	do	43	11	69	35	do	32	Sand	64	60
70 B.	do	43	03	69	36	do	91	Mud	61	58
71 B.	do	42	55	69	36	do	96	Brown mud	61	58
72 B.	do	42	57	69	50	E. of Jeffrey's Ledge.	125	do	61	57
73 B.	do	42	58	70	09	W. of Jeffrey's Ledge.	102	do	62	59
74 B.	do	43	01	70	15	do	88	do	62	60
75 B.	do	43	02	70	15	SW. of Boon Island	92	do	64	64
76 B.	do	43	03	70	25	White Island Light, E. 2 S. 34 miles	91	Mud and gravel	64	63
77 B.	do	42	58	70	33	Agamenticus Mountain, NW. by N. 1/2 N., near Jeffrey's Ledge	33	Rocky	69	65
78 B.	Sept. 12	43	04	70	30	do	35	Blue clay, mud, sand	61	60

* The surface temperatures taken this year were quite unreliable, in consequence of an erroneous method of observation.

DREDGINGS BY THE BACHE, 1872.

(The letters preceding the serial numbers are the same used to distinguish the hauls in Smith and Harger's Report on the Saint George's Bank Dredgings (Trans. Conn. Acad., vol. III), and in Professor Verrill's papers in American Journal of Science. The bottom temperatures this year are quite unreliable, manifestly too high in general.)

79 B.	Aug. 29	41	40	68	10	On northwest part of Saint George's Bank	25	Soft sand	o	o
80 B.	do	41	40	68	10	do	30	do	o	o
81 B.	Sept. 16	41	25	68	45	East of Saint George's Bank	28	Coarse sand	62	45
82 B.	Aug. 31	41	25	66	24	do	50	Sand and shells	61	58
83 B.	Sept. 16	41	25	65	58	do	60	do	64	60
84 B.	Sept. 13	41	25	65	50	do	65	Dead shells	66	65
85 B.	do	41	25	65	42	do	430	Sand, gravel, stones	64	61
86 B.	do	42	58	64	51	On La Have Bank	45	Gravel, stones, sponges	62	62
87 B.	Sept. 12	42	58	64	36	South of La Have Bank	60	Gravel, stones, sponges	56	49
88 B.	Sept. 11	42	44	64	36	Off Chobeco Head, Nova Scotia, entrance Halifax Harbor	20	Mud and fine sand	56	49
89 B.	do	42	44	64	36	Off northwest border of Saint George's Bank	110	Soft mud and sand	56	49
90 B.	do	42	00	67	49	do	85	do	56	49
91 B.	do	42	00	67	42	Off north border of Saint George's Bank	45	Coarse sand	56	49
92 B.	do	42	00	67	31	do	40	do	56	49
93 B.	do	42	11	67	17	Off northeast border of Saint George's Bank	150	Soft sandy mud	52	52
94 B.	do	42	11	67	17	(There are no hauls corresponding to these numbers)				
95 B.	do	42	11	67	17					
96 B.	do	42	11	67	17					
97 B.	do	42	11	67	17					
98 B.	do	42	11	67	17					

DREDGINGS BY THE BLDELIGHT, 1873.

Serial number.	Date.	Latitude.	Longitude.	Locality.	Depth in fathoms.	Nature of bottom.	Temperature.			Apparatus used.
							Air.	Surface.	Bottom.	
101 Bl.	July 21	43 32	70 05½	Cape Elizabeth Light, NW. ¼ W.; Portland Head Light, N. by W.	24	Gravelly	°	°	°	
102 Bl.	July 22	43 44	70 03½	Casco Bay, Stockman's Island, W.; Upper Flag Island, E. by S.	16-22½	Sandy	°	51	44½	
103 Bl.	do	43 42	70 03½	Casco Bay, Broad Sound, Bates Island, W.; Eagle Island, E.	22-34	Gravel, br. shells	°	52	34	
104 Bl.	July 24	43 41½	70 08	Casco Bay, Luckses' Sound	124	Muddy	°	80	56½	46½
105 Bl.	do	43 41	70 08	Casco Bay, Broad Sound, between Stockman's and Little Birch Islands.	16½	Fine sand	°	84	62	49½
106 Bl.	do	43 42	70 08	Casco Bay, Broad Sound, between Eagle and Bates Islands.	21	Gravel	°	80	65	45½
107 Bl.	July 26	43 43	70 08½	Casco Bay, Broad Sound, between Stockman's and Upper Flag Islands.	16½	Sand	°	68	56½	47½
108 Bl.	do	43 43	70 08½	do	do	do	°	68	56½	47½
109 Bl., 110 Bl.	July 27	43 40	70 12	Casco Bay, Bluelight Cove (channel between Peak's, Great and Little Hog Islands).	3	Muddy	°	60½	59	56
111 Bl.	July 28	43 40	70 12	Casco Bay, Bluelight Cove, off Evergreen Landing.	3	do	°	61	60	56
112 Bl.	do	43 39½	70 13½	Portland Harbor, between Fort Gorges and Fort Preble.	11½	Hard	°	65	59	52
113 Bl.	do	43 39½	70 13½	Bluelight Cove	3	Muddy	°	65	60	56
114 Bl.	do	43 39½	70 13½	do	3	do	°	66	62	58
115 Bl.	July 29	43 39½	70 13½	do	13	do	°	66	58	56
116 Bl.	do	43 39½	70 13½	do	2	do	°	66	60	57
117 Bl.	July 30	43 43	70 05½	Casco Bay, Broad Sound, between Bates and Eagle Islands.	16-22	Gravel and sand	°	67	60	49½
118 Bl.	do	43 43	70 05½	Casco Bay, Broad Sound, between Little Bangs and Slave Islands.	9½-12	Soft gravel, br. shells	°	66	60	53
119 Bl.	do	43 43	70 05½	Casco Bay, Broad Sound, between Stockman's and Little Birch Islands.	17 (14½)	Sand, gravel, shells	°	66	60	53
120 Bl.	do	43 43	70 05½	Bluelight Cove	1½	Muddy	°	68	64	60
121 Bl.	do	43 43	70 05½	do	70	do	°	70	66	61
122 Bl.	July 31	43 38	70 12½	Portland Light, SSW. ¾ of a mile.	13½	Sandy	°	69	59½	49½
123 Bl.	do	43 38	70 12½	Bluelight Cove	2	Muddy	°	71	62	58
124 Bl.	do	43 38	70 12½	do	2	do	°	66	62	59
125 Bl.	Aug. 1	43 42	70 07	do	2	do	°	62	60	58
126 Bl.	Aug. 2	43 42	70 07	Casco Bay, Luckses' Sound, between Hope and Crotoch Islands.	11	do	°	71	61	47
127 Bl.	do	43 44	70 01	Casco Bay, Harpswell Sound, SW. end of Bailey's Island, S. by E.; Ram Island, N. by W.	12½	do	°	69	63½	45
128 Bl.	do	43 42	70 11	Casco Bay, between Cow Island and Cow Island Ledge.	9	Sandy mud, gravel, shells.	°	67	62	54½
129 Bl.	do	43 42	70 11	Bluelight Cove	2	Muddy	°	68	63	57
130 Bl.	Aug. 3	43 41½	70 10½	do	2	do	°	66	61	57
131 Bl.	Aug. 4	43 41½	70 10½	Casco Bay, Cow Island, W. ¼ mile	12	Gravelly	°	70	65	51

132 Bl.	do	43 40	70 05	Casco Bay, between Halfway Rock and Inner Green Island.	134	Gravel and shells.	73	63	481
133 Bl.	do	43 38	70 04	Mouth Casco Bay, Halfway Rock, E. by N. about 3 miles.	135	Sandy and rocky.	73	62	482
134 Bl.	do	43 40	70 03	Mouth Casco Bay, Halfway Rock, SSE.; Eagle Island, N.E. ½ N.	136	Coarse sand, gravel.	74	60	483
135 Bl.	do	43 35	70 04	Blue Light Cove	84	Muddy	71	68	58
136 Bl.	do	43 35	70 04	do	3	do	70	62	58
137 Bl.	Aug. 5	43 35	70 04	West Cod Ledge, off Portland, Cape Elizabeth, W. ½ S.; Halfway Rock Light, N.E. ½ N.	18	Sandy and rocky.	72	64	46
138 Bl.	do	43 32	69 58	Portland Head Light, N.W. ½ W. 15 miles; Seguin Island, N.E. by E. 15 miles ("18 miles off Cape Elizabeth" D. L.)	48-54	Muddy	05	04	39½ D. and T.
139 Bl.	Aug. 6	43 32	69 58	Blue Light Cove	3	do	08	63	57
140 Bl.	do	43 31	69 58	Cape Elizabeth, N.W. by W. about 14 miles; Seguin Island, N.E. by E. about 16 miles.	24	do	08	62	59
141 Bl.	do	43 31	69 58	Cape Elizabeth, N.W. 15 miles; Seguin Island Light, N.E. by E. ½ E. 18 miles.	48-54	do	09	64	38 D. and T.
142 Bl.	do	43 28	69 59	Blue Light Cove	48	Stones and mud	72	04	37½ T.
143 Bl.	do	43 27	69 57	do	64	Muddy	68	65	36 D.
144 Bl.	do	43 27	69 57	Casco Bay, Chandler's Cove, Great Chebeague Island.	2	do	04	61	57
145 Bl.	Aug. 7	43 43	70 08	Casco Bay, Broad Sound, between Bates Island and Eagle Island.	7	Mud, dead eel-grass	05	61	58
146 Bl.	do	43 43	70 08	Casco Bay, Luckase's Sound, between Stepping Stones and Crotch Island.	25	Gravelly	65	57	47½
147 Bl.	Aug. 11	43 42	69 47	West Cod Ledge, off Portland, Cod Ledge (buoy?) N.E. ½ E. 1 mile.	15	Soft mud	65	55½	45
148 Bl.	do	43 35	70 05	Cape Elizabeth, N.W. by W. ½ W. about 20 miles; Seguin Island, N.E. by N., about 15 miles.	13	Sandy, with shells	63	61	47
149 Bl.	Aug. 12	43 28	69 52	Seguin Island, E. by S. 1 mile; Jackknife Ledge buoy, N. by E. ½ mile.	68	Muddy	64	62	38 T.
150 Bl.	do	43 28	69 52	Seguin Island, WNW. 5 or 6 miles	12	Sandy	64	52	47 T.
151 Bl.	Aug. 13	43 42	69 47	Same locality, Cod Stomach	33	Sandy and rocky, some mud	04	57	41½
152 Bl.	do	43 42	69 38	Blue Light Cove	3	Mud	00	58	50
153 Bl.	Aug. 14	43 39	70 13	Main channel, Portland Harbor	9	Sand and mud	02	57	55
154 Bl.	do	43 42	70 10	Casco Bay, between Clapboard and Long Islands.	2	Muddy	04	55	54 T.
155 Bl.	do	43 42	70 10	Blue Light Cove	9	do	01	58	57
156 Bl.	Aug. 19	43 35	69 38	Seguin Island, NW. 9 miles.	75	do	62	59	38
157 Bl.	Aug. 20	43 40	69 39	Seguin Island, NW. 5 miles (about same as No. 201 Bl.)	40	Sand and gravel, rocks	65	58	38½
158 Bl.	do	43 40	69 39	Blue Light Cove	2	Muddy	63	61	60
159 Bl.	Aug. 24	43 40	69 39	do	2	do	62	58	57
160 Bl.	do	43 40	69 39	do	2	do	61	56	56
161 Bl.	Aug. 25	43 40	69 39	do	2	do	60	58	57
162 Bl.	Aug. 27	43 40	69 39	do	2	do	60	58	57
163 Bl.	Aug. 29	43 40	69 39	do	2	do	60	58	57
164 Bl.	Aug. 30	43 38	70 09	Off Portland, Witch Rock buoy 1 mile west	11-14	Rocky	58	54	50½
165 Bl.	Sept. 1	43 47	69 55	Casco Bay, Quahog Bay, east of south end of Pole Island.	5	Muddy	63	59	53
166 Bl.	do	43 47	69 55	Casco Bay, Quahog Bay, east of north end of Pole Island.	6	do	63	59	54
167 Bl.	do	43 41	70 11	Casco Bay, off Cow Island.	16	Mud	63	59	54
168 Bl.	July 11	43 41	70 11	Casco Bay, middle of Hussey Sound	17	Rocky	63	59	54
169 Bl.	do	43 40	70 10	Casco Bay, off Cow Island.	(1)	Sand and rocks.	63	59	54
170 Bl.	do	43 40	70 10	do	(1)	(?)	63	59	54
171 Bl.	do	43 40	70 10	Casco Bay, off Hog Island.	20	Sand and stones	63	59	54

DREDGINGS BY THE BLUELIGHT, 1873—Continued.

Serial number.	Date.	Latitude.	Longitude.	Locality.	Depth in fathoms.	Nature of bottom.	Temperature.			Apparatus used.
							Air.	Surface.	Bottom.	
172 Bl.	July 11	43 35	70 01	Casco Bay, off Crotch Island.	(1)	(1) Clean gravel.	o	o	o	T.
173 Bl.	July 14	43 35	70 01	Casco Bay, off Overset Island.	16	(1) Sand and sponge.	o	o	o	T.
174 Bl.	do	43 35	70 01	Casco Bay, off mouth of Bluelight Cove, drifting north.	15-19	(1) Sand.	o	o	o	T.
175 Bl.	do	43 35	70 01	Casco Bay, off north end of Hog Island.	15	(1) Mud.	o	o	o	T.
176 Bl.	do	43 44	70 00 1/2	Casco Bay, between Great Chebeag and Basket Islands.	7-8	(1) (f) Muddy.	o	o	o	T.
176 1/2 Bl.	do	43 44	70 00 1/2	do (f).	(1)	(1) Muddy.	o	o	o	T.
177 Bl.	do	43 44	70 00 1/2	Casco Bay, off North end of Long Island.	22	(1) Rocky.	o	o	o	T.
178 Bl.	July 15	43 44	70 00 1/2	Mouth Casco Bay, off Inner Green Island.	17	(1) Shelly and Spongy.	o	o	o	T.
179 Bl.	do	43 44	70 00 1/2	do	(1)	(1) Muddy.	o	o	o	T.
180 Bl.	do	43 40 1/2	70 04	Casco Bay, off Jewell's Island.	15-23	(1) Shelly and Spongy.	o	o	o	T.
181 Bl.	July 16	43 36 1/2	70 02	Off Portland, ENE. of West Cod Ledge.	(1)	(1) Hard and rocky.	o	o	o	T.
182 Bl.	do	43 36 1/2	70 02	Off Portland, WSW. of West Cod Ledge 1 1/2 miles.	14-20	(1) do	o	o	o	T.
183 Bl.	do	43 36 1/2	70 02	Off Portland, near 185 Bl.	10-15	(1) do	o	o	o	T.
184 Bl.	July 17	43 36 1/2	70 02	Off Portland, SSW. of West Cod Ledge 3 miles.	20-22	(1) do	o	o	o	T.
185 Bl.	do	43 34 1/2	70 08	Casco Bay, off Cow Island.	17	(1) Sandy.	o	o	o	T.
186 Bl.	do	43 34 1/2	70 08	do	13 1/2	(1) Sand and stones.	o	o	o	T.
187 Bl.	do	43 34 1/2	70 08	do	14	(1) do	o	o	o	T.
188 Bl.	July 18	43 34 1/2	70 08	Casco Bay, between Cow Island and Crow Island.	28	(1) Mud and stones.	o	o	o	T.
189 Bl.	do	43 34 1/2	70 08	Off Portland, near West Cod Ledge.	10	(1) Rocky and shelly.	o	o	o	T.
190 Bl.	July 21	43 34 1/2	70 04 1/2	Entrance to Portland Harbor, little west of 122 Bl.	(1)	(1) Gravel and br. shell.	o	o	o	T.
191 Bl.	do	43 34 1/2	70 04 1/2	Casco Bay, off Whaleboat Island.	13 1/2	(1) Gravel and stones.	o	o	o	T.
192 Bl.	July 22	43 34 1/2	70 04 1/2	Casco Bay, between Ministerial and Eagle Islands, the monument on Mark Island showing over north end of Eagle Island.	32	(1) Hard.	o	o	o	T.
193 Bl.	do	43 34 1/2	70 04 1/2	Off Portland, 1 mile east of East Cod Ledge.	(1)	(1) Hard.	o	o	o	T.
194 Bl.	July 24	43 34 1/2	70 01	Entrance to Portland Harbor, near 192 Bl.	11	(1) Gravel and shells.	o	o	o	T.
195 Bl.	do	43 34 1/2	70 01	Casco Bay, Haddock Grounds, Broad Sound.	12-18	(1) Mud.	o	o	o	T.
196 Bl.	Aug. 4	43 46	70 05	Casco Bay, off Chebeag Point.	11 1/2	(1) Muddy.	o	o	o	T.
197 Bl.	do	43 46	70 05	Casco Bay, between Basket and Little Chebeag Islands.	(1)	(1) Muddy.	o	o	o	T.
198 Bl.	do	43 43 1/2	70 10	Seguin Island, NW. 6 miles (see 123 Bl.).	35	(1) Rocky and sandy.	o	o	o	T.
199 Bl.	Aug. 13	43 39 1/2	69 38	Off Portland, NW. 5 miles.	45	(1) Rock and sponges.	o	o	o	T.
200 Bl.	Aug. 20	43 37 1/2	69 51	Off Portland, East Cod Ledge.	(1)	(1) Sand, gravel, shells, mud.	o	o	o	T.
201 Bl.	Aug. 25	43 37 1/2	69 51	Casco Bay, between Peak's Island and Overset Island.	18	(1) do	o	o	o	T.
202 Bl.	do	43 37 1/2	69 51	Off mouth Casco Bay, 2 miles off Halfway Rock; this locality mentioned on page 281 of Professor Verrill's Expedition of Casco Bay, Proc. Am. Ass. Adv. Sci., 1873.	27 1/2	(1) do	o	o	o	T.
203 Bl.	Aug. 27	43 37	70 01 1/2	do	(1)	(1) do	o	o	o	T.
204 Bl.	do	43 37	70 01 1/2	do	(1)	(1) do	o	o	o	T.

+ 205 Bl	Aug. 28			Casco Bay, off Whaleboat Island.	18	Gravel and shells	
+ 206 Bl	Aug. 29			Off mouth of Casco Bay, west of Halfway Rock	(?)	Muddy, &c	
+ 207 Bl	do			Casco Bay, Broad Sound	(?)	Muddy and hard mixed	
+ 208 Bl	Aug. 30			Mouth Casco Bay, off Ram Island	18	Sandy, muddy, &c	
+ 209 Bl	do	43 39	70 08	Mouth Casco Bay, SW. of Outer Green Island to Long Island.	13	Rocky	
+ 210 Bl	do			Casco Bay, off Stepping Stones	12	Muddy?	
+ 211 Bl	do	43 34	70 07	Off Portland, Cod Ledge Rock	124	(?)	
+ 212 Bl	(U)	43 29	69 30	Cape Elizabeth, WNW. 30 miles	95	Muddy	T.

STATIONS FOR 1874 AND 1875, WITH HEADQUARTERS AT NOANK, CONN., AND WOOD'S HOLL, MASS.

In 1874, the headquarters of the United States Fish Commission were established at Noank, Conn., and the area covered by its dredgings included Fisher's Island Sound; the eastern part of Long Island Sound; Block Island Sound; and Gardiner's and Peconic Bays; and also extended some distance to the east, south, and southwest of Block Island. In 1875, with headquarters at Wood's Holl, Mass., dredgings were carried on in Vineyard and Nantucket Sounds; Buzzard's Bay; over a portion of Nantucket Shoals; to the southward of Nantucket Island and Martha's Vineyard; and also on and about Southwest Shoal. The dredgings were all made by the United States steamer *Bluelight*, Commander L. A. Beardslee, and a separate series of numbers, to designate the stations, was employed for each year. To facilitate the recording of all the dredging stations of the United States Fish Commission on charts, and to bring the southern ones into uniformity with those made to the north of Cape Cod in more recent years, and already recorded both on charts and in reports prepared for publication in a single series of numbers ranging from 1 to 378, 400 has been added to the 1874 dredgings and 600 to those of 1875. In this way all the dredging stations from 1874 to 1879, inclusive, are included in a single series.

The temperature observations recorded in the two following tables were mostly taken with much care. Former experiences had proved that the Miller-Casella thermometers were slow in acting, requiring from three to ten minutes (according to the depth of water) to obtain a correct reading, and they were, therefore, always left down a suitable length of time. The bottom and surface temperatures, in nearly all cases, were taken with Miller-Casella self-registering thermometers; occasionally a United States naval thermometer was employed for surface temperatures, and the same instrument was generally employed for the air.

STATIONS FOR 1874.

Serial number.	Date.	Locality.	Depth in fathoms.	Nature of bottom.	Temperatures.			Apparatus.
					Air.	Surface.	Bottom.	
401	1874. July 13	Fisher's Island Sound, West Clump, bearing S.	7½	Mud	•	•	•	D.
402	13	Fisher's Island Sound	9½	Sand				D.
403	13	do	11½	do				D.
404	13	Fisher's Island Sound, off Lattimer's Reef.	3½	Rocky				
405		(No record.)						
406	July 14	Fisher's Island Sound, N. of Young's Rock.	11	Rocky				D.
407	14	Fisher's Island Sound, NW. of Seal Rocks.	9	Sand, stones				D.
408	14	Fisher's Island Sound, N. by E. of Wicopessit.	11½	Clay				D.
409	14	Fisher's Island Sound, Lord's Channel.	11½	Rocky				Tan
410	14	Fisher's Island Sound, off Napatree Point.	2½	Sand				T.
411	10	Watch Hill Light-House, R. I., NNW., distant about ½ mile.	11.	do				D.

STATIONS FOR 1874—Continued.

Serial number.	Date.	Locality.	Depth in fathoms.	Nature of bottom.	Temperatures.			Apparatus.
					Air.	Surface.	Bottom.	
412	1874. July 16	Watch Hill Light NNE., distant nearly $\frac{1}{2}$ mile.	5	Rocky	o	o	o	Tan.
413	16	do	5	do				Tan.
414	16	Fisher's Island Sound, off Groton Long Point.	7	Gravel				D.
415	16	Fisher's Island Sound, Groton Long Point NW. by N. $\frac{1}{2}$ mile.	7	do				D.
416	17	Fisher's Island Sound, $\frac{3}{4}$ mile W. by N. of N. Hammock Light-House.	6	Sand, mud				D.
417	17	Long Island Sound, New London Light N. by W., distant about $2\frac{1}{2}$ miles.	8	Sand				D.
418	17	Long Island Sound, New London Light N., distant $1\frac{1}{2}$ miles.	9	Sand, mud				T.
419	17	Long Island Sound, Little Gull Island Light bearing S. by E. 2 miles.	40	Gravel				D.
420	20	Fisher's Island Sound, $\frac{1}{4}$ mile N. of West Clump.	11 $\frac{1}{2}$	do				D.
421	20	Fisher's Island Sound, N. Hammock Light W. by S. $\frac{1}{2}$ mile.	12 $\frac{1}{2}$	Sand, gravel				D.
422	20	Fisher's Island Sound, N. Hammock Light S. by W. $\frac{1}{2}$ W. $\frac{1}{4}$ mile.	13	do				D.
423	20	Fisher's Island Sound, N. Hammock Light E. $\frac{1}{2}$ mile.	17	Gravel				D.
424	20	Fisher's Island Sound, N. Hammock Light E. by N. 1 mile.	7 $\frac{1}{2}$	Sand, mud				D.
425	20	Fisher's Island Sound, N. Hammock Light NE. by E. $\frac{1}{2}$ E. $1\frac{1}{2}$ miles.	10 $\frac{1}{2}$	Mud				D.
426	20	Fisher's Island Sound, near Middle Clump.	8	Sand				T.
427	22	Fisher's Island Sound, $\frac{1}{4}$ mile NW. of Middle Clump.	11 $\frac{1}{2}$ -9 $\frac{1}{2}$	Sand, shells	65	64	62.5	D.
428	22	Fisher's Island Sound, $\frac{1}{2}$ mile NNW. of Middle Clump.	11	do	65	64	62.5	D.
429	22	Fisher's Island Sound, $\frac{1}{2}$ mile NNE. of W. Clump.	8	do	65	64	63	D.
430	23	Fisher's Island Sound, Eelgrass Light-Ship E. by W., distant $\frac{1}{2}$ mile.	7	Sand, gravel	66	64	62.5	D.
431	23	Fisher's Island Sound, between Latimer's Reef and Young's Rock.	10 $\frac{1}{2}$	Sand, gravel, shells.	65.5	62.5	61.5	D.
432	23	Fisher's Island Sound, eastward of Latimer's Reef.	11	Coarse sand, shells, rocks.	65	62.5	61	D.
433	24	Fisher's Island Sound, Groton Long Point NE. by N., distant $\frac{1}{2}$ mile.	8	Sand, shells	72	66	63	D.
434	24	Fisher's Island Sound, between Sea-Flower Reef and Groton Long Point.	7	do	71	65.5	62.5	D.
435	24	Long Island Sound, Race Point bearing E., distant $2\frac{1}{2}$ miles.	50	Rocky, with mussels.	72	68	59	D.
436	24	Long Island Sound, about $\frac{1}{2}$ mile SW. of 435.	50	Rocks, gravel	69	68	58	D.
437	24	Block Island Sound, off Culloden Point, Long Island.	12 $\frac{1}{2}$	Sand, mud	74	66	61	T.
438	24	Block Island Sound, NW. of Culloden Point, Long Island.	12	Sand				D.
439	27	Fisher's Island Sound, eastern part of Sweeper Sound.	4	Sand, shells	70.5	66.5	65	D.
440	27	Fisher's Island Sound, house on Ram Island bearing NE. $\frac{1}{2}$ E.	4	Sand	68.5	66.5	65.5	D.
441	27	Fisher's Island Sound, SW. of Ram Island $\frac{1}{2}$ mile.	3 $\frac{1}{2}$	do	68.5	66.5	65	D.
442	27	Fisher's Island Sound, off Middle Clump.	14	Stones, gravel	68.5	66.5	64	D.
443	27	do	10 $\frac{1}{2}$	do	67	66	64.5	D.
444	29	Fisher's Island Sound, NW. of Eel grass Light-Ship, distant about $\frac{1}{2}$ mile	7	Sand, gravel, shells				D.

STATIONS FOR 1874—Continued.

Serial number.	Date.	Locality.	Depth in fathoms.	Nature of bottom.	Temperatures.			Apparatus.
					Air.	Surface.	Bottom.	
445	1874. July 30	Block Island Sound, SE. $\frac{1}{2}$ E. of Race Rock nearly 3 miles; E. of Little Gull Island Light-House $\frac{5}{8}$ miles.	45	Sand.....	76°	62.5°	57°	D.
446	30	Block Island Sound, $\frac{3}{4}$ mile about W. by S. of 445.	40	...do.....	.....	.....	.....	D.
447	30	Block Island Sound, $1\frac{1}{4}$ miles about W. by S. of 445.	24	...do.....	.....	.....	.....	D.
448	30	Month of Gardiner's Bay, Long Island, Gardiner's Point Light-House S. about $\frac{1}{2}$ mile.	14 $\frac{1}{2}$	Gravel.....	71	66	63.5	D.
449	30	Gardiner's Bay, Long Island....	6 $\frac{1}{2}$	Mud.....	71.5	67.5	64.5	D.
450	30	do.....	4 $\frac{1}{2}$	Sand.....	72	66.5	65	D.
451	30	do.....	3	Gravel.....	72	66.5	65	T.
452	30	do.....	6 $\frac{1}{2}$	Mud.....	69.5	68.5	65	D.
453	31	Block Island Sound, Watch Hill Light N. by W. 3 miles.	18	Sand.....	68	66	56	D.
454	31	Block Island Sound, Watch Hill Light N. by E. 3 miles.	18 $\frac{1}{2}$	Mud, shells.....	.....	.....	.....	T.
455	Aug. 3	Long Island Sound, Bartlett's Reef Light-Ship E. about $1\frac{1}{2}$ miles.	22	Sand, mud.....	60.5	64.5	63.5	D.
456	3	Long Island Sound, Bartlett's Reef Light-Ship E. about $2\frac{1}{2}$ miles.	14	Gravel, sand.....	59	64	63	D.
457	3	Long Island Sound, Bartlett's Reef Light-Ship E. $\frac{1}{2}$ N. about 3 miles.	15 $\frac{1}{2}$	Sand, gravel, shells.....	67	64.5	63.5	D.
458	3	Long Island Sound, Hatchett's Point N.W. about 2 miles.	19	Gravel, shells.....	61.5	64	63	D.
459	3	Long Island Sound, off Saybrook, Conn.	4	Sand.....	67	64.5	63.5	T.
460	3	Long Island Sound, between Cornfield Point and Long Sand Shoal.	9	.....	.....	.....	.....	T.
461	4	Little Peconic Bay, Long Island.	7 $\frac{1}{2}$	Gravel, shells.....	66.5	74	71.5	D.
462	4	do.....	7	Sand, shells.....	.....	.....	.....	D.
463	4	do.....	13 $\frac{1}{2}$	Gravel.....	.....	72	72	T.
464	4	do.....	10	Sand, gravel.....	67	72	71.5	D.
465	4	do.....	14	Sand, shells.....	.....	.....	.....	D.
466	4	Great Peconic Bay, Long Island.	5 $\frac{1}{2}$	Mud, sand, gravel.	67.5	74	72	D.
467	4	do.....	5 $\frac{1}{2}$	Sand.....	68	73	72.5	D.
468	4	do.....	4 $\frac{1}{2}$	Gravel.....	66.5	73	72.5	D.
469	4	Little Peconic Bay, Long Island.	9 $\frac{1}{2}$	Sand, shells.....	66	72.5	71	D.
470	4	do.....	4	Sand.....	.....	.....	.....	T.
471	5	Gardiner's Bay, Long Island....	3 $\frac{1}{2}$	do.....	.....	70.5	68	D.
472	5	do.....	4	Sand, shells.....	.....	.....	.....	T.
473	6	Block Island Sound, Watch Hill Light N. $\frac{1}{2}$ W., distant 3 miles.	18-23	Sand.....	63	63	59	T.
474	6	Block Island Sound, Montauk Point S.W. $\frac{1}{2}$ W. about 3 miles.	17	do.....	.....	63.25	60	D.
475	6	Block Island Sound, Block Island Light E.N.E., distant about 3 miles.	10 $\frac{1}{2}$	Mud.....	.....	63.5	60	D.
476	6	Block Island Sound, Block Island Light S.E. by E. $\frac{1}{2}$ E. about 4 miles.	18 $\frac{1}{2}$	Sand, mud.....	.....	64	60	D.
477	6	Block Island Sound, Block Island Light E.S.E., about 7 miles.	19	Mud.....	.....	64	59	D.
478	6	Block Island Sound, Watch Hill Light N.W. $\frac{1}{2}$ W. about 4 miles.	24	Sand.....	70	64	58.5	D.
479	6	Block Island Sound, Watch Hill Light N.W. $\frac{1}{2}$ N. about 3 miles.	22	Sand, shells.....	.....	.....	.....	T.
480	10	In West Harbor of Fisher's Island.	4	Sand.....	74	66.5	65.25	D.
481	10	do.....	3 $\frac{1}{2}$	do.....	74	66.5	65.25	D.
482	10	In West Harbor of Fisher's Island, off Clay Point.	5 $\frac{1}{2}$	Sand, mud.....	74	66.5	.....	T.
483	10	Off Hawk's Nest Point, inner side of Fisher's Island.	5 $\frac{1}{2}$ -2 $\frac{1}{2}$	Sand, gravel, to mud and weeds.	74	.....	.....	T.
484	10	Fisher's Island Sound, between Middle Clump and Ram Island and Reef.	12 $\frac{1}{2}$	Mud, shells.....	73.5	60	64.75	D.
485	11	Block Island Sound, about 1 mile S. of E. end of Fisher's Island.	15	Sand.....	75	66	61	D.

STATIONS FOR 1874—Continued.

Serial number.	Date.	Locality.	Depth in fathoms.	Nature of bottom.	Temperatures.			Apparatus.
					Air.	Surface.	Bottom.	
486	1874. Aug. 11	Block Island Sound, about $\frac{1}{2}$ mile S. of E. end of Fisher's Island.	8 $\frac{1}{2}$	Sand.....	75	65.5	62.5	D.
487	11	Block Island Sound, about $\frac{1}{2}$ mile off centre of Fisher's Island.	8	Stones.....	72	65.5	63	D.
488	11	Block Island Sound, off Mount Prospect, Fisher's Island, about $\frac{1}{2}$ mile from land.	7 $\frac{1}{2}$	do.....	76	66.5	63	D.
489	11	Block Island Sound, about $\frac{1}{2}$ mile westward of 488.	6	Stones, gravel.....	78	66.5	63.25	D.
490	11	Block Island Sound, about $\frac{1}{2}$ mile SE. of Race Point.	5 $\frac{1}{2}$	do.....	76.5	66.5	63.25	D.
491	11	Block Island Sound, about $1\frac{1}{2}$ miles S. of Mount Prospect.	32 $\frac{1}{2}$	Sand, shells.....	75	66.5	58.5	T.
492	12	Norank Harbor, Conn.....	2	Mud.....	70	67.5	62.5	D.
493	12	Fisher's Island Sound, between Sea-Flower and Horse-Shoe Reefs.	4 $\frac{1}{2}$	Sand.....	76	67.5	62.5	D.
494	12	do.....	4 $\frac{1}{2}$	Sand, gravel.....	75	67	64.5	D.
495	12	Fisher's Island Sound, W. of Sea-Flower Reef Beacon.	6	Fine sand and mud.....	67	67	64.5	T.
496	12	Fisher's Island Sound, W. of Sea-Flower Reef Beacon about 1 mile.	6	Sand, mud.....	72	67	64.5	T.
497	13	Block Island Sound, Montauk Point Light SSE. about 6 miles.	15 $\frac{1}{2}$	Sand.....	74	65	64	D.
498	13	Block Island Sound, Montauk Point Light SSE. about 6 $\frac{1}{2}$ miles.	9	Fine sand and gravel.....	71	65	64	D.
499	13	Block Island Sound, Montauk Point Light SSE. about 7 $\frac{1}{2}$ miles.	5 $\frac{1}{2}$	Coarse sand and rocky.....	72	65	64	D.
500	13	Block Island Sound, Montauk Point Light S. by E. $4\frac{1}{2}$ miles.	19	Fine sand.....	72	65	63.5	D.
501	18	Block Island Sound, Montauk Point Light S. by W. about 8 miles.	20-8	Sand, shells.....	72	66	63.5	D.
502	13	Block Island Sound, Montauk Point Light SSW. about 2 $\frac{1}{2}$ miles.	8	Stony.....	72.5	65	65	D.
503	13	Off Montauk Point, Light-House WSW. about 2 miles.	7 $\frac{1}{2}$	Rocky.....	72	65	64.5	D.
504	13	Off Montauk Point, Light-House W. about 2 miles.	7 $\frac{1}{2}$	do.....	72	65	64.5	D.
505	14	Fisher's Island Sound, between Eelgrass Light-Ship and White Rock.	5 $\frac{1}{2}$	Sand, gravel.....	67	66	64.5	D.
506	14	Fisher's Island Sound, about 1 mile E. by N. from Eelgrass Light-Ship.	6	do.....	67	.....	.....	D.
507	14	Fisher's Island Sound, Stonington Light NE. $\frac{1}{2}$ E. about 1 mile.	5	Sand.....	67	.....	.....	T.
508	14	Fisher's Island Sound, Eelgrass Light-Ship WNW. $\frac{1}{2}$ mile.	5 $\frac{1}{2}$	Rocky.....	67	.....	.....	D.
509	17	Fisher's Island Sound, Eelgrass Light-Ship NW. by W. about $\frac{1}{2}$ mile.	7	Stones.....	69.5	67	63	D.
510	17	Fisher's Island Sound, Eelgrass Light-Ship WNW. 1 mile.	6 $\frac{1}{2}$ -3 $\frac{1}{2}$	Sand, rocky.....	69.5	67	63	D.
511	17	Fisher's Island Sound, Eelgrass Light-Ship W. by N. about $1\frac{1}{2}$ miles.	5 $\frac{1}{2}$	Hard, rocky.....	69	.....	.....	Tan.
512	17	Fisher's Island Sound, Stonington Light ENE. about $1\frac{1}{2}$ miles.	4	Sand.....	69	66.5	60.5	D.
513	17	Fisher's Island Sound, Eelgrass Light-Ship W. $\frac{1}{2}$ N. about 1 mile.	7	Hard, stones.....	70	67	63	D.
514	17	Fisher's Island Sound, Eelgrass Light-Ship E. about 1 mile.	7 $\frac{1}{2}$	Sand.....	70	66.5	63	D.
515	18	Off Block Island, Montauk Point NW. about 9 miles.	20	do.....	71	66	47.5	D.
516	18	Off Block Island, Montauk Point NW. by W. $\frac{1}{2}$ W. about 11 miles.	25	Sand, shells.....	70	67.5	46.5	D.
517	18	do.....	23 $\frac{1}{2}$	do.....	70	.....	.....	D.
518	18	do.....	23 $\frac{1}{2}$	do.....	70	.....	.....	D.
519	18	Off Block Island, Old Harbor Point, Block Island N. 5 miles.	11	Sand, stones.....	67	65	.....	D.

STATIONS FOR 1874—Continued.

Serial number.	Date.	Locality.	Depth in fathoms.	Nature of bottom.	Temperatures.			Apparatus.
					Air.	Surface.	Bottom.	
520	1874. Aug. 18	Off Block Island; Old Harbor Point, Block Island, N. 5 miles.	11	Sand, stones	70	o	o	D.
521	18	Off New Shoreham, Block Island	14	Gravel, stones	70	68	57.5	D.
522	18	do	18	Sand, gravel	70	68.5	52.5	D.
523	19	Off Block Island, New Shoreham N.W. by N. about 6 miles.	14	do	73	68.5	54	D.
524	19	Off Block Island, New Shoreham N.W.	14½	Coarse sand	73	66	50.5	D.
525	19	Off Block Island, S.E. side	14½	Gravel	69.5	66.5	53	D.
526	19	S.E. from Point Judith, Rhode Island, about 4 miles.	18½	Sand, gravel	75	67.5	54.5	D.
527	19	S. from Point Judith, Rhode Island, about 2½ miles.	9	Stones .....	.....	69.5	61	D.
528	19	W. from Point Judith, Rhode Island, about 3 miles.	4	Rocks, sand	76	67.5	63	D.
529	19	Off Narragansett Beach, Rhode Island.	8½	Sand, gravel .....	.....	.....	.....	T.
530	19	do	10½	Stones, gravel .....	.....	.....	.....	T.
531	21	Block Island Sound, Watch Hill Light N. ½ E., distant 3 miles.	21	Sand	80	67.25	56.5	D.
532	21	Block Island Sound, S.W. ¾ S. of No. 531, distant ½ mile.	20	do	80	67.25	.....	T.
533	21	Block Island Sound, W.S.W. of No. 531, distant ¼ mile.	17½	do	79.5	67.25	.....	T.
534	21	Block Island Sound, about S. ¾ E. of east point of Fisher's Island ¼ mile.	9	Gravel	78	68.5	63.5	D.
535	21	Block Island Sound, east end of Fisher's Island N. by E. about 2 miles.	10½	Sand	78	67	57.5	D.
536	24	Fort Pond Bay, east end of Long Island.	7½	Mud	76	73.5	65.5	D.
537	24	Off Fort Pond Bay, east end of Long Island.	6½	Sand, gravel .....	.....	.....	.....	T.
538	24	Napeague Bay, off Culloden Point, Long Island.	8½	Sand .....	.....	67.5	65.5	D.
539	24	Napeague Bay, east end of Long Island.	5-8	do .....	.....	.....	.....	T.
540	24	do	6-7	do .....	.....	.....	.....	D.
541	24	Block Island Sound, Race Point N., about 1½ mile.	42	Stony	70.5	68	.....	D.
542	25	Off Bay Harbor, west end of Fisher's Island.	4½	Sand	70	65.5	64.5	D.
543	25	Off west end of Fisher's Island, Race Point about S., distant ½ mile.	7½	Mud, sand	70	65.5	64.5	D.
544	25	Off west end of Fisher's Island, Race Point SSE, 1 mile.	8½	Fine sand .....	.....	.....	.....	T.
545	25	Off west end of Fisher's Island, Race Point about S. ¼ mile.	5½	Rocks .....	.....	.....	.....	D.
546	25	Fisher's Island Sound, between East Clump and Ram Island buoy.	7½	Hard	74.5	65.5	65	D.
547	25	do	14	do .....	.....	.....	.....	D.
548	25	Fisher's Island Sound, ESE. from house on Ram Island.	7½	do .....	.....	.....	.....	D.
549	27	Off Niantic Bay, Connecticut, W. of Two-Tree Island.	5	Sand	70.5	65	64	D.
550	27	Off Niantic Bay, Connecticut, between Black Point and Two-Tree Island.	5½	do .....	.....	.....	.....	T.
551	27	do	5½	do .....	.....	.....	.....	D.
552	27	Long Island Sound, off Saybrook	6	do .....	.....	.....	.....	D.
553	27	Long Island Sound, Saybrook Light N.E. 2 miles.	7½	do .....	.....	.....	.....	T.
554	27	Long Island Sound, Plum Island Light SE. by E. 3 miles.	22	Gravel	73.5	66	65	D.
555	27	do	26	do	73.5	66	65	D.
556	30	Off Cox Ledge, ESE. from Block Island about 20 miles. (The shallowest part of Cox Ledge lies in about 41° 11' N. Lat. and 71° 02' W. Long.)	20	Rocky .....	.....	.....	.....	D.
557	30	Off Cox Ledge	21	Sand, rocks	67	62	51.5	D. Tan.
558	30	do	21	do .....	.....	.....	.....	D.
559	30	do	21	do .....	.....	.....	.....	D.

STATIONS FOR 1874—Concluded

Serial number.	Date.	Locality.	Depth in fathoms.	Nature of bottom.	Temperatures.			Apparatus.
					Air.	Surface.	Bottom.	
560	1874.				°	°	°	
561	Aug. 30	About 11 miles SE. by E. from Old Harbor Point, Block Island.	21	Rocky				Tan.
562	30	About 10 miles SE. by E. from Old Harbor Point, Block Island.	34	Mud	70	64	52	D.
563	30	do	34	do	70	64	52	D.
564	31	Block Island Sound, Watch Hill Light N. by W. about 3½ miles.	19	Sand				T.
	31	Block Island Sound, Watch Hill Light N. by W. ½ W. about 3½ miles.	18	Sand				O. T.
565	31	Block Island Sound, Watch Hill Light N. by W. about 3½ miles.	17	do				O. T.
566	31	Block Island Sound, Watch Hill Light NNW. about 3½ miles.	18	do				D.
567	Sept.	do	18	do				D.
568		On Cox Ledge	10½	Rocky				D.
569		do	20	Sand				D.
570		do	18½	Rocky				D.
571		do	21	do				D.
572		do	21	do	72.5	62.5	50	D.
573		do	18½	do				D.
574		do	19	do				D.
575		do	18	do				D.
576		do	17	do				D.
577	3	About 8 miles SSE. from Block Island.	19	do				D.
578	3	Crab Ledge, about 7 miles SE. of Block Island.	10½	do				D.
579	3	Crab Ledge, about 8 miles SE. of Block Island.	10½	do				D.
580	3	About 7 miles off New Shoreham, Block Island.	8-10	do				D.

(There are no numbers 581-600.)

STATIONS FOR 1875.

601	1875.							
602	July 12	Vineyard Sound, Tarpaulin Cove Light W. by S. Job's Neck NE. by E. ½ E.	11½	Sand, gravel	70			D.
603	12	Vineyard Sound, Tarpaulin Cove Light WSW. 1 mile.	11	.....	70			D.
604	12	Vineyard Sound, Tarpaulin Cove Light NW. by W. ½ mile.	17	.....	70			D.
605	12	Vineyard Sound, Monemsha Bight.	8	.....	70			D.
606	12	do	5-7	.....				D.
607	12	do	5-7	.....				D.
608	14	Vineyard Sound, Lackey's Bay.	6½	Gravel				D.
609	14	Between Martha's Vineyard and No Man's Land, Gay Head Light N. ½ E. 2½ miles.	10	Sand, shells				D.
610	14	North of No Man's Land, Lone Rock S. ½ mile.	6	Rocky				D.
611	14	North of No Man's Land	4	Sand				T.
612	14	do	5	do				D.
613	14	do	8	do				T.
614	14	Vineyard Sound, Monemsha Bight.	14½	Gravel				D.
615	15	Vineyard Sound, Tarpaulin Cove.	5½	Sand				D.
616	15	Vineyard Sound, S. and E. of Davis Neck Shoal.	15	Sand, gravel				D.
617	15	Vineyard Sound, S. of Monant Point.	13	Sand				T.
618	15	Vineyard Sound, off Davis Neck Shoal.	13½	Hard				D.
619	15	Vineyard Sound, off East Chop of Holmes' Hole.	4½	Sand				T.
620	15	Vineyard Sound, off Falmouth.	5	do				T.
	20	do	14	Hard				D.
		Vineyard Sound, Cuttyhunk Light NW. by N. 2½ miles, Sow and Pigs Light-Ship W. by N.						

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STATIONS FOR 1875—Continued.

Serial number.	Date.	Locality.	Depth in fathoms.	Nature of bottom.	Temperatures.			Apparatus.
					Air.	Surface.	Bottom.	
621	1875. July 20	Vineyard Sound, Cuttyhunk Light NW. by N. $3\frac{1}{2}$ miles, Sow and Pigs Light-Ship WNW.	19	Hard	o	o	o	D.
622	20	Vineyard Sound, Cuttyhunk Light N. $1\frac{1}{2}$ miles, Sow and Pigs Light-Ship W. by N.	10					D.
623	20	do						D.
624	20	Vineyard Sound, Menemsha Light.						T.
625	21	Nantucket Sound; Oak Bluffs Hotel W. by S., W. end of Squash Meadow E. by N.	5	Sand				D.
626	21	Nantucket Sound, between Oak Bluffs and Squash Meadow.	6	do				D.
627	21	do	6	do				T.
628	21	Nantucket Sound, Oak Bluffs NW., Cape Poge SE. by E.	5 $\frac{1}{2}$	do				T.
629	21	Nantucket Sound, about same as 628.	5 $\frac{1}{2}$	do				D.
630	21	do	5	do				D.
631	26	Nantucket Sound, Cross-Rip Light-Ship E. by S. $\frac{1}{2}$ mile.	10 $\frac{1}{2}$	Sand	78	69	68.5	D.
632	26	Nantucket Sound, closeto Cross-Rip Light-Ship.	11 $\frac{1}{2}$	Sand, gravel, shells.	70	69	69	D.
633	26	Nantucket Sound, Cross-Rip Light-Ship W. by S. $\frac{1}{2}$ mile.	12	Sand, gravel	70	69	69	D.
634	26	Nantucket Sound, Cross-Rip Light-Ship WNW. about 1 mile.	10	do	76	69	69	D.
635	26	Nantucket Sound, Brant Point Light, Nantucket, S. by E. 4 miles.	7 $\frac{1}{2}$	Muddy sand	76	71	69.5	D.
636	26	Nantucket Sound, Brant Point Light SSE. 2 $\frac{1}{2}$ miles.	8	Mud	76			D.
637	28	Nantucket Shoals, Sankoty Head Light west, distant 10 miles.	10	Sand, shells.		59	58	D.
638	28	Nantucket Shoals, about same as 637.	15 $\frac{1}{2}$	do		59	58	T.
639	28	Nantucket Shoals, Sankoty Head Light west about 6 miles.	14	Sand		60	59	D.
640	28	Nantucket Shoals (a little S. of 639).	11	Sand, shells.		60	59	D.
641	Aug. 4	Buzzard's Bay, Woepecket buoy W. by S. $\frac{1}{2}$ mile.	7	do	75			D.
642	4	Buzzard's Bay	8	Hard		68	67	D.
643	4	do	6	Sand		69	69	D.
644	4	do	5	do	75	69	69	D.
645	4	Buzzard's Bay, buoy No. 8 off Scraggy Neck NE. $\frac{1}{2}$ mile.	6	Sand, shells.				T.
646	4	Buzzard's Bay, off Cataumet Harbor.	6	Sand	75			T.
647	4	do	6	do	75			D.
648	4	Buzzard's Bay	6	do	75			D.
649	5	Vineyard Sound, Tarpaulin Cove Light N. 1 mile.	10	Hard	71			D.
650	5	do	18	do	71	68	67	D.
651	5	Buzzard's Bay, $\frac{1}{2}$ mile N. of Penikese.	16	Sand		65	64	D.
652	5	do	16	do				D.
653	5	Buzzard's Bay	8 $\frac{1}{2}$	Mud	71	68	66	D.
654	5	do	9 $\frac{1}{2}$	Soft mud	71			T.
655	5	do	10	Sand, mud		68.5	68	D.
656	5	do	8	Mud	71			D.
657	5	do		do	71			D.
658	10	About $\frac{1}{2}$ mile off Gay Head	9	Gravel		68	64	D.
659	10	do	9	Hard	73	66	64	D.
660	10	do	9	do	73	67	65	T.
661	10	About $1\frac{1}{2}$ miles off Gay Head	13	Shells.				D.
662	10	Vineyard Sound	10	Sand				D.
663	10	Vineyard Sound, off Tarpaulin Cove.	14 $\frac{1}{2}$	Hard		68	66	D.
664	10	do	16			67.5	66.5	D.
665	10	do	13 $\frac{1}{2}$	Hard		67.5		D.

STATIONS FOR 1875—Continued.

Serial number.	Date.	Locality.	Depth in fathoms.	Nature of bottom.	Temperatures.			Apparatus.
					Air.	Surface.	Bottom.	
666	1875.				o	o	o	T.
667	Aug. 11	Off Chappaquiddick, SE. part of Martha's Vineyard.	3	Sand	72	71.5	71	D.
668	11	do	5	Sand, stones	72			D.
669	11	do	6	Sand, gravel	72			D.
670	11	Off Skiff Island, at SE. corner of Martha's Vineyard.	7	Mud, shells	72			D.
671	11	do	20	Sand	74	68	66	D.
672	12	Great Point, Nantucket Island W. 5 miles.	7½	do	72	58	56	D.
673	12	do	8	do	72	58	56	D.
674	12	do	9	do	72	67	66	T.
675	12	Sankoty Head, Nantucket Island, W. 1 mile.	6½	Sand, gravel	72			D.
676	12	Sankoty Head, Nantucket Island, WNW. 2 miles.	16	Hard	72	66	65	D.
677	12	A little west of 875.	9	do	70			D.
678	12	Sankoty Head, Nantucket, NW. 1 mile.	7½	do	77			T.
679	12	Sankoty Head, Nantucket, W. ¼ mile.	4½	Sand, shells	78			T.
680	13	Nantucket Sound, off west side Nantucket Island.	5½	do	80	76	70	D.
681	13	do	7	Mud	80		70.5	D.
682	13	do	5	Sand	80	71.5	71	D.
683	13	Nantucket Sound, Cross-Rip Light-Ship NW. 2½ miles.	10	Shells, sand	79			D.
684	13	Nantucket Sound, Cross-Rip Light-Ship E. about 3 miles.	10½	Sand	79	71	70.5	D.
685	13	Nantucket Sound, Cross-Rip Light-Ship E. Cape Poge Light SSW. 2½ miles.	10½	do		71	71	D.
686	13	Vineyard Sound, off Falmouth.	5	do	78			T.
687	17	Buzzard's Bay, off Nye's Neck.	7½	Mud, hard		70		T.
688	17	do	6	Sandy mud				T.
689	17	do	5	do				D.
690	17	do	7	Sand				D.
691	17	do	8	Sand, mud				D.
692	17	Buzzard's Bay, off Wild Harbor, near N. Falmouth.	8	Sand, gravel	75			D.
693	17	Buzzard's Bay, off West Falmouth ½ mile.	7½	Shells, gravel	75		72	D.
694	17	Buzzard's Bay, SW. of No. 692 about ½ mile.	7	Mud	75	76	73	D.
695	17	Buzzard's Bay, off Hamlin Point.	3½	Hard	75			D.
696	17	do	5	do	75	75.5	70.5	D.
697	17	Buzzard's Bay, off Quamisset Harbor.	7	Sand, mud	75	78.5	70.5	D.
698	23	Vineyard Sound, S. entrance to Quick's Hole.	7½	Stony, mussels		67	67	D.
699	23	do	6	Sand, rocks	64	68.5	68.5	D.
700	23	Vineyard Sound, off Quick's Hole	7½	do	64			D.
701	23	Vineyard Sound, south of Cuttyhunk Light 1 mile.	9½	Sand		66	65.5	D.
702	23	Vineyard Sound, off Cuttyhunk Light 1 mile.	9	Rocky	64			D.
703	23	Near mouth of Buzzard's Bay, Cuttyhunk Light ESE. 1 mile.	8½	Gravel		66	65	D.
704	23	Vineyard Sound, off south side of Cuttyhunk Island.	9					T.
705	23	do	9		66	68.5	66	D.
706	23	Vineyard Sound, off Robinson's Hole.	15	Sand, gravel				D.
707	25	Vineyard Sound, off Falmouth.	4		69			T.
708	25	do	4					T.
709	25	do	6	Sand	68.5	73	72	D.
710	25	do	5					D.
711	31	Vineyard Sound	9	Hard	76	69	69	D.
712	31	do	10	do	76	68.5	69	D.
713	31	do	13	do	76	69	69	D.
714	31	do	8	Shells, gravel	76	70	69.5	D.
715	31	do	6		70	70	70	D.
716	31	do	13	Hard, gravel	75	66	61.5	D.
717	Sept. 1	Off Gay Head, 3 miles SW. buoy No. 25.	17	Mud				D.
717	1	Southwest of Gay Head, distant 4 miles.	19	do		66	60	D.

STATIONS FOR 1875—Continued.

Serial number.	Date.	Locality.	Depth in fathoms.	Nature of bottom.	Temperatures.			Apparatus.
					Air.	Surface.	Bottom.	
1875.					°	°	°	
718	Sept. 1	Southwest of Gay Head, distant 6½ miles.	19	Mud, sand .....	.....	65.5	60	D.
719	1	Southwest of Gay Head, distant 8 miles.	19	Hard, sand .....	.....	60	58.5	D.
720	1	Southwest of Gay Head, distant 8½ miles.	19	Sand .....	.....	.....	.....	T.
721	1	Southwest of Gay Head, distant 10 miles.	12	Hard .....	.....	.....	.....	D.
722	1	Southwest of Gay Head, distant 11 miles.	14	do .....	.....	.....	.....	D.
723	1	Off NW. end of Devil's Bridge Reef, Gay Head.	9	Rocky .....	.....	.....	.....	D.
724	1	do	9	do .....	.....	.....	.....	D.
725	3	South of Cape Pogo, Martha's Vineyard, in north part of Muskeget Channel.	4-13	Sand .....	.....	.....	.....	T.
726	3	About the same as 725	5	Sand, eelgrass .....	.....	.....	.....	D.
727	3	do	4	do .....	.....	.....	.....	D.
728	3	do	1-4	do .....	.....	.....	.....	D.
729	3	About ¾ mile S. E. of Cape Pogo.	7½	Hard .....	.....	.....	.....	T.
730	3	About ¾ mile SSE. of Cape Pogo.	9	Sand, gravel .....	.....	.....	.....	D.
731	3	About ¾ mile S. of No. 730	9	do .....	.....	.....	.....	D.
732	.....	(No record.)	.....	.....	.....	.....	.....	.....
733	6	Off Martha's Vineyard	6	Hard .....	.....	.....	62	D.
734	.....	(No record.)	.....	.....	.....	.....	.....	.....
735	6	Off Martha's Vineyard, 1½ miles S. E. of Squipocket Point.	11	Sand .....	.....	.....	60	D.
736	.....	(No record.)	.....	.....	.....	.....	.....	.....
737	.....	do .....	.....	.....	.....	.....	.....	.....
738	7	Off Nantucket, ¾ mile S. of Tuckernuck Island.	8½	Sand .....	.....	.....	65	D.
739	7	Off Nantucket, off S. side of Tuckernuck Island.	8	Coarse sand .....	.....	.....	65	D.
740	7	do	8½	Sand .....	.....	.....	.....	T.
741	7	do	11	do .....	.....	.....	.....	D.
742	.....	(No record.)	.....	.....	.....	.....	.....	.....
743	8	2 miles S. of Great Round Shoal buoy, 6½ miles a little N. E. of Great Point, Nantucket.	15½	Fine sand	65	60	58.5	D.
744	8	3 miles S. E. of Great Round Shoal buoy, 9 miles from Great Point.	18	Sand, shells	65	.....	58.5	D.
745	8	4 miles S. E. of Great Round Shoal buoy, 9 miles from Great Point.	15½	Sand .....	.....	.....	59	D.
746	8	Off Nantucket, N. of McBlair's Shoal.	18	.....	.....	.....	.....	T.
747	8	do	13½	.....	.....	.....	.....	T.
748	8	do	13½	.....	.....	.....	.....	T.
749	8	do	13½	.....	.....	.....	.....	D.
750	15	8 miles east of Great Point, Nantucket.	15	Sand .....	.....	.....	.....	D.
751	15	9 miles east of Great Point, Nantucket.	18	do .....	.....	.....	.....	.....
752	15	8 miles east of Great Point, Nantucket.	20	do .....	.....	.....	.....	.....
753	15	9 miles east of Great Point, Nantucket.	10	do .....	.....	.....	.....	.....
754	15	11 miles east of Great Point, Nantucket.	10	do .....	.....	.....	.....	.....
755	15	12 miles east of Great Point, Nantucket.	10	do .....	.....	.....	.....	.....
756	15	15 miles east of Great Point, Nantucket.	9	do .....	.....	.....	.....	.....
757	15	15 miles east of Great Point, Nantucket.	9	do .....	.....	.....	.....	.....
758	15	16½ miles east of Great Point, Nantucket.	6	do .....	.....	.....	.....	.....
759	15	7½ miles east of Great Point, Nantucket.	9	do .....	.....	.....	.....	.....
760	15	7 miles east of Great Point, Nantucket.	15	do .....	.....	.....	.....	.....
761	15	7½ miles east of Great Point, Nantucket.	10	do .....	.....	.....	.....	.....
762	20	Off Southwest Ledge, Gay Head N. E. 11½ miles.	16½	Gravel	64	.....	60	D.

STATIONS FOR 1875—Concluded.

Serial number.	Date.	Locality.	Depth in fathoms.	Nature of bottom.	Temperatures.			Apparatus.
					Air.	Surface.	Bottom.	
763	1875. Sept. 20	Off Southwest Ledge, $\frac{1}{2}$ mile W. of 762.	17	Gravel, sand.....	64	60	60	D.
764	20	Off Southwest Ledge, $\frac{1}{2}$ mile S. of 762.	.....	.....	.....	.....	.....	.....
765	20	Off Southwest Ledge, $\frac{1}{2}$ mile W. of 763.	17	Sand, gravel.....	.....	.....	60	D.
766	20	On Southwest Ledge, $\frac{1}{2}$ mile NW. of 765.	17	...do.....	.....	.....	60	D.
767	20	Off Southwest Ledge, $1\frac{1}{2}$ miles W. of No. 762.	18	Sand.....	64	.....	61	D.
768	20	9 miles SW. of Gay Head.....	20	...do.....	64	.....	61	D.
769	20	6 miles SW. $\frac{1}{2}$ W. of Gay Head..	20	...do.....	.....	.....	.....	D.

STATIONS FOR 1877, 1878, AND 1879, WITH HEADQUARTERS AT SALEM, MASS., HALIFAX, N. S., GLOUCESTER AND PROVINCETOWN, MASS.

During these three years the dredgings were carried on from the U. S. Str. Speedwell, commanded in 1877 by Lieut. Commander A. G. Kellogg, in 1878 by Lieut. Commander L. A. Beardslee, and in 1879 by Lieut. Z. L. Tanner. In 1877, headquarters were first established at Salem, and the stations made from there covered the northern part of Massachusetts Bay, and portions of the Gulf of Maine, off Cape Ann. During the session of the commission of arbitration on the fishery claims, however, the headquarters were removed to Halifax, N. S., and dredgings were made in the waters off that coast, from the last of August to the first of October. The Speedwell also made a line of stations on her trip across the Gulf of Maine, from Cape Ann to Cape Sable, N. S. In 1878, with headquarters at Gloucester, Mass., the area dredged over included the northern and central parts of Massachusetts Bay, and the Gulf of Maine, off Cape Ann. In 1879, the dredging grounds were the southern part of Massachusetts Bay, and the Gulf of Maine, off Cape Cod. The bottom temperatures in 1877 were mostly taken with Miller-Casella self-registering, deep-sea thermometers, but in 1878 and 1879 Negretti-Zambra thermometers were used for that purpose. All the temperatures for 1879 were taken with more than usual care, the thermometers employed being frequently compared with a reliable standard.

DREDGINGS BY SPEEDWELL, 1877—Continued.

Serial number.	Date.	Latitude.	Longitude.	Locality.	Depth, in fathoms.	Nature of bottom.	Temperature.			Apparatus used.
							Air.	Surface.	Bottom.	
73, 74	1877, Sept. 4	0	0	Sandwich Point (Halifax Harbor) W. $\frac{1}{2}$ N. $\frac{1}{2}$ mile		Fine sand and rocks	0	0	0	T.
75	do			do		Fine sand				D.
76	do			Halifax Harbor, half way between Litchfield and Mars Rocks.	18					D.
77	do			$\frac{1}{2}$ mile to the eastward of No. 76	16	Rocky				D.
78	Sept. 5			Chebequo Head (entrance of Halifax Harbor) SW. by S. $\frac{1}{2}$ S. (SW. $\frac{1}{2}$ S.), $\frac{1}{2}$ mile.	25	Rocky and nullipore	67	55 $\frac{1}{2}$	{ 33 37 $\frac{1}{2}$	{ D. D.
79	do			Farther S. and E. than No. 78		Fine sand				D.
80	do	44 22	63 28	Chebequo Light N. $\frac{1}{2}$ E. 9 miles	57	Muddy and pebbles	69	56 $\frac{1}{2}$	{ 32 $\frac{1}{2}$ 35 $\frac{1}{2}$	{ D. D.
81	do			do	57	Stony, with sponges and red algae.				T.
82	do			do	57	Mud and sand				Tan.
83	do			do	57	Coarse gravel and stones, bryozoa.				D.
84	Sept. 6	44 04	63 27	Chebequo Head N. by E. $\frac{1}{2}$ E. 26 miles	101	Fine sand	65	63	{ 30 38 $\frac{1}{2}$	{ D. D.
85	do			do						T.
86	do			do						T.
87	Sept. 11			Month Halifax Harbor, Litchfield Rock NE. by E. $\frac{1}{2}$ E. 1 $\frac{1}{2}$ miles, Automatic Buoy SE. $\frac{1}{2}$ S. 2 $\frac{1}{2}$ miles, dragging E. to 7 or 8 fathoms on Neverfall Shoal.	21	Very fine sand, stones, and algae.	72	61 $\frac{1}{2}$	{ 48 $\frac{1}{2}$ 49	{ D. D.
88	do			Sandwich Point S. $\frac{1}{2}$ mile, drifting S. with tide parallel to shore until Sandwich Point was W. by N.	17	Kelp, red algae, and fine sand.	74	62		T.
89	do			Same as last						
90	do			Head of Northwest Arm, Halifax Harbor.	21					
91	do			Same as last	6 $\frac{1}{2}$	Mud and eelgrass	74	62	49	D.
92	do			Halifax Harbor, Mouth of Northwest Arm, battery NE. by E. $\frac{1}{2}$ E., quarry opposite.	7		70	62	58	D.
93	Sept. 13			Halifax Harbor, $\frac{1}{2}$ mile from shore off York Redoubt and Sandwich Point.	16	Sand and red algae				T.
94	do			Little farther E. and S. than last.						T.
95	do			Same as last.		Very fine sand, ooze and red algae.				D.
96	do			do						T.
97	do			Midway between York Redoubt and McNab's Island Light, Halifax Harbor.						D.

+	98	Sept. 15	18	Mud and fine sand	61	61	46	46	T.
+	99	do	44 28	63 18	63	61	34	34	T.
+	100	do	do	do	do	do	34	34	T.
+	101	do	do	do	do	do	34	34	T.
+	102	do	do	do	do	do	34	34	T.
+	103	Sept. 20	44 02	63 20	64	63	34	34	T.
+	104	do	44 01	63 20	64	63	34	34	T.
+	105	do	do	do	do	do	34	34	T.
+	106-108	do	do	do	do	do	34	34	T.
+	109	Sept. 21	do	do	do	do	34	34	T.
+	110, 111	do	do	do	do	do	34	34	T.
+	112	Sept. 24	do	do	do	do	34	34	T.
+	113	do	do	do	do	do	34	34	T.
+	114-117	do	do	do	do	do	34	34	T.
+	118	do	do	do	do	do	34	34	T.
+	119	Sept. 27	do	do	do	do	34	34	T.
+	120	do	do	do	do	do	34	34	T.
+	121	do	do	do	do	do	34	34	T.
+	122	do	do	do	do	do	34	34	T.
+	123	do	do	do	do	do	34	34	T.
+	124	Oct. 17	42 32	70 22	72	58	36	36	T.
+	125	do	do	do	50	52	45	45	T.
+	126	do	do	do	52	52	45	45	T.
+	127	do	do	do	52	52	45	45	T.
+	128	do	42 31	70 37	55	55	43	43	T.

DREDGINGS BY SPEEDWELL, 1878.

+	129	July 23	42 24	70 33	49	65	60	38	T.
+	130	do	do	do	49	68	63	38	T.
+	131	do	do	do	45	68	62	38	T.
+	132	do	do	do	45	70	63	38	T.
+	133	do	42 28	70 36	40	do	do	do	T.
+	134	do	42 32	70 38	33	Rocky	61	61	D.

Midway between Sandwich Point and McNab's Island }
 Light, Halifax Harbor.
 do
 Off Halifax, Devil's Island Light N. by W. $\frac{1}{2}$ W. $\frac{1}{2}$ miles, }
 Sambre Light W. by N. $\frac{1}{2}$ N. 10 $\frac{1}{2}$ miles. }
 Off Halifax, Sambre Light W. by N. $\frac{1}{2}$ N. 9 miles.
 do
 Sambre Light N. $\frac{1}{2}$ W. 20 miles, Egg Island NE. 41 miles, 29 }
 miles S. of Chebucto Head.
 29 $\frac{1}{2}$ miles S. from Chebucto Head
 Near last.
 Same as last.
 Bedford Basin
 Chebucto Head Light NW. by W. about 8 $\frac{1}{2}$ miles
 do
 do
 Chebucto Head Light NW. by W. about 9 miles
 Halifax Harbor, off York Redoubt
 Halifax Outer Harbor
 Off Sandwich Point, Halifax Harbor
 Thatcher's Island Light NW. $\frac{1}{2}$ N. 11 $\frac{1}{2}$ miles, Halfway Rock
 W. $\frac{1}{2}$ N. 19 $\frac{1}{2}$ miles.
 Cape Ann NW. $\frac{1}{2}$ N. 12 to 14 miles.
 do
 do
 Halfway Rock W. by S. 6 $\frac{1}{2}$ miles, Eastern Point N. by W.
 $\frac{1}{2}$ W. 3 $\frac{1}{2}$ miles.
 Thatcher's Island Light N. $\frac{1}{2}$ E. 13 $\frac{1}{2}$ miles, Eastern Point N.
 by W. $\frac{1}{2}$ W. 11 $\frac{1}{2}$ miles.
 About $\frac{1}{2}$ mile NW. $\frac{1}{2}$ W. of No. 129
 Thatcher's Island Light N. by E. $\frac{1}{2}$ E. 15 miles, 1 mile W. of
 No. 129.
 Thatcher's Island Light N. $\frac{1}{2}$ E. 11 $\frac{1}{2}$ miles, Eastern Point N.
 by W. $\frac{1}{2}$ W. 10 miles, 3 miles NW. of No. 129.
 Thatcher's Island N. $\frac{1}{2}$ E. 10 miles, Eastern Point N. by W. $\frac{1}{2}$
 W. 6 miles, Baker's Island W. $\frac{1}{2}$ S. 9 miles.
 Thatcher's Island NE. $\frac{1}{2}$ N. 7 $\frac{1}{2}$ miles, Eastern Point N. $\frac{1}{2}$ W.
 3 $\frac{1}{2}$ miles, Baker's Island W. by N. $\frac{1}{2}$ N. $\frac{1}{2}$ miles.

DREDGINGS BY SPEEDWELL, 1876—Continued

Serial number.	Date.	Latitude.	Longitude.	Locality.	Depth in fathoms.	Nature of bottom.	Temperatures.			Apparatus used.
							Air.	Surface.	Bottom.	
134	1878. July 23	.....	.....	Thatcher's Island NE. $\frac{1}{2}$ N. 63 miles, Eastern Point N. $\frac{1}{2}$ E. 23 miles, Baker's Island W. $\frac{1}{2}$ N. 34 miles, 1 mile NW. of No. 133	26	Pebbles and coarse sand	68	61	o	D.
135	July 26	42 33 $\frac{1}{2}$	70 38 $\frac{1}{2}$	Eastern Point N. by W. $\frac{1}{2}$ W. 2 miles, West Light Thatcher's Island NE. $\frac{1}{2}$ N. 54 miles, 2 miles N. of No. 133.	25	Stony and gravelly	70	58 $\frac{1}{2}$	40 $\frac{1}{2}$	D.
136	do	.....	.....	About same as No. 133.	25	.....	72	.....	40	D.
137	do	.....	.....	Short distance E. of No. 133 (southwesterly on original chart)	26	Sand and stones	70	65	38 $\frac{1}{2}$	D. and T.
138	July 29	42 32 $\frac{1}{2}$	70 23 $\frac{1}{2}$	Eastern Point NW. $\frac{1}{2}$ W. 164 miles, Thatcher's Island NW. $\frac{1}{2}$ W. 133 miles.	53	Rocks, drifting into soft mud.	70	65	38 $\frac{1}{2}$	D.
139	do	42 33	70 26	Thatcher's Island NW. $\frac{1}{2}$ N. 9 miles, Baker's Island W. by N. 164 miles.	59	Muddy	.....	.....	.....	T.
140	do	.....	.....	Drifting SW. from No. 138	59	do	.....	.....	.....	T.
141	do	42 34	70 32	Eastern Point W. by N. $\frac{1}{2}$ N. 6 miles, Thatcher's Island N. by W. $\frac{1}{2}$ W. 44 miles	38	do	67	59 $\frac{1}{2}$	40	D.
142	Aug. 1	.....	.....	Gloucester Harbor, Eastern Point Light ESE, Norman's	84	Sandy	63	57 $\frac{1}{2}$	44 $\frac{1}{2}$	D.
143	do	.....	.....	Woe Rock SW. by S, Fresh Water Cove NW. by W. $\frac{1}{2}$ W	.....	.....	.....	.....	.....	T.
144	do	.....	.....	About as last.	9	.....	.....	.....	50	T.
145	do	.....	.....	do	8	Sandy	63 $\frac{1}{2}$	66 $\frac{1}{2}$	51	D.
146	do	.....	.....	Gloucester Harbor, between Round Rock and Ten Pound Island Ledge.	.....	.....	.....	.....	.....	T.
147	Aug. 1	.....	.....	About same as No. 145	16	Gravel, stones, broken shells.	67 $\frac{1}{2}$	56 $\frac{1}{2}$	42 $\frac{1}{2}$	D.
148	Aug. 3	42 33	70 41 $\frac{1}{2}$	Eastern Point Light NE. by E. $\frac{1}{2}$ N. 24 miles, Baker's Island W. 44 miles	.....	.....	66	61 $\frac{1}{2}$	42	D.
149	do	.....	.....	$\frac{1}{2}$ mile S. by W. from No. 147	*16	Stony	66	61 $\frac{1}{2}$	42	D.
150	do	.....	.....	About 2 miles SSW. of No. 148, Eastern Point NW. $\frac{1}{2}$ N. 44 miles, Baker's Island WNW. $\frac{1}{2}$ N. 33 miles.	194	Sand and gravel	66	61 $\frac{1}{2}$	42	D.
151	do	.....	.....	Gloucester Harbor, half a mile S. of Fresh Water Cove, between it and Eastern Point Light.	74	Sand and mud	70	61	51 $\frac{1}{2}$	T.
152	do	.....	.....	About the same ground	7-10	do	.....	.....	.....	T.
153	do	.....	.....	About the same ground	.....	.....	.....	.....	.....	D.
154	Aug. 8	.....	.....	About the same ground, just off Fresh Water Cove.	.....	.....	.....	.....	.....	T.
155	Aug. 15	42 35	70 31	Eastern Point Light, SW. 2 miles, (on schr. Hattie)	17	Pebbles, coarse sand	69 $\frac{1}{2}$	62	44 $\frac{1}{2}$	T.
156	do	42 35	70 30	Thatcher's Island NW. $\frac{1}{2}$ N. 44 miles, Eastern Point W. $\frac{1}{2}$ N. 7 miles.	38	Muddy	69 $\frac{1}{2}$	64 $\frac{1}{2}$	41 $\frac{1}{2}$	D.
157	do	.....	.....	$\frac{1}{2}$ mile ESE. of No. 154, Thatcher's Island NW. $\frac{1}{2}$ W. 5 miles, Eastern Point W. $\frac{1}{2}$ N. 8 miles.	45	.....	.....	.....	.....	D.
158	do	.....	.....	A little E. of No. 155	42	Sand and mud	70 $\frac{1}{2}$	68 $\frac{1}{2}$	41 $\frac{1}{2}$	T.
159	do	.....	.....	$\frac{1}{2}$ mile W. of last place.	40	Sand and rocks	73	.....	42 $\frac{1}{2}$	D.
160	do	.....	.....	$\frac{1}{2}$ mile W. of last place.	38	Mud and then rocks	.....	.....	.....	D.

139	do	42 36	70 27	Gloucester Harbor, just off Fresh Water Cove.	8	Sand	96½	44½	T.
160	Aug. 16	42 36	70 27	Eastern Point Light W. ½ N. 9 miles, Thatcher's Island Light, NW. ¾ W. 3½ miles.	54	do	71½	39½	D.
161	do			A little S. by W. of No. 160.					
162	do			About a mile S. of No. 160.	*54	Mud	64	39½	T.
163	do			West Light on Thatcher's Island NW. ¾ W. 6½ miles, Eastern Point Light W. ¾ N. 10 miles, a mile SE. ¾ E. from No. 160.	73	Fine sand	70½	65½	T.
164	do			West Light Thatcher's Island WNW. ¾ N. 7¼ miles, Eastern Point Light W. ¾ N. 10½ miles, nearly 2 miles E. of No. 160.	75	do		40	T.
165	Aug. 19	42 44½	70 38	Ipswich Bay, Strainsmouth Light, S. by E. 5 miles, Annisquam Light SW. ¾ W. 5½ miles.	35	do	71	64½	D.
166	do			About same as last, 1 mile N					
167	do			About same as last, 1 mile N					
168	do			Strainsmouth Light SE. by S. 4½ miles, Annisquam Light SSW. ¾ W. 3½ miles, 2 miles WSW. of No. 165.	21	Sand	71½		T.
169	do			About 1 mile W. of No. 168	19	Fine sandy mud with some gravel.		40½	T.
170	Aug. 24	42 33	69 59	Eastern Point Light W. by N. ¼ N. 30¼ miles, Boone Island Light N. by W. ¼ W. 4¼ miles.	90	do	67	40	D.
171	do			A little S. of last.	*90	Similar, but more stony	65½	39	T.
172	do			Eastern Point Light W. by N. ¼ N. 32¼ miles, Boone Island Light NNW. ¾ N. 42½ miles.	115	Sandy mud and fine gravel			T.
173	do			"Drifting towards the N"					
174	Aug. 27	42 37	69 40½	Thatcher's Island Light (Western) W. ¾ N. 38 miles, Eastern Point Light W. ¾ N. 42 miles.	140	Muddy	68½	39½	D.
175	do			About as last	*140	do		39	T.
176	do			2 miles N. of last place	175	Mud		38½	T.
177	do			About as last					
178	do			do					
179	Aug. 29			Gloucester Harbor, just off Fresh Water Cove.	7	Fine sand	68	47	T.
180	do			About same as last	10	do	67	39	T.
181	do			Eastern Point Light N. ¾ W. 7 (11½) miles, Thatcher's Island Light N. by E. ¾ E. 14½ miles.	45	Mud	73½	41½	D.
182	do			About a mile E. of No. 181					
183	do			Eastern Point Light N. ¾ W. 4½ miles, Baker's Island Light SW. by S. ¾ S. 7 miles.	43	Mud, gravel, and pebbles			T.
184	do			A little N. E. of No. 183	45	Mud	75	42½	T.
185	Aug. 31	42 33	69 55	Eastern Point Light W. by N. 33 miles, Boone Island Light NNW. 42¼ miles, White Island Light NW. ¾ N. 42 miles.	110	Muddy	68½	39	D.
186	do			About same as No. 185.	*110	do	73½		D.
187	do			About same as last.	110	Soft brown mud			T.
188	do			About 3 miles W. of No. 187.	85	Sandy mud and gravel	68½	40	Tan.
189	do			About same as No. 188.	85	Gravel and pebbles		65½	Ag. D.
190	do			About same as last, drifting towards SE	*100	Muddy			T.
191	do			About same as last, drifting towards E.	*100	Soft brown mud			T.
192	do			Somewhat E. of last.	100-110	do			T.
193	do			Somewhat SSW. of last	*100-110	Mud, harder at end			T.
194	do			Somewhat E. of last.	*110	Muddy, harder than last			T.

* Estimated.

DREDGINGS BY SPEEDWELL, 1878—Continued.

Serial number.	Date.	Latitude.	Longitude.	Locality.	Depth in fathoms.	Nature of bottom.	Temperatures.			Apparatus used.
							Air.	Surface.	Bottom.	
195	1878									
196	Sept. 2	42 27	70 19	{ Eastern Point Light NW. $\frac{1}{2}$ W. 16 $\frac{1}{2}$ miles, Eastern Light } Thatcher's Island NW. by N. 13 $\frac{1}{2}$ miles.	32-29	Coarse sand	72 $\frac{1}{2}$	63 $\frac{1}{2}$	45 $\frac{1}{2}$	{ D. T.
197	do	42 27	70 19	1 mile SSW. from No. 195.	29	Stony, sponges and gravel.	72 $\frac{1}{2}$	63 $\frac{1}{2}$	47 $\frac{1}{2}$	T.
198	do	42 27	70 23	Eastern Point Light NW. $\frac{1}{2}$ N. 15 miles, Eastern Light	23	Stony and spongy	72 $\frac{1}{2}$	63 $\frac{1}{2}$	54 $\frac{1}{2}$	T.
199	do	42 31	70 20	Thatcher's Island NNW. 14 $\frac{1}{2}$ miles, 3 $\frac{1}{2}$ miles W. from No. 195.	50	Coarse sand and mud	72 $\frac{1}{2}$	63 $\frac{1}{2}$	47 $\frac{1}{2}$	T.
200	Sept. 9			Eastern Light Thatcher's Island NW. $\frac{1}{2}$ N. 12 $\frac{1}{2}$ miles.	98	Muddy	71 $\frac{1}{2}$	64 $\frac{1}{2}$	39 $\frac{1}{2}$	T.
201	do			3 miles S. No. 198, Eastern Light Thatcher's Island NW. $\frac{1}{2}$ N. 13 $\frac{1}{2}$ miles.	10	Sandy and rocky	64 $\frac{1}{2}$	60	59 $\frac{1}{2}$	T.
202	do			Gloucester Harbor off Norman's Woe	8 $\frac{1}{2}$	Sandy mud	63 $\frac{1}{2}$	61	54	T.
203	do			Gloucester Harbor off Musael Cove	8-10	Abundant red algae	62 $\frac{1}{2}$	60 $\frac{1}{2}$	47 $\frac{1}{2}$	D.
204	Sept. 16	42 31	70 37	Off Gloucester, Eastern Point Light N. by W. $\frac{1}{2}$ W. 4 $\frac{1}{2}$ miles, Baker's Island Light WNW. 8 miles, drifting to SW.	40	Soft brown mud	63	60 $\frac{1}{2}$	48 $\frac{1}{2}$	D.
205	do			$\frac{1}{2}$ mile SW. by W. from No. 203	42	Muddy	65	60 $\frac{1}{2}$	48 $\frac{1}{2}$	T.
206	do			$\frac{1}{2}$ mile SW. by W. from No. 203	42	Soft brown mud	65	60 $\frac{1}{2}$	48 $\frac{1}{2}$	T.
207	do			$\frac{1}{2}$ mile NE. by E. from No. 203	42	Rocky	63 $\frac{1}{2}$	60	47 $\frac{1}{2}$	D.
208	do	42 33	70 43	Same as No. 203.	12-23	Rocky	63 $\frac{1}{2}$	60	47 $\frac{1}{2}$	D.
209	do			Off Gloucester, Baker's Island Light W. $\frac{1}{2}$ S. 3 $\frac{1}{2}$ miles						
210	do			Eastern Point Light ENE. $\frac{1}{2}$ N. 2 $\frac{1}{2}$ miles, Kettle Island N. by W. $\frac{1}{2}$ miles.						
211	do			$\frac{1}{2}$ mile N. by W. $\frac{1}{2}$ W. from No. 208, $\frac{1}{2}$ mile from Kettle Island.	17	Rock, gravel, and mud	64	60 $\frac{1}{2}$	49 $\frac{1}{2}$	D.
212	Sept. 17	42 38	70 29 $\frac{1}{2}$	Off Cape Ann, Salvages NW. 5 miles, Eastern Point W. $\frac{1}{2}$ S. 9 miles.	60	Soft dark-brown mud	66	60	43	D.
213	do			About a mile E. of No. 210	68	do	65 $\frac{1}{2}$	60 $\frac{1}{2}$	42 $\frac{1}{2}$	D.
214	do			About $\frac{1}{2}$ mile S. by E. $\frac{1}{2}$ E. of No. 210	68	do	65 $\frac{1}{2}$	60 $\frac{1}{2}$	42 $\frac{1}{2}$	T.
215	do			About $\frac{1}{2}$ mile E. by S. $\frac{1}{2}$ S. of No. 212	68	Soft dark-brown mud and hard concretions.	65 $\frac{1}{2}$	62	50 $\frac{1}{2}$	T.
216	Sept. 18	42 31	70 32	A little SW. of No. 213	57	Fine mud and sand	65 $\frac{1}{2}$	62	50 $\frac{1}{2}$	D.
217	do			Eastern Point Light NW. $\frac{1}{2}$ N. 7 $\frac{1}{2}$ miles, Thatcher's Island Light N. $\frac{1}{2}$ W. 7 $\frac{1}{2}$ miles.	35	Sandy	65 $\frac{1}{2}$	62	50 $\frac{1}{2}$	T.
218	do			$\frac{1}{2}$ mile NNE. $\frac{1}{2}$ E. from No. 215	35	Soft dark-brown mud	65 $\frac{1}{2}$	62	50 $\frac{1}{2}$	T.
219	do			Eastern Point Light NNW. $\frac{1}{2}$ W. 5 $\frac{1}{2}$ miles, Thatcher's Island Light N. by E. $\frac{1}{2}$ E. 7 $\frac{1}{2}$ miles, 2 $\frac{1}{2}$ miles westerly from No. 215.	45	do	65 $\frac{1}{2}$	62	50 $\frac{1}{2}$	T.
220	do			Same as No. 217.	45	do	65 $\frac{1}{2}$	62	50 $\frac{1}{2}$	T.

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210	do	43	20	70	22	Eastern Point Light NW. $\frac{1}{2}$ N. $7\frac{1}{2}$ miles, Thatcher's Island Light, N. $8\frac{1}{2}$ miles; $\frac{1}{2}$ mile SW. from N. 213.	53	Rocky, stones of all sizes.	70 $\frac{1}{2}$	60	55 $\frac{1}{2}$	D.
220	do	42	32	70	35	Eastern Point Light E. $6\frac{1}{2}$ miles, Thatcher's Island Light N. by E. $6\frac{1}{2}$ miles.	42	Soft brown mud				T.
221	Sept. 21	42	33	70	31	Eastern Point Light NW. $\frac{1}{2}$ N. $6\frac{1}{2}$ miles, Thatcher's Island Light N. by W. $1\frac{1}{2}$ miles.	37-38	Fine sandy mud	67 $\frac{1}{2}$	62	49 $\frac{1}{2}$	D.
222	do					Island Light N. by W. $1\frac{1}{2}$ miles.	40	do				T.
223	do					$\frac{1}{2}$ mile SE. by E. $\frac{1}{2}$ S. from No. 221.	47	Soft brown mud	47			T.
224	do					About $\frac{1}{2}$ mile E. & S. from No. 221.	47	do	47			T.
225	do	42	34 $\frac{1}{2}$	70	35 $\frac{1}{2}$	$\frac{1}{2}$ mile E. by S. from No. 223.	26	Rocky	71 $\frac{1}{2}$	62 $\frac{1}{2}$	53	Tan.
226	Sept. 23	42	36	70	36	Light N. by E. $\frac{1}{2}$ E. 5 miles.	18	Irregular, rocky				D. and Tan.
227	do	42	33 $\frac{1}{2}$	70	40	Off Cape Ann, Eastern Point Light W. by S. $\frac{1}{2}$ S. 3 miles, Thatcher's Island Light N. E. $2\frac{1}{2}$ miles.	23	Rock, sand, and gravel	64 $\frac{1}{2}$	60 $\frac{1}{2}$	58	D. and Tan.
228	do					Off Gloucester, Eastern Point Light NNE. $1\frac{1}{2}$ miles, S. and Kettle Island E. by S. $\frac{1}{2}$ S. $2\frac{1}{2}$ miles.	10	Rock and sand.				D. and Tan.
229	do					Eastern Point Light NE. $2\frac{1}{2}$ miles, $\frac{1}{2}$ mile SW. from No. 227.	19	Rocky and coarse sand.				D.
230	do					Eastern Point Light NE. by N. $\frac{1}{2}$ N. $\frac{1}{2}$ mile, $\frac{1}{2}$ mile N. of No. 227.	21	Rock, fine mud, and sand	59 $\frac{1}{2}$	60 $\frac{1}{2}$	57 $\frac{1}{2}$	D.
231	do					S. and Kettle Island N. $\frac{1}{2}$ W. $\frac{1}{2}$ mile, between Nos. 208 and 209 Gloucester Harbor, just outside Fresh Water Cove, Eastern Point Light SE.	7	Fine white sand and red algae.				T.
232	Sept. 24	42	30 $\frac{1}{2}$	70	38	Eastern Point Light N. $\frac{1}{2}$ W. $\frac{1}{2}$ miles, Thatcher's Island Light NNE. $\frac{1}{2}$ E. $3\frac{1}{2}$ miles.	45	Soft brown mud	62 $\frac{1}{2}$	61 $\frac{1}{2}$	42	D.
233	do					$\frac{1}{2}$ mile S. by W. $\frac{1}{2}$ W. from No. 232.	45	do				T.
234	do					$\frac{1}{2}$ mile NE. by E. from No. 232; on chart NW. from No. 232, which is probably correct.	43	do				T.
235	do	42	33 $\frac{1}{2}$	70	39	Eastern Point Light N. by W. $\frac{1}{2}$ W. $1\frac{1}{2}$ miles, Thatcher's Island Lights NE. & N. $5\frac{1}{2}$ miles, close to No. 135.	22	Rocky				Tan.
236	Sept. 26	42	28	70	31	Eastern Point Light NW. by N. $9\frac{1}{2}$ miles, Thatcher's Island Lights N. $\frac{1}{2}$ W. $10\frac{1}{2}$ miles.	28	Rocky, coarse sand, and pebbles.	68 $\frac{1}{2}$	61	48 $\frac{1}{2}$	D.
237	do	42	31	70	29	Eastern Point Light NW. $\frac{1}{2}$ W. $9\frac{1}{2}$ miles, Thatcher's Island Lights N. by W. $\frac{1}{2}$ W. $8\frac{1}{2}$ miles.	38	Coarse sand and gravel	66	61 $\frac{1}{2}$	49 $\frac{1}{2}$	D.
238	do	42	30 $\frac{1}{2}$	70	38	Eastern Point Light N. by W. $4\frac{1}{2}$ miles, Thatcher's Island Lights NNE. $\frac{1}{2}$ E. $7\frac{1}{2}$ miles, close to No. 232.	43	Soft brown mud	69	61 $\frac{1}{2}$		T.

DREDGINGS BY SPEEDWELL, 1879.

	1879.	°	'	°	'			°	°	°		
239	July 21	41	51	70	14	Capo Cod Bay, Wood End Light N. 15° E., Indian Hill N. 75° W.	13	Blue mud and fine sand...	70½	67	66½	D.
240	do	41	52½	70	15	Wood End Light N. 19° E. Rocky Point N. 74° W	18	.....	69½	67	64½	T.
241	do	41	57	70	12	Wood End Light N. 16° E. Billingsgate Light S. 55° E	19	Blue mud and fine sand.	.....	.....	.....	D.
242	do	41	59	70	13	Race Point Light N. 9° W., Cape Cod Light N. 69° E	21	Blue mud	72	67	62½	T.
243	do	42	01	70	12	Race Point Light N. 23° W., Wood End Light N. 58° E	20	.....	69	66½	60½	T.
244	July 22	42	04½	70	15½	Race Point Light S. 59° E. (dredge) 1 mile, (trawl) ½ miles.	25-30	Fine gray sand.	70	58	{ 40 45 46 }	D. and T.
245	do	{ 42 08 42 07½ }	{ }	{ 70 17 70 13½ }	{ }	{ Race Point Light S. 27° E. (dredge) 5½ miles, S. 7 W. (trawl) 4 miles.	28	do	.....	.....	.....	D. and T.

DREDGINGS BY SPEEDWELL, 1879—Continued.

Serial number.	Date.	Latitude.	Longitude.	Locality.	Depth in fathoms.	Nature of bottom.	Temperatures.			Apparatus used.
							Air.	Surface.	Bottom.	
246	1879, July 25	42 06	0	Race Point Light S. 11° E. 2½ miles, "Spider Ground".....	23	Fine gray sand	66	63	o	D.
247	do	42 07	70 14½	Race Point Light S. 20° E. 3½ miles	34	do	66	63	o	D.
248	do	42 07	70 14	Race Point Light S. 10° W. 3½ miles	32	do	66½	63½	o	D.
249	do	42 08½	70 13	Race Point Light S. 13° W. 4½ miles	30	Coarse sand	65	62½	o	T.
250	do	42 09	70 13	Race Point Light S. 9° W. 5½ miles	30	do	66½	62½	o	T.
251	do	42 10	70 10½	Race Point Light S. 23° W. 6½ miles	27	Coarse sand and gravel	65½	62½	o	D.
252	do	42 09	70 09½	Race Point Light S. 34° W. 6½ miles	24	Fine gray sand and gravel	66½	62½	o	T.
253	July 28	41 57	70 17½	Cape Cod Bay, "Fishing Ledge," Wood End Light N. 50° E. 7 miles.	17	Rocky	72	65	o	D.
254	do	do	do	do	21	Sandy	75	65	o	D.
255	do	do	do	do	18	Rocky	76	66	o	D.
256, 257	do	do	do	do	16	do	78	68	o	D.
258	do	41 55	70 20	Cape Cod Bay, Wood End Light N. E. ½ E. 9½ miles	20	Soft mud	72	64	o	T.
259	do	41 57½	70 23½	Cape Cod Bay, Wood End Light E. N. E. 10½ miles	24	Blue mud	71	64	o	T.
260	do	41 58½	70 19	Cape Cod Bay, Wood End Light E. N. E. 7½ miles	25	Green mud	74	65	o	T.
261	do	42 00	70 15	Cape Cod Bay, Wood End Light E. N. E. 3½ miles	26	Mud	74	65	o	T.
262	July 29	42 11	69 57	Off Cape Cod, Race Point Light S. 65° W. 14 miles	80	Blue mud	71	65½	o	D.
263	do	do	do	do	83	do	71	65½	o	D.
264	do	42 10	69 56½	Off Cape Cod, Race Point Light S. 65° W. 15 miles	72	Gravel	71	65½	o	D.
265	do	42 09½	69 57	Off Cape Cod, Cape Cod Light S. 30° W. 8 miles	78	do	71	65½	o	T.
266	do	42 12	69 50	Off Cape Cod, Cape Cod Light S. 45° W. 13 miles	120	Blue mud	71½	68½	o	T.
267	July 31	42 13	69 50	Off Cape Cod, Race Point Light S. 81½° W. 26 miles	135	do	70½	68½	o	T.
268	do	42 12	69 40	Off Cape Cod, Race Point Light S. 84½° W. 26 miles	129	do	71	67½	o	T.
269	do	42 12	69 40	Off Cape Cod, Race Point Light S. 67½° W. 9 miles	53	Gravel	70½	64½	o	T.
270	do	42 08	69 53	Off Cape Cod, Cape Cod Light S. 60½° W. 7 miles	42	Blue sand and gravel	71	64½	o	T.
271	Aug. 1	42 06½	70 18	Off Cape Cod, Race Point Light S. 13° W. 23 miles	34	Fine yellow sand	70½	64½	o	T.
272	do	42 07	70 19	Off Cape Cod, Race Point Light S. 2° W. 3 miles	34	Yellow sand	70	66½	o	D.
273	do	42 07½	70 09½	Off Cape Cod, Race Point Light S. 40° W. 5½ miles	25	Coarse yellow sand and gravel	69	67	o	D.
274	do	42 09½	70 05	Off Cape Cod, Cape Cod Light S. 11° E. 7 miles	30	Coarse yellow sand and broken shells.	73½	68½	o	D.
275	do	do	do	do	29½	Green mud	72	66½	o	T.
276	do	42 08½	70 00	Off Cape Cod, Cape Cod Light S. 20° W. 6½ miles	28	Blue mud	71	66	o	T.
277	do	42 02	70 15	Cape Cod Bay, Wood End Light S. 70° E. 3 miles	9	Sand and shells	74	74½	o	T.
278	Aug. 4	42 04	70 15	Provincetown Harbor, Long Point Light N. 75° E. 4 miles	13-13½	Sandy	70	69½	o	T.
279	do	42 04½	70 15	On Stellwagen's Bank, Race Point Light S. 64 miles	124-134	Sand	74	63	o	D.
280	do	42 04	70 16½	On Stellwagen's Bank, Race Point Light S. 17° E. 6½ miles	14	Fine yellow sand and gravel	76	62½	o	T.
281	do	42 13	70 16½	On Stellwagen's Bank, Race Point Light S. 12° E. 8½ miles	14	broken shells.	76	62½	o	D.

Station	Date	Depth	Bottom	Specimens	Remarks	Depth	Bottom	Specimens	Remarks
282	do	42 13	On Stellwagen's Bank, Race Point Light S. 3° W. 84 miles	134	Sand and gravel	72 1/2	61 1/2	43	D.
283	do	42 09 1/2	Southwest of Stellwagen's Bank, Race Point Light S. 4° E. 8 1/2 miles	31	Sand and green mud	70 7	60	38 1/2	D.
284	do	42 10	do	31	do	70 7	60 1/2	39	T.
285	Aug. 6	42 12	Southwest of Stellwagen's Bank, Race Point Light S. 4° E. 11 miles	35 1/2	Green mud	69	68	39	D.
286	do	42 16 1/2	West of Stellwagen's Bank, Race Point Light S. 14° E. 14 miles	37	do	71	67	39 1/2	D.
287	do	42 17 1/2	West of Stellwagen's Bank, Race Point Light S. 20° E. 16 miles	47 1/2	do	68	67 1/2	28 1/2	T.
288	do	42 20	West of Stellwagen's Bank, Race Point Light S. 20° E. 19 miles	33	Fine blue sand and shells	72	67 3/4	38 1/2	T.
289	do	42 19	Same as last in Record Book; nearly 2 miles SE. on chart	45	Fine gray sand	69 1/2	68 1/2	38	T.
290	Aug. 11	42 04 1/2	Month Cape Cod Bay, Race Point Light S. 80° E. 1 1/2 miles	31	do	72	63 1/2	38	T.
291	do	42 04 1/2	Month Cape Cod Bay, Race Point Light S. 55° E. 1 1/2 miles	29	do	69	64	40	T.
292	do	42 04 1/2	Month Cape Cod Bay, Race Point Light N. 85° E. 2 1/2 miles	30	Blue mud, fine sand	69	65	41	D.
293	do	42 04 1/2	Month Cape Cod Bay, Race Point Light N. 80° E. 3 1/2 miles	27	Green mud	66	65 1/2	39 1/2	T.
294	do	42 03 1/2	Month Cape Cod Bay, Race Point Light N. 80° E. 3 1/2 miles	26	do	66 1/2	66	39	T.
295	do	42 03 1/2	Month Cape Cod Bay, Race Point Light N. 80° E. 3 1/2 miles	27	do	67	65 1/2	39 1/2	R. D.
296	do	42 02 1/2	Month Cape Cod Bay, Race Point Light N. 80° E. 3 1/2 miles	26	do	67 1/2	65	39 1/2	T.
297	do	42 02 1/2	Month Cape Cod Bay, Race Point Light N. 80° E. 3 1/2 miles	22	Fine sand	69	65 1/2	39 1/2	T.
298	Aug. 20	42 01 1/2	Month Cape Cod Bay, Race Point Light S. 75° W. 3 1/2 miles	16	Fine brown sand	64	61 1/2	55 1/2 (7)	D.
298a	do	42 06 1/2	Month Cape Cod Bay, Gurnet Point Light S. 85° W. 4 1/2 miles	20	Brown sand and pebbles	68	61 1/2	45	D.
299	do	42 01 1/2	Month Cape Cod Bay, Gurnet Point Light S. 74° W. 4 1/2 miles	21	Fine brown sand	66	61 1/2	45	T.
300	do	42 01 1/2	Month Cape Cod Bay, Gurnet Point Light S. 75° W. 5 miles, 1/2 mile S. of No. 297	20	Brown sand and pebbles	68	61 1/2	45	T.
301	do	42 01 1/2	Month Cape Cod Bay, Race Point Light N. 65° E. 5 miles	27	Soft brown mud	66	60	42 1/2	D. and R. D.
301a	Aug. 21	42 12 1/2	Off Cape Cod, Cape Cod Light S. 31° W. 10 1/2 miles	124	Fine brown mud	68	60	41	D.
302	do	42 11 1/2	Off Cape Cod, Cape Cod Light S. 51° W. 15 miles	122	Soft brown mud	71	61 1/2	41	T.
303	do	42 10	Off Cape Cod, Cape Cod Light S. 61° W. 15 miles	122	do	75 1/2	61 1/2	41	T.
304	do	42 09	Off Cape Cod, Cape Cod Light S. 68° W. 18 miles	118	do	69	61	41	T.
305	do	42 09 1/2	Off Cape Cod, Cape Cod Light S. 68° W. 18 miles	122	do	63	61	41	T.
306	Aug. 25	42 06 1/2	Race Point Light S. 40° E. 5 miles	30	Blue mud	63	61	41	T.
307	do	42 06 1/2	Race Point Light S. 40° E. 5 miles	31	Blue mud and fine sand	65	61 1/2	43 1/2	T.
308	do	42 06 1/2	Race Point Light S. 28° E. 5 1/2 miles, S. edge Stellwagen's Bank	26	Fine sand and broken shells	64	61 1/2	41	D.
309	do	42 08 1/2	Race Point Light S. 25° E. 5 1/2 miles E. of No. 308	27	Fine yellow sand	66	60 1/2	40 1/2	T.
310	Aug. 29	42 01	Cape Cod Bay, Wood End Light N. 33° W. 4 miles	21	Blue mud, fine sand	63	60 1/2	47 1/2	D.
311	do	42 01	Cape Cod Bay, Wood End Light N. 33° W. 4 miles	16	do	67 1/2	61 1/2	49	R. D.
312	do	41 59 1/2	Cape Cod Bay, Wood End Light N. 41° W. 2 1/2 miles	15	Mud and sand	65	62	50	R. D.
313	do	41 58	Cape Cod Bay, Wood End Light N. 26° W. 3 1/2 miles	15	Blue mud	64	61	50 1/2	R. D.
314	do	41 56	Cape Cod Bay, Wood End Light N. 21° W. 6 miles	10	Coarse sand	67	61 1/2	56	R. D.
315	do	41 55	Cape Cod Bay, Wood End Light N. 25° W. 7 miles	8	Coarse sand and gravel	66	63 1/2	56	T.
316	do	41 50 1/2	Cape Cod Bay, Wood End Light N. 80° W. 5 1/2 miles	23	do	60	62 1/2	63	T.
317	Aug. 30	42 02	Cape Cod Bay, Race Point Light N. 3° W. 1 1/2 miles	28	Blue mud	59	60	44 1/2	D.
318	do	42 01 1/2	Cape Cod Bay, Race Point Light N. 14° E. 2 1/2 miles	23	do	61	61 1/2	44 1/2	D.
319	do	42 01 1/2	Cape Cod Bay, Race Point Light N. 10° E. 1 1/2 miles	26 1/2	do	60	60 1/2	44 1/2	T.
320	do	42 02 1/2	Cape Cod Bay, Race Point Light N. 30° E. 1 1/2 miles	29	Fine gray sand	63 1/2	61	44 1/2	R. D.
321	do	42 03	Cape Cod Bay, Race Point Light N. 62° E. 1 mile	29 1/2	do	63	61	44 1/2	D.
322	Sept. 1	42 12 1/2	Off Cape Cod, Cape Cod Light S. 3° W. 10 miles	67	Speckled sand, broken shells	66	60	40 1/2	D.
323	do	42 13 1/2	Off Cape Cod, Cape Cod Light S. 3° W. 11 miles	60	Speckled sand	67 1/2	58	40 1/2	T.

DREDGINGS BY SPEEDWELL, 1879—Continued.

Serial number.	Date.	Latitude.	Longitude.	Locality.	Depth in fathoms.	Nature of bottom.	Temperatures.			Apparatus used.
							Air.	Surface.	Bottom.	
324	1879, Sept. 1	42 12 $\frac{1}{2}$	70 03	Off Cape Cod, Cape Cod Light S. 2° W. 11 miles.....	45	Coarse sand, black specks, broken shells.	67	61	40 $\frac{1}{2}$	o T.
325	do	42 14 $\frac{1}{2}$	70 00 $\frac{1}{2}$	Off Cape Cod, Cape Cod Light S. 8° W. 13 miles.....	83	Green mud.	67	61	40 $\frac{1}{2}$	T.
326	do	42 14 $\frac{1}{2}$	70 02	Off Cape Cod, Cape Cod Light S. 4° W. 12 $\frac{1}{2}$ miles.....	75	do	70	59 $\frac{1}{2}$	40 $\frac{1}{2}$	A. G. T.
327	Sept. 6	42 11	70 12 $\frac{1}{2}$	S. and Stellwagen's Bank, Race Point Light S. 11° W. 7 $\frac{1}{2}$ miles.	17	Coarse sand, black specks.	61 $\frac{1}{2}$	60	44 $\frac{1}{2}$	D.
328	do	42 10	70 13	Off S. and Stellwagen's Bank, Race Point Light S. 11° W. 6 $\frac{1}{2}$ miles.	23	do	72	60 $\frac{1}{2}$	43	O. T.
329	do	42 09	70 12	Off S. and Stellwagen's Bank, Race Point Light S. 17° W. 5 $\frac{1}{2}$ miles.	20	Fine brown sand, pebbles.	67 $\frac{1}{2}$	60	42	R. D.
330	do	42 09 $\frac{1}{2}$	70 13	Off S. and Stellwagen's Bank, Race Point Light S. 8° W. 6 miles.	26	do	68	60	42	T.
331	do	42 09 $\frac{1}{2}$	70 14	Off S. and Stellwagen's Bank, Race Point Light S. 2° W. 5 $\frac{1}{2}$ miles.	28	Fine brown sand, black specks.	67	60 $\frac{1}{2}$	41 $\frac{1}{2}$	T.
332	do	42 09	70 15	Off S. and Stellwagen's Bank, Race Point Light S. 6° E. 5 $\frac{1}{2}$ miles.	28	Fine brown sand, shells.	70	61	42	T.
333	do	42 08 $\frac{1}{2}$	70 16 $\frac{1}{2}$	Off S. and Stellwagen's Bank, Race Point Light S. 18° E. 5 $\frac{1}{2}$ miles.	27	do	71	61	42 $\frac{1}{2}$	R. D.
334	do	42 08 $\frac{1}{2}$	70 18	Off S. and Stellwagen's Bank, Race Point Light S. 28° E. 5 $\frac{1}{2}$ miles.	27	Fine yellow sand	74	61 $\frac{1}{2}$	42	A. G. T.
335	Sept. 9	41 53 $\frac{1}{2}$	70 34 $\frac{1}{2}$	Off Plymouth, Garnet Point Light N. 39° W. 1 $\frac{1}{2}$ miles.....	7	Green mud, sand, with dead eel-grass.	62	61 $\frac{1}{2}$	55	D.
336	do	41 53	70 33 $\frac{1}{2}$	Off Plymouth, Garnet Point Light N. 40° W. 2 $\frac{1}{2}$ miles.....	11 $\frac{1}{2}$	Brown sand, specks, eel-grass.	69	61 $\frac{1}{2}$	50	T.
337	do	41 57 $\frac{1}{2}$	70 30 $\frac{1}{2}$	Off Plymouth, Garnet Point Light N. 38° W. 4 $\frac{1}{2}$ miles.....	16	Green mud and sand.	70	62	47 $\frac{1}{2}$	D.
338	do	41 57 $\frac{1}{2}$	70 28	Off Plymouth, Garnet Point Light N. 60° W. 6 $\frac{1}{2}$ miles.....	18	Sand, blue mud	71	62 $\frac{1}{2}$	49 $\frac{1}{2}$	T.
339	do	41 54	70 28	Cape Cod Bay, Manomet Point N. 67° W. 3 $\frac{1}{2}$ miles, 3 $\frac{1}{2}$ miles S. of No. 338.	13 $\frac{1}{2}$	Mud and sand.	75	63 $\frac{1}{2}$	47 $\frac{1}{2}$	T.
340	do	41 51	70 27 $\frac{1}{2}$	Cape Cod Bay, Manomet Point N. 38° W. 6 miles.....	14	Brown sand and mud	66 $\frac{1}{2}$	63	49 $\frac{1}{2}$	D.
341	do	41 51 $\frac{1}{2}$	70 21 $\frac{1}{2}$	Cape Cod Bay, Manomet Point N. 68° W. 9 miles.....	15 $\frac{1}{2}$	Green mud, sand	65 $\frac{1}{2}$	63 $\frac{1}{2}$	48	T.
342	Sept. 10	42 16	69 56	Off Cape Cod, Cape Cod Light S. 22° W. 14 miles.....	94	Brown mud	63 $\frac{1}{2}$	58 $\frac{1}{2}$	41 $\frac{1}{2}$	T.
343	do	42 17	69 51	Off Cape Cod, Cape Cod Light S. 33° W. 17 $\frac{1}{2}$ miles.....	116	do	63	57	41 $\frac{1}{2}$	T.
344	do	42 19	69 47 $\frac{1}{2}$	Off Cape Cod, Cape Cod Light S. 33° W. 15 miles (20 miles on original chart).	130	do	64	57 $\frac{1}{2}$	41 $\frac{1}{2}$	T.
345	Sept. 13	42 19 $\frac{1}{2}$	70 45	Off Boston Harbor, Minot's Lodge Light S. 5 $\frac{1}{2}$ miles.....	16	Speckled sand and shells.	60	61 $\frac{1}{2}$	46 $\frac{1}{2}$	D.
346	do	42 16	70 38	Massachusetts Bay, Minot's Lodge Light W. 5 $\frac{1}{2}$ miles.....	22	Pebbles and broken shells.	63 $\frac{1}{2}$	61 $\frac{1}{2}$	44 $\frac{1}{2}$	T.
347	do	42 12 $\frac{1}{2}$	70 33 $\frac{1}{2}$	Massachusetts Bay, Minot's Lodge Light N. 68° W. 9 miles.....	20	Speckled sand	65	61 $\frac{1}{2}$	46 $\frac{1}{2}$	T.
348	do	42 09 $\frac{1}{2}$	70 32 $\frac{1}{2}$	Massachusetts Bay, Standish Monument (near Duxbury) N. 35° W. 10 miles.	10 $\frac{1}{2}$	Gravel and sand	63	62 $\frac{1}{2}$	46 $\frac{1}{2}$	D.

349	do	42	104	70	29	Standish Monument S. 3° W. 13 miles.	26	Sand and mud	65	61	43	O. T.
350	do	42	094	70	26	Standish Monument S. 5° W. 13 miles.	31	Blue mud.	73	61	43	O. T.
351	do	42	094	70	26	Race Point Light S. 74° E. 6 miles.	80	do	67	61	43	O. T.
352	Sept. 15	41	542	70	074	Cape Cod Bay, Billingsgate Light S. 3° E. 4 miles.	104	Sand and gravel	61	64	43	A. G. T.
353	do	41	53	70	10	Cape Cod Bay, Billingsgate Light S. 7° E. 5 miles.	14	Green mud	61	64	43	I. D.
354	do	41	504	70	114	Cape Cod Bay, Billingsgate Light N. 74° E. 6 miles.	7	Coarse yellow sand	76	64	62	D. D.
355	do	41	484	70	12	Cape Cod Bay, Billingsgate Light N. 5° E. 7 miles.	7	Fine sand, pebbles	68	64	61	D. D.
356	do	41	49	70	09	Cape Cod Bay, Billingsgate Light N. 4° E. 5 miles.	74	Fine brown sand	65	64	64	T. T.
357	do	41	55	70	10	Cape Cod Bay, Billingsgate Light S. 63° E. 5 miles.	15	Blue mud	65	64	46	T. T.
358	do	42	04	69	22	Off Cape Cod, Cape Cod Light S. 8° W. 30 miles.	105	Green mud	67	58	58	D. D.
359	Sept. 18	42	03	69	23	Off Cape Cod, Cape Cod Light S. 8° W. 30 miles.	106	Gray mud	65	58	58	T. T.
360	do	42	02	69	23	Off Cape Cod, Cape Cod Light N. 8° W. 26 miles.	102	do	62	58	58	T. T.
361	do	42	01	69	34	Off Cape Cod, Cape Cod Light N. 8° W. 21 miles.	106	Mud, fine gravel	62	58	58	T. T.
362	do	42	00	69	36	Off Cape Cod, Cape Cod Light N. 84° W. 20 miles.	108	Hard sand, broken shells	66	58	58	T. T.
363	do	42	00	69	44	Off Cape Cod, Cape Cod Light N. 75° W. 15 miles.	74	Fine sand	65	60	60	T. T.
364	do	41	584	69	44	Off Chatham, Chatham Light N. 4° W. 23 miles.	11	Coarse sand	63	61	61	T. T.
365	Sept. 19	41	38	69	53	Off Chatham, Chatham Light N. 5° W. 43 miles.	12	do	63	61	61	D. D.
366	do	41	374	69	51	Off Chatham, Chatham Light N. 6° W. 54 miles.	15	Coarse sand, gravel	63	61	61	D. D.
367	do	41	38	69	49	Off Chatham, Chatham Light N. 84° W. 8 miles.	18	do	64	61	61	T. T.
368	do	41	39	69	48	Off Chatham, Chatham Light S. 73° W. 6 miles.	15	Speckled sand	61	57	57	T. T.
369	do	41	354	69	42	Off Chatham, Chatham Light N. 73° W. 12 miles.	18	Sand and pebbles	66	61	61	T. T.
370	do	41	354	69	35	Off Chatham, Chatham Light N. 73° W. 16 miles.	24	Fine gray sand, black specks.	61	59	59	T. T.
371	do	41	40	69	24	Off Chatham, Chatham Light W. 21 miles.	70	Sand and pebbles	61	59	59	T. T.
372	do	41	40	69	24	Off Cape Cod, Cape Cod Light S. 82° W. 5 miles.	42	Fine gray sand, black specks.	58	54	44	T. T.
373	Sept. 28	42	07	69	59	Off Cape Cod, Cape Cod Light S. 75° W. 6 miles.	46	Fine sand, broken shells	64	54	43	T. T.
374	do	42	04	69	54	Off Cape Cod, Cape Cod Light S. 72° W. 7 miles.	46	Coarse sand	59	54	45	T. T.
375	do	42	044	69	54	do	46	do	59	54	45	D. D.
376	do	42	044	69	54	Off Cape Cod, Cape Cod Light S. 85° W. 13 miles.	94	Brown mud	58	57	41	D. D.
377	do	42	04	69	44	Off Cape Cod, Cape Cod Light S. 85° W. 17 miles.	96	do	58	57	41	D. D.
378	do	42	044	69	39	Off Cape Cod, Cape Cod Light S. 85° W. 17 miles.	96	do	58	57	41	D. D.

A series of temperature observations was made by the Speedwell on September 25 and 29, 1879. These had separate numbers from No. 1 to No. 25, and as no dredgings or natural history observations were made, they have been placed after the tables of dredging localities. Their localities, &c., will be found on the following page (36), and the serial temperatures taken on those days are placed on page 43, at the end of the tables of serial temperatures taken in the course of dredging expeditions.

596 REPORT OF COMMISSIONER OF FISH AND FISHERIES.

* TEMPERATURE OBSERVATIONS BY THE SPEEDWELL, SEPTEMBER 25 AND 29, 1879.

Serial number.	Date.	Locality.	Depth in fathoms.	Temperatures.		
				Air.	Surface.	Bottom.
1	1879.			°	°	°
2	Sept. 25	Long Point WNW. $\frac{1}{2}$ mile.	17	55 $\frac{1}{2}$	47 $\frac{1}{2}$	
3	25	Wood End Light NW. $\frac{1}{2}$ mile.	21	55	47	
4	29	Wood End Light NE. $\frac{1}{2}$ mile.	22	59	45	
5	29	Wood End Light N. 80° E. 2 miles.	24 $\frac{1}{2}$	57 $\frac{1}{2}$	44 $\frac{1}{2}$	
6	29	Wood End Light N. 55° E. 3 $\frac{1}{2}$ miles.	21	57 $\frac{1}{2}$	45	
7	29	Wood End Light N. 48° E. 5 $\frac{1}{2}$ miles.	21	57 $\frac{1}{2}$	45 $\frac{1}{2}$	
8	29	Wood End Light N. 45° E. 7 $\frac{1}{2}$ miles.	10 $\frac{1}{2}$	58 $\frac{1}{2}$	46 $\frac{1}{2}$	
9	29	Wood End Light N. 50° E. 7 $\frac{1}{2}$ miles.	19 $\frac{1}{2}$	58 $\frac{1}{2}$	46	
10	29	Wood End Light N. 68° E. 6 $\frac{1}{2}$ miles.	24	59 $\frac{1}{2}$	44 $\frac{1}{2}$	
11	29	Wood End Light N. 85° E. 6 miles.	26	60 $\frac{1}{2}$	44	
12	29	Wood End Light S. 75° E. 5 $\frac{1}{2}$ miles.	30	60 $\frac{1}{2}$	44	
13	29	Race Point Light S. 71° E. 3 $\frac{1}{2}$ miles.	33	66	44	
14	29	Race Point Light S. 45° E. 4 $\frac{1}{2}$ miles.	34	66	44 $\frac{1}{2}$	
15	29	Race Point Light S. 32° E. 6 miles.	11	67	51 $\frac{1}{2}$	
16	29	Race Point Light S. 13° E. 5 $\frac{1}{2}$ miles.	23	63 $\frac{1}{2}$	52 $\frac{1}{2}$	
17	29	Race Point Light S. 10° W. 6 miles.	10	62 $\frac{1}{2}$	49	
18	29	Race Point Light S. 30° W. 6 $\frac{1}{2}$ miles.	26	63	46 $\frac{1}{2}$	
19	29	Race Point Light S. 51° W. 8 $\frac{1}{2}$ miles.	28	62 $\frac{1}{2}$	45	
20	29	Race Point Light S. 58° W. 9 $\frac{1}{2}$ miles.	49	62 $\frac{1}{2}$	43 $\frac{1}{2}$	
21	29	Race Point Light S. 70° W. 9 $\frac{1}{2}$ miles.	32	62 $\frac{1}{2}$	44	
22	29	Race Point Light S. 66° W. 5 $\frac{1}{2}$ miles.	21	64	45	
23	29	Race Point Light S. 42° W. 5 $\frac{1}{2}$ miles.	28	62 $\frac{1}{2}$	46	
24	29	Race Point Light S. 18° W. 2 $\frac{1}{2}$ miles.	38	57 $\frac{1}{2}$	44	
25	29	Race Point Light S. 83° E. 2 miles.	30	61	44	
	29	Race Point Light N. 16° E. 2 $\frac{1}{2}$ miles.	27	61	44 $\frac{1}{2}$	

* See pages 37 and 43.

SERIES OF TEMPERATURES TAKEN BY THE SPEEDWELL IN 1877, 1878, AND 1879.

[A + above the temperature indicates that it is that of the bottom, when that precise depth is not in the table; a Δ before the temperature indicates that the precise depth at which it was taken will be found in column A.]

Date.	Serial number.	Latitude.	Longitude.	Depth in fathoms.	Temperatures.															A.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
					Air.	Surface.	5 fathoms.	10 fathoms.	15 fathoms.	20 fathoms.	25 fathoms.	30 fathoms.	35 fathoms.	40 fathoms.	45 fathoms.	50 fathoms.	55 fathoms.	60 fathoms.	70 fathoms.		80 fathoms.	90 fathoms.	100 fathoms.	110 fathoms.	120 fathoms.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
1877. Aug. 6	9	°	°	25	69	63.5	°	°	57½	°	52.5	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°

* Estimated.

[illegible]

* Estimated.

*SERIES OF TEMPERATURES TAKEN BY THE SPEEDWELL SEPTEMBER 25 AND 29, 1879.

Sept. 25	1	17	55.5	50.75	47.8	+	44.2	43.2	44.9
25	2	21	55		47	+			
26	3	22	50	50.5	45	+			
27	4	24	57.5		46.5	+	44.2		
28	5	21	57.2	56.5	45	+			
29	6	21	57.5	50.2	45.2	+			
30	7	19	58.5	57.5	46.1	+			
31	8	19	58.5	57.5	46	+			
Oct. 1	9	24	59.2	57	44.8	+	44.8		
2	10	26	59.5	57	44	+	44		
3	11	30	59.5	57	46	+	44		
4	12	33	60	56.2	48	+	44		
5	13	34	59.2	56	51.1	+	44.2		
6	14	11	58	51.5		+			
7	15	23	57.2	54.5		+	52.5		
8	16	19	58	54	49	+			
9	17	26	57	56.2	46.5	+	46.5		
10	18	28	57	55		+	45		
11	19	40	57.8	57.2	48	+	44		
12	20	32	57	55.2	47	+	44		
13	21	21	57	55.2	45	+			
14	22	28	56.5	56.2	46	+	46		
15	23	33	57.5	57	45	+			
16	24	30	58	58	45	+	44		
17	25	27	58	59		+	44.9		

* See pages 37 and 38.

