

DREDGING STATIONS OF THE U. S. FISH COMMISSION
STEAMER FISH HAWK, LIEUT. Z. L. TANNER COMMAND-
ING, FOR 1880, 1881, AND 1882, WITH TEMPERATURE AND
OTHER OBSERVATIONS.

[Arranged for publication by Richard Rathbun.]

In the summer of 1880, the headquarters of the United States Fish Commission were established at Newport, R. I., and the steamer Fish Hawk, then newly constructed, made its dredging and trawling trips from there, whenever the weather permitted. The field of explorations for the summer included Narragansett Bay, Sakonnet River, and the regions to the northward, eastward, and southward of Block Island. In September and the first part of October, three trips were made by the Fish Hawk to the inner edge of the Gulf Stream slope, between latitudes $40^{\circ} 05' 42''$ N. and $39^{\circ} 46'$ N., and longitudes $70^{\circ} 22' 06''$ W. and $71^{\circ} 10'$ W., in depths of 64 to 487 fathoms, resulting in the discovery of a new and exceedingly rich fauna, both as regards fish and marine invertebrates. On her passage to Washington in November, the Fish Hawk also trawled off the mouth of Chesapeake Bay, in depths of 18 to 300 fathoms.

During the summers of 1881 and 1882, the headquarters of the Commission were at Wood's Holl, Mass. As the shallow waters of this region had been quite fully explored by the Commission in 1871 and 1875, very little time was expended in work near land; but advantage was taken of all pleasant weather to still further investigate the rich faunal region of the Gulf Stream slope, discovered the previous year. Seven trips were made to this region, in 1881, between latitudes $39^{\circ} 40'$ N. and $40^{\circ} 22'$ N., and longitudes $69^{\circ} 15'$ W. and $71^{\circ} 32'$ W., in depths of 43 to 782 fathoms. A line of dredgings and trawlings, at intervals of about four miles, was made from off Noman's Land to the Gulf Stream slope, in order to connect the inshore with the offshore stations; and a few trips were also made in Vineyard Sound, Buzzard's Bay, and off Chatham, Cape Cod, on, and in the vicinity of, Crab Ledge. Cod trawl-lines were set on most of the outside trips, for the purpose of catching fish that would not enter the beam-trawl.

In 1882, five deep-water trips, were made to the same region, extending the area of dredgings considerably beyond its former eastern and western limits. A few hauls of the dredge and beam-trawl were taken in Vineyard Sound, and one trip was made to the one-hundred fathom line, off the eastern side of Cape Cod. The most eastern haul on the Gulf Stream slope for 1882, was in latitude $40^{\circ} 08'$ N. and longitude $68^{\circ} 45'$ W.; and the most western in latitude $39^{\circ} 31'$ N. and longitude $72^{\circ} 06'$ W.; the deepest haul was in 787 fathoms. Cod-trawls were set on two of the trips only.

The temperatures of the air were taken, in part, with a Jas. Green, in part with a Signal Service, thermometer; the temperatures of the bottom and surface waters were obtained by means of Negretti and Zambra deep-sea thermometers. The bearings are all magnetic. As the bearings and latitudes and longitudes indicate only the points at which the dredge or trawl was lowered upon the bottom, the direction of the drift of the vessel and the distance gone over in dredging and trawling have been given in most cases, to show the extent of the hauls. The figures in the column of "Drift" indicate the distance of the drift in miles. The abbreviations in the column of "Apparatus used" have the following significations: D., dredge; R. D., rake-dredge; O. D., oyster-dredge; T., trawl; O. T., otter-trawl; B. T., Blake-trawl; Tan., tangles; C. T., cod-trawl.

The New York fishing schooner, Josie Reeves, Capt. F. M. Redmond, employed by the Fish Commission to look for the tile fish (*Lopholatilus chamaeleonticeps*) in the neighborhood of the one-hundred fathom line, south of Martha's Vineyard, made five stations in that region, which for convenience sake have been given numbers in the regular series from 1145 to 1149, inclusive. She used cod trawl-lines and lobster-pots.

Dredging stations of the steamer Fish Hawk for 1880, 1881, and 1882—Continued.

| Serial number. | Date. | Hour. | Latitude N. | Longitude W. | Locality. | Drift. | Depth in fathoms. | Temperature. | | | Nature of bottom. | Direction of surface current. |
|----------------|---------|-------------|-------------|--------------|---|-------------------------|-------------------|------------------------|-------|---------|-------------------|-------------------------------|
| | | | | | | | | Air. | Surf. | Bottom. | | |
| | 1880. | | o " " | o " | Narragansett Bay: | | | | | | | |
| 801 | Aug. 16 | 12.20 p. m. | | | Poplar Point Lights, W. by N., 2½ miles. | | 4½ | Mud | 65.0 | 71.0 | 68.0 | T. |
| 802 | Aug. 16 | 2.15 | | | Halfway Rock, W. ¼ of a mile. | | 12½ | do | 68.0 | 70.5 | 62.0 | T. |
| 803 | Aug. 16 | 3.25 | | | Halfway Rock, N. by E. ¼ E., 2½ miles. | | 20 | Fine sandy mud | 67.0 | 69.0 | 60.0 | D. |
| | | | | | Off Newport, R. I. (Brown's Ledge): | | | | | | | |
| 804 | Aug. 17 | 11.15 a. m. | | | Cuttyhunk Light, N.E. by E., 6½ miles. | NW. by W., ¼ mile. | 11½ | Rocks and sand | 68.0 | 66.0 | 59.0 | D. |
| 805 | Aug. 17 | | | | Close to No. 804. | | 11½ | Fine gravel | | | | D. |
| 806 | Aug. 17 | 12.00 m. | | | Cuttyhunk Light, E.N.E., 7½ miles. | W.S.W., ¼ mile. | 14 | do | 60.0 | 67.0 | 58.0 | Tan. |
| 807 | Aug. 17 | 12.30 p. m. | | | Cuttyhunk Light, N.E. by E., ¾ E., 7½ miles. | SW. by S., ¼ mile. | 12½ | Fine gravel and stones | 70.0 | 67.0 | 60.0 | D. |
| 808 | Aug. 17 | 1.20 | | | Cuttyhunk Light, N.E. by E. ¼ E., 8 miles. | SW. by S. ½ S., ¼ mile. | 13 | do | 70.0 | 67.0 | 60.0 | D. |
| | | | | | Off Newport, R. I.; SW. of Brown's Ledge: | | | | | | | |
| 809 | Aug. 17 | 1.55 | | | Cuttyhunk Light, N.E. by E., 12 miles. | W. ¼ S., ¼ mile. | 21½ | Fine sand | 70.0 | 67.0 | 52.0 | D. |
| 810 | Aug. 17 | 2.15 | | | Cuttyhunk Light, N.E. by E., 12½ miles. | W.N.W., ¼ mile. | 21 | Fine sand and gravel | 70.0 | 67.0 | 52.0 | T. |
| | | | | | Off Newport, R. I.; W. of Brown's Ledge: | | | | | | | |
| 811 | Aug. 17 | 2.20 | | | Cuttyhunk Light, N.E. by E., 12½ miles. | SW., ¼ mile. | 19½ | Fine sandy mud | 69.0 | 67.0 | 53.0 | D. |
| | | | | | Off Block Island: | | | | | | | |
| 812 | Aug. 18 | 11.30 a. m. | | | Block Island Light, N.N.W. ¼ W., 20 miles. | NW., ¼ mile. | 28½ | Sand | 70.0 | 66.0 | 46.0 | D. |
| 813 | Aug. 18 | 11.55 | | | Block Island Light, N.N.W. ¼ W., 20 miles. | SE., ¼ mile. | 28½ | do | 70.0 | 67.0 | 46.0 | T. |
| 814 | Aug. 18 | 1.00 p. m. | | | Block Island Light, N.N.W. ¼ W., 18 miles. | SW., ¼ mile. | 27½ | Sand and gravel | 72.0 | 72.0 | 46.0 | T. |
| 815 | Aug. 18 | 2.15 | | | Block Island Light, NW. by N., 17 miles. | SW., ¼ mile. | 29 | Fine sand | 72.0 | 72.0 | 48.0 | R. D. |
| | | | | | Narragansett Bay: | | | | | | | |
| 816 | Aug. 23 | 10.25 a. m. | | | Brenton's Reef Light-ship, E. ¼ S., 2½ miles. | SE., ¼ mile. | 8½ | Sand and broken shells | 71.0 | 69.0 | 66.0 | D. |
| 817 | Aug. 23 | 11.00 | | | Brenton's Reef Light-ship, E. ¼ N., 3 miles. | SE., ¼ mile. | 10 | do | 72.0 | 68.0 | 63.0 | D. |
| 818 | Aug. 23 | 11.20 | | | Brenton's Reef Light-ship, E. ¼ N., 3½ miles. | SE., ¼ mile. | 9½ | do | 72.0 | 68.0 | 65.0 | D. |
| 819 | Aug. 23 | 1.00 p. m. | | | South end Hope Island, SE. by E. ¼ E., ¼ mile. | W.S.W., ¼ mile. | 6 | Mud and broken shells | 74.0 | 73.0 | 70.0 | T. |
| 820 | Aug. 23 | 1.40 | | | South end Hope Island, N.N.E., ¼ mile. | W. by S., ¼ mile. | 5½ | do | 76.0 | 72.0 | 70.0 | T. |
| 821 | Aug. 23 | 2.15 | | | South end Hope Island, N. by E., ¼ mile. | SW., ¼ mile. | 5 | do | 78.0 | 72.0 | 70.0 | T. |
| 822 | Aug. 23 | 3.00 | | | South end Hope Island, N.E., ¼ mile. | W., ¼ mile. | 4½ | do | 78.0 | 71.0 | 70.0 | T. |
| | | | | | North of Block Island: | | | | | | | |
| 823 | Aug. 24 | 12.35 | | | North Light of Block Island, W. ¼ S., 1½ miles. | NW., ¼ mile. | 15½ | Sand | 74.0 | 68.0 | 60.0 | D. |
| 824 | Aug. 24 | 12.50 | | | North Light of Block Island, SW. ¼ W., 1 mile. | NW., ¼ mile. | 13 | do | 74.0 | 65.0 | 67.0 | T. |

| | | | | | | | | | | |
|---------------------------------|--------|-------------|---|--|------------------|-----------------------------|------|------|------|-------|
| 825 | Aug 24 | 1.30 | North Light of Block Island, W. SW. $\frac{1}{2}$ W., $\frac{1}{2}$ miles. | NW., $\frac{1}{2}$ mile. | 13 | do | 73.0 | 67.0 | 60.0 | O. T. |
| 826 | Aug 24 | 2.40 | North Light of Block Island, W. NW. $\frac{1}{2}$ W., $\frac{1}{2}$ miles. | S. SW., $\frac{1}{2}$ mile | 22 | do | 73.0 | 67.0 | 57.0 | D. |
| 827 | Aug 24 | 3.05 | North Light of Block Island, W. NW. $\frac{1}{2}$ W., $\frac{1}{2}$ miles. | | 20 $\frac{1}{2}$ | do | 71.0 | 67.0 | 57.0 | B. T. |
| 828 | Aug 25 | 12.40 | North Light of Block Island, SW. by W. $\frac{1}{2}$ W., $\frac{1}{2}$ miles. | E. NE., $\frac{1}{2}$ mile | 15 | do | 70.0 | 66.0 | 60.0 | D. |
| Mouth of Sakonnet River, R. I.: | | | | | | | | | | |
| 829 | Aug 27 | 10.45 a. m. | Cormorant Rock, NW. by N., $\frac{1}{2}$ mile | S. by E., $\frac{1}{2}$ mile. | 9 | Gravel and stones | 63.0 | 66.0 | 65.0 | D. |
| 830 | Aug 27 | 11.15 | West Island, SE. by E., $\frac{1}{2}$ E., $\frac{1}{2}$ mile | NE., $\frac{1}{2}$ E., $\frac{1}{2}$ mile. | 10 $\frac{1}{2}$ | Sand and gravel | 64.0 | 66.0 | 65.0 | D. |
| Sakonnet River, R. I.: | | | | | | | | | | |
| 831 | Aug 27 | 12.30 p. m. | North end of Gould Island, SW. $\frac{1}{2}$ W., 350 yards. | S., $\frac{1}{2}$ mile. | 6 | Dark, soft fetid mud | 68.0 | 71.0 | 71.0 | D. |
| 832 | Aug 27 | 12.45 | North end of Gould Island, W., 150 yards. | S., $\frac{1}{2}$ mile. | 9 | do | 70.0 | 71.0 | 71.0 | D. |
| 836 | Aug 27 | 1.00 | South end of Gould Island, W., 100 yards. | S., $\frac{1}{2}$ mile. | 6 $\frac{1}{2}$ | do | 70.0 | 71.0 | 71.0 | R. D. |
| 834 | Aug 27 | 1.30 | McCurry's Point, W. SW., $\frac{1}{2}$ mile. | N. by E., $\frac{1}{2}$ mile. | 11 | do | 63.0 | 73.0 | 71.0 | R. D. |
| 835 | Aug 27 | 1.50 | McCurry's Point, N. $\frac{1}{2}$ E., $\frac{1}{2}$ miles. | N., $\frac{1}{2}$ mile | 3 $\frac{1}{2}$ | Soft mud and broken shells. | 68.0 | 73.0 | 71.0 | R. D. |
| 836 | Aug 27 | 2.25 | Black Point, W. $\frac{1}{2}$ N., $\frac{1}{2}$ mile | S. SW., $\frac{1}{2}$ mile. | 5 | Sand. | 66.0 | 71.0 | 71.0 | R. D. |
| 837 | Aug 27 | 2.45 | Black Point, NW. by W. $\frac{1}{2}$ W., $\frac{1}{2}$ mile | S. by E., $\frac{1}{2}$ mile. | 5 | do | 69.0 | 71.0 | 71.0 | T. |
| 838 | Aug 27 | 3.15 | Wood's Castle, W. by N., $\frac{1}{2}$ mile. | S. by E., $\frac{1}{2}$ mile. | 5 $\frac{1}{2}$ | do | 66.0 | 70.0 | 68.0 | T. |
| Narragansett Bay: | | | | | | | | | | |
| 839 | Aug 31 | 9.50 a. m. | Dumplings, NW. $\frac{1}{2}$ N., 300 yards. | SW., $\frac{1}{2}$ mile | 27 $\frac{1}{2}$ | Gravel and sand | 67.0 | 67.0 | 61.0 | D. |
| 840 | Aug 31 | 10.05 | Dumplings, N. by W. $\frac{1}{2}$ W., 100 yards. | SW., $\frac{1}{2}$ mile | 20 $\frac{1}{2}$ | do | 67.0 | 67.0 | 61.0 | D. |
| 841 | Aug 31 | 10.45 | Goat Island Light, NE. by E. $\frac{1}{2}$ E., $\frac{1}{2}$ mile. | S., $\frac{1}{2}$ mile. | 21 | Mud, sand, large stones | 68.0 | 67.0 | 60.0 | D. |
| 842 | Aug 31 | 11.00 | Goat Island Light, E. NE. $\frac{1}{2}$ E., $\frac{1}{2}$ mile. | | 8 | Sand. | 69.0 | 67.0 | 67.0 | D. |
| 843 | Aug 31 | 12.00 m. | North end Dyer's Island, NE. $\frac{1}{2}$ E., $\frac{1}{2}$ mile. | N., $\frac{1}{2}$ mile | 14 $\frac{1}{2}$ | do | 69.0 | 68.0 | 63.0 | T. |
| 844 | Aug 31 | 12.30 p. m. | North end Dyer's Island, SE. $\frac{1}{2}$ E., $\frac{1}{2}$ mile. | W. SW., $\frac{1}{2}$ mile. | 11 $\frac{1}{2}$ | do | 70.0 | 69.0 | 63.0 | T. |
| 845 | Aug 31 | 1.00 | Prudence Light, N. $\frac{1}{2}$ W., $\frac{1}{2}$ mile | | 14 $\frac{1}{2}$ | Gravel | 70.0 | 69.0 | 64.0 | T. |
| 846 | Aug 31 | 1.35 | Prudence Light, N. by E. $\frac{1}{2}$ E., $\frac{1}{2}$ miles. | E. NE., $\frac{1}{2}$ mile | 14 $\frac{1}{2}$ | Sandy mud and broken shells | 70.0 | 68.0 | 63.0 | R. D. |
| 847 | Aug 31 | 2.15 | Half Way Rock, N. $\frac{1}{2}$ W., $\frac{1}{2}$ mile | N. NE., $\frac{1}{2}$ mile | 12 $\frac{1}{2}$ | Mud. | 70.0 | 68.0 | 62.0 | T. |
| 848 | Aug 31 | 3.00 | Bishop's Rocks, E. $\frac{1}{2}$ mile. | N., $\frac{1}{2}$ | 15 $\frac{1}{2}$ | Mud. | 69.0 | 68.0 | 62.0 | T. |
| 849 | Sept 1 | 9.20 a. m. | Fort Dumpling, W. NW. $\frac{1}{2}$ W., $\frac{1}{2}$ mile. | SW., $\frac{1}{2}$ | 20 | Sand, gravel, stones | 67.0 | 67.0 | 63.0 | R. D. |
| 850 | Sept 1 | 9.40 | Fort Dumpling, E. NE. $\frac{1}{2}$ E., $\frac{1}{2}$ mile | S. SW., $\frac{1}{2}$ | 14 $\frac{1}{2}$ | Sand and shells | 67.0 | 67.0 | 63.0 | R. D. |
| 851 | Sept 1 | 10.00 | Beaver Tail Light, SW. $\frac{1}{2}$ W., $\frac{1}{2}$ miles. | S., $\frac{1}{2}$ | 12 $\frac{1}{2}$ | Sand and gravel | 66.0 | 67.0 | 68.0 | R. D. |
| 852 | Sept 1 | 10.35 | Beaver Tail Light, S. SW. $\frac{1}{2}$ W., $\frac{1}{2}$ miles | S., $\frac{1}{2}$ | 2 $\frac{1}{2}$ | Sand. | 67.0 | 67.0 | 68.0 | T. |
| 853 | Sept 1 | 10.50 | Beaver Tail Light, SW by S., 2 miles. | S., $\frac{1}{2}$ | 4 $\frac{1}{2}$ | Sand. | 68.0 | 67.0 | 67.0 | T. |
| 854 | Sept 1 | 11.10 | Beaver Tail Light, SW. $\frac{1}{2}$ S., $\frac{1}{2}$ miles. | S., $\frac{1}{2}$ | 6 | Sand | 69.0 | 67.0 | 67.0 | T. |
| 855 | Sept 1 | 11.40 | Beaver Tail Light, SW. by S., 2 miles. | S., $\frac{1}{2}$ | 3 $\frac{1}{2}$ | Sand. | 70.0 | 68.0 | 68.0 | T. |
| 856 | Sept 1 | 12.05 p. m. | Beaver Tail Light, SW. $\frac{1}{2}$ W., $\frac{1}{2}$ miles. | S. SE., $\frac{1}{2}$ | 11 | Sand, gravel, shells. | 69.0 | 68.0 | 67.0 | R. D. |
| 857 | Sept 1 | 12.35 | Beaver Tail Light, W. SW. $\frac{1}{2}$ W., $\frac{1}{2}$ mile. | SE., $\frac{1}{2}$ | 19 | Sand. | 69.0 | 63.0 | 66.0 | R. D. |
| 858 | Sept 1 | 1.05 | Beaver Tail Light, W. NW. $\frac{1}{2}$ W., $\frac{1}{2}$ mile. | E., $\frac{1}{2}$ | 14 | Coarse sand, broken shells | 69.0 | 63.0 | 66.0 | R. D. |
| Vineyard Sound: | | | | | | | | | | |
| 859 | Sept 3 | 11.20 a. m. | Cuttyhunk Light, N. $\frac{1}{2}$ W., 3 miles | W., $\frac{1}{2}$ | 17 $\frac{1}{2}$ | Sand and mud | 68.0 | 68.0 | 63.0 | R. D. |
| 860 | Sept 3 | 11.55 | Cuttyhunk Light, N. $\frac{1}{2}$ W., 3 miles | W., $\frac{1}{2}$ | 17 $\frac{1}{2}$ | do | 70.0 | 68.0 | 64.0 | R. D. |
| 861 | Sept 3 | 12.20 p. m. | Cuttyhunk Light, N. $\frac{1}{2}$ W., 3 $\frac{1}{2}$ miles | S., $\frac{1}{2}$ | 17 | Sand. | 69.0 | 68.0 | 61.0 | T. |
| 862 | Sept 3 | 12.55 | Cuttyhunk Light, N., 4 miles | S., $\frac{1}{2}$ | 17 | do. | 68.0 | 68.0 | 64.0 | T. |
| 863 | Sept 3 | 1.40 | Cuttyhunk Light, N. $\frac{1}{2}$ E., 3 $\frac{1}{2}$ miles | S., $\frac{1}{2}$ | 18 | Sand and mud | 70.0 | 67.0 | 65.0 | R. D. |
| 864 | Sept 3 | 3.00 | Gay Head Light, S. SW., $\frac{1}{2}$ W., 5 $\frac{1}{2}$ miles | S., $\frac{1}{2}$ | 13 | Sand and broken shells | 70.0 | 67.0 | 61.0 | D. |

Dredging stations of the steamer Fish Hawk for 1880, 1881, and 1882—Continued.

| Serial num- ber. | Date. | Hour. | Latitude N. | Longi- tude W. | Locality. | Drift. | Depth in fathoms. | Nature of bottom. | Temperatures. | | | Apparatus used. |
|---------------------|----------|------------|----------------|-------------------|--|---------------------------------|----------------------|---|---------------|-------|--------------|--------------------|
| | | | | | | | | | Air. | Surf. | Bot- tom. | |
| | 1880. | | o ' n | o ' " | Atlantic Ocean: | | | | | | | |
| 865 | Sept. 4 | 5.40 a.m. | 40 05 | 70 23 | Off Martha's Vineyard..... | E.NE, $\frac{1}{2}$ | 65 | Compact fine sand and mud. | 71.0 | 73.0 | 68. | T. |
| 866 | Sept. 4 | 6.30 | 40 05 18 | 70 22 18 |do..... | NE, by E, $\frac{1}{2}$ | 65 | Fine sand and mud..... | 73.0 | 73.0 | 68.5 | T. |
| 867 | Sept. 4 | 7.04 | 40 05 42 | 70 22 06 |do..... | E.SE, $\frac{1}{2}$ | 64 | Compact hard sand and broken shells. | 75.0 | 73.0 | 53.0 | R.D. |
| 868 | Sept. 4 | 8.23 | 40 01 42 | 70 22 30 |do..... | NW, $\frac{1}{2}$ | 162 | Fine sand and black specks. | 75.0 | 75.0 | 47.0 | T. |
| 869 | Sept. 4 | 9.27 | 40 02 18 | 70 23 08 |do..... | N.NE, $\frac{1}{2}$ | 192 | Fine sand..... | 80.0 | 78.0 | 50.0 | T. |
| 870 | Sept. 4 | 10.57 | 40 02 36 | 70 22 58 |do..... | W. by N, 1..... | 155 | Mud and fine sand..... | 80.0 | 77.0 | ..... | T. |
| 871 | Sept. 4 | 11.40 | 40 02 54 | 70 23 40 |do..... | N.NW, $\frac{1}{2}$ | 115 | Mud and fine sand..... | 84.0 | 70.5 | 40.0 | T. |
| 872 | Sept. 4 | 12.45 p.m. | 40 05 39 | 70 23 52 |do..... | NW by N, $\frac{1}{2}$ | 86 | Sand, gravel, shells, and sponges. | 81.0 | 77.0 | 50.5 | T. |
| 873 | Sept. 13 | 5.36 a.m. | 40 02 | 70 37 |do..... | NW by N, $\frac{1}{2}$ | 100 | Soft sticky mud..... | 68.0 | 69.5 | 51.0 | T. |
| 874 | Sept. 13 | 6.26 | 40 00 00 | 70 57 60 |do..... | NW, $\frac{1}{2}$ mile..... | 85 |do..... | 70.0 | 70.0 | 51.0 | T. |
| 875 | Sept. 13 | 7.51 | 39 57 00 | 70 57 30 |do..... | NE, $\frac{1}{2}$ mile..... | 126 |do..... | 70.0 | 70.0 | 53.0 | T. |
| 876 | Sept. 13 | 8.45 | 39 57 00 | 70 56 00 |do..... | N, $\frac{1}{2}$ mile..... | 120 |do..... | 68.0 | 70.0 | 53.0 | T. |
| 877 | Sept. 13 | 9.40 | 39 56 00 | 70 54 18 |do..... | N.NW, $\frac{1}{2}$ mile..... | 126 |do..... | 71.0 | 71.0 | 57.0 | T. |
| 878 | Sept. 13 | 11.00 | 39 55 00 | 70 54 15 |do..... | NW, $\frac{1}{2}$ mile..... | 142 | Mud..... | 72.0 | 71.0 | 52.0 | T. |
| 879 | Sept. 13 | 1.20 p.m. | 39 49 30 | 70 54 00 |do..... | N by W, $\frac{1}{2}$ mile..... | 225 | Sand and blue mud..... | 73.0 | 71.5 | 42.0 | T. |
| 880 | Sept. 13 | 3.12 | 39 48 30 | 70 54 00 |do..... | W by N, $\frac{1}{2}$ mile..... | 252 | Mud..... | 74.0 | 71.5 | 43.0 | T. |
| 881 | Sept. 13 | 5.00 | 39 46 30 | 70 51 00 |do..... | W.N.W., $\frac{1}{2}$ mile..... | 325 |do..... | 70.0 | 71.0 | 42.0 | T. |
| | | | | | Narragansett Bay: | | | | | | | |
| 882 | Sept. 17 | 10.56 a.m. | ..... | ..... | Halfway Rock, N.NE. $\frac{1}{2}$ E, 2 $\frac{1}{2}$ miles..... | SW, $\frac{1}{2}$ mile..... | 12 | Mud..... | 68.0 | 65.0 | 67.0 | T. |
| 883 | Sept. 17 | 11.35 | ..... | ..... | Halfway Rock, NE by N, 2 $\frac{1}{2}$ miles..... | SW, $\frac{1}{2}$ mile..... | 13 |do..... | 70.0 | 65.0 | 63.5 | T. |
| 884 | Sept. 17 | 2.10 p.m. | ..... | ..... | Hope Island, NE $\frac{1}{2}$ E, 200 yards..... | SW, $\frac{1}{2}$ mile..... | 5 |do..... | 72.0 | 65.0 | 63.5 | R.D. |
| 885 | Sept. 17 | 2.15 | ..... | ..... | Gould Island, N. by E. $\frac{1}{2}$ E, $\frac{1}{2}$ mile..... | S, $\frac{1}{2}$ mile..... | 16 | Mud and shells..... | 71.0 | 63.0 | 65.0 | O.T. |
| | | | | | Off Block Island: | | | | | | | |
| 886 | Sept. 21 | 12.49 | ..... | ..... | South Light of Block Island, N. $\frac{1}{2}$ E, 5 $\frac{1}{2}$ miles..... | N, $\frac{1}{2}$ mile..... | 19 | Shells and coarse gravel..... | 67.0 | 64.0 | 62.0 | D. |
| 887 | Sept. 21 | 1.30 | ..... | ..... | South Light of Block Island, N. $\frac{1}{2}$ W, 5 $\frac{1}{2}$ miles..... | W, $\frac{1}{2}$ mile..... | 19 |do..... | 67.0 | 64.0 | 62.0 | T. |
| 888 | Sept. 21 | 2.00 | ..... | ..... | South Light of Block Island, N. by E, 6 miles..... | W, $\frac{1}{2}$ miles..... | 19 |do..... | 68.0 | 64.0 | 62.0 | T. |
| 889 | Sept. 21 | 3.50 | ..... | ..... | South Light of Block Island, W. $\frac{1}{2}$ S, 5 miles..... | W.S.W., $\frac{1}{2}$ mile..... | 11 | Hard sand and rocks..... | 63.0 | 61.0 | 61.5 | D. |
| 890 | Sept. 21 | 4.15 | ..... | ..... | South Light of Block Island, W. $\frac{1}{2}$ S, 4 $\frac{1}{2}$ miles..... | W.S.W., $\frac{1}{2}$ mile..... | 11 |do..... | 68.0 | 64.0 | 61.5 | D. |
| 891 | Oct. 2 | 6.00 a.m. | 39 46 00 | 71 10 00 | Atlantic Ocean, off Martha's Vineyard..... | N, $\frac{1}{2}$ mile..... | 4807 | Soft, brown mud..... | 60.0 | 67.0 | ..... | T. |
| 892 | Oct. 2 | 8.46 | 39 46 00 | 71 05 00 |do..... | N.N.E., 2 miles..... | 487 | Soft, brown mud and small stone. | 64.0 | 65.0 | ..... | T. |
| 893 | Oct. 2 | 11.23 | 39 52 20 | 70 58 00 |do..... | N, 1 mile..... | 372 |do..... | 63.0 | 64.0 | 40.0 | T. |
| 894 | Oct. 2 | 1.10 p.m. | 39 53 00 | 70 38 30 |do..... | N, 2 miles..... | 386 |do..... | 62.0 | 64.0 | 40.0 | T. |

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|-----|---------|------------|----------|----------|---|---|-------------------|---|-------|-------|-------|-------|
| 885 | Oct. 2 | 3.17 | 39 56 30 | 70 59 45 |do..... | N. $\frac{1}{2}$ miles..... | 238 | Soft mud..... | 62.0 | 65.0 | 42.0 | T. |
| 886 | Nov. 16 | 8.20 a.m. | 37 26 00 | 74 19 00 | Atlantic Ocean, off mouth of Chesapeake Bay. | W.N.W., $\frac{1}{2}$ mile..... | 50 | Sand, shells..... | 52.0 | 62.0 | 55.0 | T. |
| 887 | Nov. 16 | 10.10 | 37 25 00 | 74 18 00 |do..... | W., 1 mile..... | 157 $\frac{1}{2}$ | Sand, mud..... | 62.0 | 67.0 | 48.0 | T. |
| 888 | Nov. 16 | 11.25 | 37 24 00 | 74 17 00 |do..... | W., 1 mile..... | 300 | Mud..... | 60.0 | 62.0 | 44.0 | T. |
| 889 | Nov. 16 | 1.55 p.m. | 37 22 00 | 74 29 00 |do..... | SW, $\frac{1}{2}$ mile..... | 57 $\frac{1}{2}$ | Sand..... | 58.0 | 61.0 | 54.0 | T. |
| 890 | Nov. 16 | 4.00 | 37 19 00 | 74 41 00 |do..... | W., $\frac{1}{2}$ mile..... | 31 | Sand..... | 55.0 | 59.0 | 56.0 | T. |
| 891 | Nov. 16 | 7.15 | 37 10 00 | 75 06 00 |do..... | W., $\frac{1}{2}$ mile..... | 18 |do..... | 53.0 | 60.0 | ..... | T. |
| 892 | } | ..... | ..... | ..... | Shallow water dredgings on the oyster beds, off Point Lookout, Potomac River, Virginia, by the Fish Hawk. | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 916 | | | | | | | | | | | | |
| 917 | 1881. | 4.10 a.m. | 40 22 00 | 70 42 00 | Atlantic Ocean, off Martha's Vineyard..... | NE, $\frac{1}{2}$ mile..... | 44 | Green mud..... | 66.0 | 63.0 | 42.0 | T. |
| 916 | July 16 | 5.33 | 40 20 24 | 70 41 30 |do..... | N. NE, $\frac{1}{2}$ mile..... | 46 |do..... | 67.0 | 63.0 | 42.0 | T. |
| 919 | July 16 | 7.00 | 40 16 18 | 70 41 18 |do..... | NE, 1 mile..... | 53 |do..... | 70.0 | 66.0 | 42.5 | T. |
| 920 | July 16 | 8.20 | 40 13 00 | 70 41 51 |do..... | W. by S., 1 mile..... | 63 |do..... | 72.0 | 66.0 | 49.0 | T. |
| 921 | July 16 | 9.40 | 40 07 48 | 70 43 54 |do..... | W., 1 mile..... | 67 |do..... | 75.0 | 70.0 | 52.0 | T. |
| 922 | July 16 | 10.57 | 40 03 48 | 70 45 54 |do..... | N. by W., 1 mile..... | 71 | Green mud and sand..... | 76.0 | 72.0 | 52.0 | T. |
| 923 | July 16 | 12.27 p.m. | 40 01 24 | 70 46 00 |do..... | W.N.W., $\frac{1}{2}$ miles..... | 98 | Sand..... | 74.5 | 72.0 | 52.0 | T. |
| 924 | July 16 | 1.52 | 39 57 30 | 70 46 00 |do..... | N.W., 2 miles..... | 164 |do..... | 74.5 | 71.0 | 44.5 | T. |
| 925 | July 16 | 3.35 | 39 55 00 | 70 47 00 |do..... | N.W. by W., $\frac{1}{2}$ miles..... | 229 | Sand and mud..... | 74.0 | 71.0 | 42.0 | T. |
| 926 | July 16 | 5.24 | 39 56 00 | 70 46 00 |do..... | N.W. $\frac{1}{2}$ N., $\frac{1}{2}$ miles..... | 189 |do..... | 74.0 | 71.0 | 44.0 | T. |
| 927 | July 20 | 10.47 a.m. | ..... | ..... | Vineyard Sound: Menemsha Light; Gay Head Light, W. by S. $\frac{1}{2}$ S., $\frac{1}{2}$ miles..... | W.N.W., $\frac{1}{2}$ mile..... | 11 | Sand..... | 62.0 | 62.0 | 59.0 | T. |
| 928 | July 20 | 11.30 | ..... | ..... | Gay Head Light, W. $\frac{1}{2}$ S., $\frac{1}{2}$ miles..... | W. by N., $\frac{1}{2}$ mile..... | 10 |do..... | 69.0 | 62.5 | 60.0 | T. |
| 929 | July 20 | 12.35 p.m. | ..... | ..... | Off Quick's Hole; Gay Head Light, S. by W., $\frac{1}{2}$ miles..... | SE. by S., $\frac{1}{2}$ mile..... | 10 |do..... | 66.0 | 63.0 | 62.0 | D. |
| 930 | July 20 | 1.10 | ..... | ..... | Gay Head Light, S. by W., $\frac{1}{2}$ miles..... | S. $\frac{1}{2}$ E., $\frac{1}{2}$ mile..... | 12 | Sand and shells..... | 65.0 | 63.0 | 62.0 | D. |
| 931 | July 20 | 1.42 | ..... | ..... | Off Robinson's Hole; Gay Head Light, SW. by S. $\frac{1}{2}$ S., $\frac{1}{2}$ miles..... | S. $\frac{1}{2}$ W., $\frac{1}{2}$ mile..... | 16 |do..... | 65.0 | 63.0 | 62.0 | D. |
| 932 | July 20 | 2.43 | ..... | ..... | Off Lackey's Bay; Tarpaulin Cove Light, W. by S. $\frac{1}{2}$ S., 3 miles..... | N.W. by W., $\frac{1}{2}$ mile..... | 14 | Rock..... | 67.0 | 66.0 | 66.0 | D. |
| 933 | July 20 | 3.30 | ..... | ..... | West Chop Light, S. $\frac{1}{2}$ E., $\frac{1}{2}$ mile..... | E.N.E., $\frac{1}{2}$ miles..... | 14 | Stones..... | 63.0 | 65.0 | 64.0 | D. |
| 934 | July 20 | 4.10 | ..... | ..... | Nobeka Light, W. $\frac{1}{2}$ S., $\frac{1}{2}$ miles..... | N.N.W., $\frac{1}{2}$ mile..... | 9 | Sand and gravel..... | 63.0 | 67.0 | 67.0 | T. |
| 935 | Aug. 4 | 8.14 a.m. | 39 45 00 | 69 44 45 | Atlantic Ocean: Off Martha's Vineyard..... | N.W. $\frac{1}{2}$ N., $\frac{1}{2}$ miles..... | 782 | Green mud and sand..... | 72.0 | 70.0 | 39.5 | T. |
| 936 | Aug. 4 | 10.43 | 39 43 30 | 69 47 00 |do..... | N.W. $\frac{1}{2}$ W., 2 miles..... | 716 | Green mud..... | 73.0 | 71.0 | 39.5 | T. |
| 937 | Aug. 4 | 12.45 p.m. | 39 40 25 | 69 40 00 |do..... | N., $\frac{1}{2}$ miles..... | 616 | Green mud and sand, with lumps of clay..... | 75.0 | 72.0 | 40.5 | T. |
| 938 | Aug. 4 | 2.44 | 39 51 00 | 69 49 15 |do..... | N.N.W., 2 miles..... | 317 | Green mud and sand..... | 80.0 | 72.5 | 42.0 | T. |
| 939 | Aug. 4 | 4.25 | 39 53 00 | 69 50 30 |do..... | N.N.W., $\frac{1}{2}$ miles..... | 284 |do..... | 73.0 | 73.0 | 47.0 | T. |
| 940 | Aug. 4 | 5.30 | 39 54 00 | 69 51 30 |do..... | N.N.W., $\frac{1}{2}$ W., 2 miles..... | 134 | Hard sand and sponges..... | 78.0 | 72.0 | 62.0 | T. |
| 941 | Aug. 4 | 7.45 | 40 01 00 | 69 56 00 |do..... | W.N.W., $\frac{1}{2}$ miles..... | 79 | Hard sand and mud..... | 74.0 | 71.0 | 62.0 | T. |
| 942 | Aug. 9 | 6.15 a.m. | 40 01 00 | 71 12 30 |do..... | SW. by W., 2 miles..... | 138 |do..... | 72.0 | 69.0 | 50.0 | D. |
| 943 | Aug. 9 | 7.10 | 40 00 00 | 71 14 30 |do..... | N.W. by N., $\frac{1}{2}$ miles..... | 157 | Mud, sand, and shells..... | 76.0 | 70.0 | 49.0 | D. |

Dredging stations of the steamer Fish Hawk for 1880, 1881, and 1882—Continued.

| Serial num- ber. | Date. | Hour. | Latitude N. | Longi- tude W. | Locality. | Drift. | Depth in fathoms. | Nature of bottom. | Temperature. | | | Apparatus used. |
|---------------------|----------------|------------|----------------|-------------------|---|--------------------------|----------------------|-----------------------------|--------------|-------|--------------|--------------------|
| | | | | | | | | | Air. | Surf. | Bot- tom. | |
| 944 | 1881 Aug. 9 | 8.27 a.m. | 0' " | 0' " | Atlantic Ocean: Off Martha's Vineyard | NW. by N, 1½ miles. | 128 | Mud, sand, and shells | 73.0 | 70.0 | 51.0 | T. |
| 945 | Aug. 9 | 12.05 p.m. | 39 58 00 | 71 13 00 |do | NW. by N, 2 miles. | 207 | Green mud and sand | 75.0 | 71.0 | 44.0 | T. |
| 946 | Aug. 9 | 2.00 | 39 55 30 | 71 14 00 |do | NW. by W, 1½ miles. | 247 |do | 75.5 | 71.0 | 47.0 | T. |
| 947 | Aug. 9 | 4.00 | 39 53 30 | 71 13 30 |do | W.N.W., 3 miles. | 319 | Sand and mud | 75.0 | 70.0 | 44.0 | T. |
| 948 | Aug. 13 | 5.20 | ..... | ..... | Buzzard's Bay: Penikese Island east, 2 miles..... | W.S.W., 1 mile.. | 7 | Black mud and shells | 76.0 | 67.0 | 66.0 | T. |
| 949 | Aug. 23 | 4.20 a.m. | 40 03 00 | 70 31 00 | Atlantic Ocean: Off Martha's Vineyard | N.N.W., 2 miles. | 100 | Yellow mud | 68.0 | 66.0 | 62.0 | R.D. |
| 950 | Aug. 23 | 5.50 | 40 07 00 | 70 32 00 |do | N.N.W., 1½ miles | 71 | Sand, shells, and mud..... | 69.0 | 65.0 | 52.0 | T. |
| 951 | Aug. 23 | 8.40 | 39 57 00 | 70 31 30 |do | N., 1½ miles | 225 | Mud | 78.0 | 67.5 | 41.0 | T. |
| 952 | Aug. 23 | 11.28 | 39 55 00 | 70 28 00 |do | NE. by N, 1½ miles. | 396 | Yellow mud and sand..... | 82.0 | 68.0 | 40.0 | T. |
| 953 | Aug. 23 | 2.30 p.m. | 39 52 30 | 70 17 30 |do | N.N.W., 1½ miles. | 724 | Mud | 77.0 | 68.0 | 39.5 | T. |
| 954 | Aug. 23 | 4.50 | 39 53 00 | 70 18 30 |do | N.N.W., 2 miles. | 651 | Sand and mud | 74.5 | 68.0 | 39.5 | T. |
| 955 | Aug. 26 | 10.50 a.m. | ..... | ..... | Buzzard's Bay: Nye's Neck, E. by S, ¼ mile | W. by S, ¼ S, ½ mile. | 7 | Sand..... | 60.0 | 67.5 | 68.0 | T. |
| 956 | Aug. 26 | 11.26 | ..... | ..... | Nye's Neck, S.S.E. ¼ E, ¼ mile..... | W. by S, ¼ mile. | 54 |do | 71.0 | 69.0 | 68.0 | T. |
| 957 | Aug. 26 | 11.45 | ..... | ..... | Nye's Neck, S.S.E. ¼ E, ¼ mile..... | W, ¼ N, ¼ mile.. | 6 | Sand and stones..... | 73.0 | 69.5 | 68.0 | T. |
| 958 | Aug. 26 | 12.20 p.m. | ..... | ..... | Nye's Neck, S. by E, ¼ E, ¼ mile..... | W.S.W., ½ mile.. | 5 | Sand, stones, shells..... | 75.0 | 70.0 | 68.0 | T. |
| 959 | Aug. 26 | 12.40 | ..... | ..... | Nye's Neck, S., ¼ mile | West, ¼ mile | 5 |do | 72.0 | 69.0 | 68.0 | T. |
| 960 | Aug. 26 | 1.10 | ..... | ..... | Nye's Neck, S ¼ E, ¼ mile..... | SW. by W, ½ mile. | 44 |do | 72.5 | 69.5 | 68.0 | T. |
| 961 | Aug. 26 | 1.52 | ..... | ..... | Nye's Neck, NE. ¼ E, 24 miles..... | W. by S, ¼ mile. | 8 | Black mud..... | 71.5 | 69.0 | 68.0 | T. |
| 962 | Aug. 26 | 3.10 | ..... | ..... | Woecket Island, NE. ¼ E, 14 miles | W.N.W., ½ mile.. | 8 | Black mud, sand..... | 71.0 | 68.0 | 66.0 | T. |
| 963 | Aug. 26 | 3.40 | ..... | ..... | Woecket Island, SE. ¼ S, 1 mile | W.S.W., ¼ mile.. | 84 | Brown mud..... | 70.0 | 68.0 | 66.0 | D. |
| 964 | Aug. 30 | 7.50 a.m. | ..... | ..... | Off Chatham, Cape Cod (Crab Ledge): Chatham Lights, N.W. ¼ W, 5 miles..... | S.S.E., ½ mile | 10 | Sand, gravel | 65.0 | 61.0 | 55.0 | D. |
| 965 | Aug. 30 | 8.15 | ..... | ..... | Chatham Lights, N.W. by W, 6 miles..... | SE. by E, ½ mile. | 15 |do | 65.0 | 61.0 | 53.0 | D. |
| 966 | Aug. 30 | 8.40 | ..... | ..... | Chatham Lights, N.W. by W, 6½ miles..... | SE., ½ mile | 16 | Sand, small stones | 65.0 | 61.0 | 52.0 | D. |
| 967 | Aug. 30 | 8.50 | ..... | ..... | Chatham Lights, N.W. by W, 6½ miles..... | SE., ½ mile | 16 | Sand, gravel | 66.0 | 61.0 | 52.0 | D. |
| 968 | Aug. 30 | 9.00 | ..... | ..... | Chatham Lights, N.W. by W, 7 ¼ miles. | N.W. by W, ½ mile. | 18 | Gravel..... | 66.0 | 61.5 | 50.5 | D. |
| 969 | Aug. 30 | 9.10 | ..... | ..... | Chatham Lights, N.W. by W, 7 ¼ miles. | SE., ¼ mile..... | 18 | Sand, pebbles | 66.0 | 61.5 | 51.0 | D. |
| 970 | Aug. 30 | 9.43 | ..... | ..... | Chatham Lights, W.N.W. ¼ W, 6 miles | W.N.W., ¼ mile.. | 13 |do | 67.0 | 61.0 | 54.0 | D. |
| 971 | Aug. 30 | 10.05 | ..... | ..... | Chatham Lights, W. ¼ N, 4½ miles..... | S.S.E., ¼ mile.. | 11 | Sand, gravel, pebbles..... | 67.0 | 61.5 | 54.0 | D. |

| | | | | | | | | | | | | |
|---------------|----------|-------------|----------|----------|--|---|-----|----------------------------|------|------|-------|-------|
| 872 | Aug. 30 | 10.48 | | | Chatham Lights, NW. by W. $\frac{1}{2}$ W., $7\frac{1}{2}$ miles. | NE. $\frac{1}{2}$ mile..... | 16 | Sand, gravel, stones..... | 67.0 | 62.0 | 52.0 | D. |
| 873 | Aug. 30 | 11.10 | | | Chatham Lights, W. NW. $\frac{1}{2}$ W., 6 $\frac{1}{2}$ miles..... | W. SW. $\frac{1}{2}$ mile.. | 17 | do | 67.0 | 62.0 | 51.0 | D. |
| 874 | Aug. 30 | 11.30 | | | Chatham Lights, W. NW. $\frac{1}{2}$ W., 6 $\frac{1}{2}$ miles..... | W. SW. $\frac{1}{2}$ mile.. | 16 | do | 67.0 | 62.0 | 51.0 | D. |
| 875 | Aug. 30 | 11.45 | | | Chatham Lights, W. NW. $\frac{1}{2}$ W., 6 $\frac{1}{2}$ miles..... | S. $\frac{1}{2}$ mile..... | 16 | do | 68.0 | 63.0 | 52.0 | D. |
| 876 | Aug. 30 | 12.00 m. | | | Chatham Lights, W. NW. $\frac{1}{2}$ W., 6 miles..... | S. SW. $\frac{1}{2}$ mile.. | 16 | do | 69.0 | 63.0 | 52.0 | D. |
| 877 | Aug. 30 | 12.20 p. m. | | | Chatham Lights, W. NW. $\frac{1}{2}$ W., 6 miles..... | W. by N. $\frac{1}{2}$ mile.. | 17 | do | 70.0 | 64.0 | 52.0 | D. |
| 878 | Aug. 30 | 12.30 | | | Chatham Lights, W. NW. $\frac{1}{2}$ W., 6 miles..... | W. by N. $\frac{1}{2}$ mile.. | 17 | do | 70.0 | 64.0 | 52.0 | D. |
| 879 | Aug. 30 | 12.40 | | | Chatham Lights, W. NW. $\frac{1}{2}$ W., 6 miles..... | W. by N. $\frac{1}{2}$ mile.. | 16 | Sand..... | 70.0 | 64.0 | 52.0 | D. |
| 880 | Aug. 30 | 1.00 | | | Chatham Lights, NW. by W. $\frac{1}{2}$ W., 4 $\frac{1}{2}$ miles. | SW. $\frac{1}{2}$ mile..... | 14 | Sand, stones, pebbles..... | 70.0 | 62.0 | 53.0 | D. |
| 881 | Aug. 30 | 2.10 | | | Chatham Lights, W. NW., 16 miles..... | S. $\frac{1}{2}$ W., $1\frac{1}{2}$ miles | 43 | Sand, gravel..... | 65.0 | 63.5 | 49.0 | T. |
| 882 | Aug. 30 | 2.45 | 41 36 | 69 55 | Off Chatham, Cape Cod..... | S. SW., $1\frac{1}{2}$ miles. | 42 | do | 65.0 | 63.5 | 41.5 | T. |
| 883 | Aug. 30 | 3.23 | 41 33 | 69 22 | do | S. by E., $\frac{1}{2}$ mile.. | 36 | Sand..... | 64.5 | 64.0 | 42.0 | T. |
| 884 | Aug. 30 | 4.07 | 41 31 | 69 28 | do | S. $\frac{1}{2}$ W., $\frac{1}{2}$ mile.. | 33 | Mud and sand..... | 64.0 | 63.5 | 41.5 | T. |
| | | | | | Atlantic Ocean: | | | | | | | |
| 985 | Sept. 7 | 12.55 p. m. | 41 | 70 49 | Off Martha's Vineyard..... | SW. by S., $1\frac{1}{2}$ miles. | 26 | Sand..... | 73.0 | 66.0 | 50.0 | T. |
| 986 | Sept. 7 | 2.00 | 40 55 | 70 48 | do | S. $\frac{1}{2}$ W., 1 mile.. | 28 | do | 73.0 | 67.0 | 49.0 | T. |
| 987 | Sept. 7 | 2.28 | 40 54 | 70 48 30 | do | S. $\frac{1}{2}$ mile..... | 28 | do | 73.0 | 67.0 | 49.0 | R. D. |
| 988 | Sept. 7 | 3.30 | 40 49 30 | 70 47 | do | S. $\frac{1}{2}$ mile..... | 30 | do | 73.0 | 67.0 | 49.5 | R. D. |
| 989 | Sept. 7 | 4.00 | 40 49 | 70 47 | do | S. $\frac{1}{2}$ mile..... | 30 | do | 73.0 | 67.0 | 49.5 | T. |
| 990 | Sept. 7 | 5.08 | 40 44 | 70 47 | do | S. $\frac{1}{2}$ W., $\frac{1}{2}$ mile.. | 34 | Green mud and sand..... | 71.5 | 60.0 | 47.0 | T. |
| 991 | Sept. 7 | 6.05 | 40 39 | 70 46 | do | S. $\frac{1}{2}$ W., $\frac{1}{2}$ mile.. | 34 | do | 70.0 | 66.0 | 47.5 | T. |
| 992 | Sept. 7 | 7.30 | 40 33 | 70 45 | do | S. $\frac{1}{2}$ mile..... | 36 | do | 69.0 | 65.0 | 48.0 | T. |
| 993 | Sept. 7 | 8.20 | 40 28 | 70 44 | do | S. $\frac{1}{2}$ mile..... | 39 | Mud..... | 69.0 | 65.0 | 46.5 | T. |
| 994 | Sept. 8 | 4.50 a. m. | 39 40 | 71 30 | do | W. NW., 2 miles. | 368 | do | 72.0 | 68.0 | 40.5 | T. |
| 995 | Sept. 8 | 6.32 | 39 40 30 | 71 31 | do | W. NW., $\frac{1}{2}$ mile.. | 258 | Yellow mud and sand..... | 72.0 | 68.0 | 40.5 | T. |
| 996 | Sept. 8 | 7.35 | 39 41 | 71 31 37 | do | NW., $\frac{1}{2}$ mile..... | 248 | do | 75.0 | 67.5 | 40.0 | R. D. |
| 997 | Sept. 8 | 8.03 | 39 42 | 71 32 | do | N. by W., 1 mile.. | 835 | Yellow mud..... | 75.0 | 67.5 | 40.0 | T. |
| 998 | Sept. 8 | 10.34 | 39 43 | 71 32 | do | N., $1\frac{1}{2}$ miles..... | 302 | Green mud..... | 74.0 | 68.0 | 40.0 | T. |
| 999 | Sept. 8 | 11.48 | 39 45 13 | 71 30 | do | N. NW., $\frac{1}{2}$ mile.. | 266 | do | 73.0 | 68.0 | ..... | R. D. |
| 1000 1024) | | | | | (Dredgings by steamer Lookout. Nos. 1006 to 1013, close off Gay Head; 1014 N. of Lucas Shoal, Vineyard Sound.) | | | | | | | |
| | | | | | Atlantic Ocean: | | | | | | | |
| 1025 | Sept. 8 | 1.05 p. m. | 39 49 | 71 25 | Off Martha's Vineyard..... | N. $\frac{1}{2}$ E., 1 mile.... | 218 | do | 71.0 | 69.0 | 45.0 | T. |
| 1026 | Sept. 8 | 2.55 | 39 50 30 | 71 23 | do | N. by E., $1\frac{1}{2}$ miles | 182 | Green mud, sand..... | 69.0 | 69.0 | 47.5 | T. |
| 1027 | Sept. 14 | 7.23 a. m. | 40 60 | 69 19 | do | N., $\frac{1}{2}$ mile..... | 93 | Fine sand..... | 61.0 | 65.0 | 48.5 | T. |
| 1028 | Sept. 14 | 9.01 | 39 57 | 69 17 | do | N. NE., $\frac{1}{2}$ mile.... | 410 | Yellow mud..... | 66.5 | 66.0 | 41.0 | T. |
| 1029 | Sept. 14 | 12.13 p. m. | 39 57 06 | 69 16 | do | NE. by N., 1 mile. | 458 | Yellow mud, sand..... | 72.0 | 68.0 | 40.0 | T. |
| 1030 | Sept. 14 | 1.52 | 39 58 30 | 69 15 | do | N. by W., $1\frac{1}{2}$ miles. | 337 | Yellow mud..... | 65.0 | 66.0 | 41.0 | R. D. |
| 1031 | Sept. 14 | 2.54 | 39 57 | 69 19 | do | NW. by N., $1\frac{1}{2}$ miles. | 255 | do | 64.0 | 65.0 | 46.0 | T. |
| 1032 | Sept. 14 | 4.00 | 39 56 | 69 22 | do | NW., $\frac{1}{2}$ mile..... | 208 | do | 65.0 | 65.0 | 46.0 | T. |
| 1033 | Sept. 14 | 4.55 | 39 56 | 69 24 | do | N. NW., 2 miles | 183 | Sand, gravel..... | 66.0 | 63.0 | ..... | T. |
| 1034 | Sept. 14 | 5.55 | 39 56 | 69 26 | do | N. NW., $\frac{1}{2}$ mile.. | 146 | Sand and yellow mud..... | 66.0 | 62.0 | 46.5 | T. |
| 1035 | Sept. 14 | 6.56 | 39 57 | 69 23 | do | N., $\frac{1}{2}$ mile..... | 120 | Sand..... | 65.0 | 62.0 | 47.0 | T. |
| 1036 | Sept. 14 | 7.54 | 39 58 | 69 30 | do | N. NW., $1\frac{1}{2}$ miles | 94 | do | 62.0 | 61.5 | 51.0 | R. D. |

Dredging stations of the steamer Fish Hawk for 1880, 1881, and 1882—Continued.

| Serial number. | Date. | Hour. | Latitude N. | Longitude W. | Locality. | Drift. | Depth in fathoms. | Nature of bottom. | Temperatures. | | | Direction of surface current. |
|----------------|-------------------|-------------|-------------|--------------|---|--|-------------------|----------------------|---------------|-------|---------|-------------------------------|
| | | | | | | | | | Air. | Surf. | Bottom. | |
| 1037 | 1881. Sept. 15 | 8.00 a. m. | o' " | o' " | Off Gay Head, Martha's Vineyard: Gay Head Light, NE. $\frac{1}{2}$ N., 4 miles | | 18 | Sand | | | | T. |
| 1038 | Sept. 21 | 6.55 | 39 58 | 70 06 | Atlantic Ocean: Off Martha's Vineyard | N. by E., 1 mile. | 146 | Sand and shells | 67.0 | 67.0 | 47.0 | T. |
| 1039 | Sept. 21 | 9.35 | 39 59 | 70 06 | do | N. by E., 2 miles | 130 | do | 66.5 | 67.0 | 50.0 | T. |
| 1040 | Sept. 21 | 10.43 | 40 00 | 70 06 | do | N. by E., 2 miles | 93 | do | 64.0 | 68.0 | 66.0 | D. |
| 1041 | Sept. 22 | 12.35 p. m. | | | Vineyard Sound, Mass.: West Chop Light, E. $\frac{1}{2}$ N., $\frac{1}{2}$ miles | W. SW., $\frac{1}{2}$ mile. | 9 | Sand and gravel | 63.5 | 65.0 | 65.0 | T. |
| 1042 | Sept. 22 | 1.17 | | | West Chop Light, E. $\frac{1}{2}$ N., $\frac{1}{2}$ miles | W. by N., $\frac{1}{2}$ mile. | 6 | do | 63.5 | 65.0 | 65.0 | T. |
| 1043 | Oct. 10 | 7.17 a. m. | 38 39 | 73 11 | Atlantic Ocean: Off the Capes of Delaware | NW. by N., $\frac{1}{2}$ miles. | 130 | Sand | 63.5 | 65.5 | 49.0 | T. |
| 1044 | Oct. 10 | 8.15 | 38 37 | 73 12 | do | W. NW., $\frac{1}{2}$ mile. | 224 | Gray mud | 65.0 | 68.0 | 42.5 | T. |
| 1045 | Oct. 10 | 9.32 | 38 35 | 73 13 | do | W. $\frac{1}{2}$ N., $\frac{1}{2}$ mile. | 312 | do | 67.0 | 68.0 | 40.0 | T. |
| 1046 | Oct. 10 | 11.14 | 38 33 | 73 18 | do | W. NW., $\frac{1}{2}$ mile. | 104 | Sand | 66.0 | 66.0 | 51.0 | T. |
| 1047 | Oct. 10 | 12.15 p. m. | 38 31 | 73 21 | do | NW., $\frac{1}{2}$ miles. | 158 | do | 60.0 | 69.0 | 49.0 | T. |
| 1048 | Oct. 10 | 1.55 | 38 29 | 73 21 | do | W., 2 miles. | 435 | Mud | 71.0 | 66.0 | 40.0 | T. |
| 1049 | Oct. 10 | 3.30 | 38 28 | 73 23 | do | N. NW., 2 miles. | 433 | do | 68.0 | 66.0 | 40.0 | T. |
| 1050 | 1882. Feb. 27 | 2.00 p. m. | | | Chesapeake Bay: Point No Point, N. NE., $\frac{1}{2}$ miles | | 33 | Mud, shells, gravel | 50.0 | 41.0 | | O. D. |
| 1051 | Feb. 27 | 2.15 | | | Point No Point, N. by E., 1 mile | | 2 | Mud, grass | 50.0 | 41.0 | 40.0 | O. D. |
| 1052 | Feb. 27 | 2.30 | | | Point No Point, N. NE., $\frac{1}{2}$ mile. | | 13 | do | 50.0 | 41.0 | 40.0 | O. D. |
| 1053 | Feb. 27 | 2.45 | | | Point No Point, N. by E., $\frac{1}{2}$ miles | | 24 | Mud, shells, oysters | 50.0 | 41.0 | 40.0 | O. D. |
| 1054 | Feb. 27 | 2.50 | | | Point No Point, N. by E., $\frac{1}{2}$ miles | | 23 | do | 50.0 | 41.0 | 40.0 | O. D. |
| 1055 | Feb. 28 | 10.40 a. m. | | | Patuxent River, Maryland: Drum Point, NE., $\frac{1}{2}$ mile. | | 6 | Brown mud, shells | 46.0 | 40.0 | | D. |
| 1056 | Feb. 28 | 10.55 | | | Drum Point, N. NE., $\frac{1}{2}$ mile. | | 6 | do | 46.0 | 40.0 | | R. D. |
| 1057 | Feb. 28 | 12.00 m. | | | Chesapeake Bay: South end Barren Island, E. by S., $\frac{1}{2}$ miles. | W. NW., $\frac{1}{2}$ mile. | 17-20 | Brown mud | 49.0 | 40.0 | 40.0 | T. |
| 1058 | Feb. 28 | 12.10 p. m. | | | South end Barren Island, SE. by E. $\frac{1}{2}$ E., 2 miles. | W. NW., $\frac{1}{2}$ mile. | 3-25 | do | 49.0 | 40.0 | 40.0 | T. |
| 1059 | Feb. 28 | 12.30 | | | South end Barren Island, SE. $\frac{1}{2}$ E., 2 miles | W. NW., $\frac{1}{2}$ mile. | 34-25 | do | 49.0 | 40.0 | 40.0 | T. |
| 1060 | Feb. 28 | 4.40 | | | Smith's Point, S. SW., 2 miles | SE. by S., $\frac{1}{2}$ mile. | 7 | Brown mud, shells | 46.0 | 41.0 | 40.5 | T. |
| 1061 | Mar. 2 | 11.20 a. m. | | | Smith's Point Light, S. by W. $\frac{1}{2}$ W., $\frac{1}{2}$ miles. | S., $\frac{1}{2}$ mile. | 11-16 | do | 46.0 | 41.5 | 41.5 | D. |
| 1062 | Mar. 2 | 11.40 | | | Smith's Point Light, SW. $\frac{1}{2}$ S., $\frac{1}{2}$ miles. | S. by W., 1 mile. | 16-34 | do | 43.0 | 41.5 | 41.5 | T. |
| 1063 | Mar. 2 | 1.35 p. m. | | | South point Tangier Island, N. by E. $\frac{1}{2}$ E., $\frac{1}{2}$ miles. | NE. by E., $\frac{1}{2}$ mile. | 10 | do | 50.0 | 41.0 | 42.0 | R. D. |
| 1064 | Mar. 2 | 2.17 | | | South point Tangier Island, N. NW., 1 mile. | NE. by E., $\frac{1}{2}$ mile. | 20-31 | do | 53.0 | 42.0 | 42.0 | R. D. |

| | | | | | | | | | | | | |
|-----------------|---------|------------|----------|-------|---|-------------------------|-------------------|---------------------------|------|------|------|----|
| 1065 | Mar. 6 | 8.00 a.m. | | | Cherrystone Light, E. by N., 2 miles | 12-12 | Sand | 66.0 | 45.0 | 44.5 | T. | |
| 1066 | Mar. 6 | 8.20 | | | Cherrystone Light, E. by E., 3 miles | 12-26 | do | 66.0 | 45.0 | 45.0 | T. | |
| 1067 | Mar. 6 | 9.40 | | | Cherrystone Light, SE. by E. 4 E., 8 miles | 12-20 | do | 66.0 | 45.0 | 47.0 | T. | |
| 1068 | Mar. 11 | 8.50 a.m. | | | Thomas Point Light, W.S.W. 1/4 W., 2 miles | 14-9 | Black mud | 49.0 | 42.0 | 41.0 | T. | |
| 1069 | Mar. 11 | 10.20 | | | Thomas Point Light, SW. by W. 1/4 W., 2 1/2 miles | 18 | do | 51.0 | 42.0 | 40.0 | T. | |
| 1070 | Mar. 11 | 10.45 | | | Thomas Point Light, W. by S., 2 miles | 15-10 | do | 45.0 | 42.0 | 42.0 | T. | |
| 1071 | Mar. 11 | 11.22 | | | Thomas Point Light, W.N.W. 1/4 W., 2 1/2 miles | 14-13 | do | 49.0 | 42.0 | 40.0 | T. | |
| 1072 | Mar. 11 | 12.00 m. | | | Thomas Point Light, NW., 2 1/2 miles | 16 | do | 50.0 | 42.0 | 42.0 | R.D. | |
| 1073 | Mar. 11 | 12.25 p.m. | | | Thomas Point Light, NW. by N., 2 1/2 miles | 13 | Black mud, shells | 50.0 | 42.0 | 42.0 | R.D. | |
| 1074 | Mar. 11 | 1.10 | | | Thomas Point Light, N. by W. 1/4 W., 4 1/2 miles | 18-11 | Black mud | 51.0 | 43.0 | 41.0 | T. | |
| 1075 | Mar. 13 | 8.45 a.m. | | | Sandy Point Light, N. by W. 1/4 W., 3 1/2 miles | 14-11 | Mud | 45.0 | 43.0 | 40.0 | T. | |
| 1076 | Mar. 13 | 10.15 | | | Sandy Point Light, N. by W. 1/4 W., 3 1/2 miles | 15 | do | 45.0 | 43.0 | 40.0 | T. | |
| 1077 | Mar. 13 | 10.55 | | | Sandy Point Light, NW. 1/4 W., 2 1/2 miles | 11-12 | do | 49.0 | 43.0 | 40.0 | T. | |
| Off Cape Cod: | | | | | | | | | | | | |
| 1078 | Aug. 2 | 7.30 a.m. | | | Naussett Lights, NW. 1/4 N., 10 miles | S. by W., 1/2 mile | 55 | Green mud, fine sand | 72.0 | 63.0 | 37.0 | T. |
| 1079 | Aug. 2 | 8.40 | | | Naussett Lights, NW. by W. 1/4 W., 8 1/2 miles | E.S.E., 1 mile | 61 1/2 | Fine sand | 69.0 | 63.5 | 37.0 | T. |
| 1080 | Aug. 2 | 8.40 | | | Naussett Lights, NW. by W. 1/4 W., 6 miles | W.N.W., 1 mile | 55 | do | 69.0 | 61.5 | 37.0 | T. |
| 1081 | Aug. 2 | 10.50 | | | Naussett Lights, W. by S., 5 1/2 miles | NW. by N., 1 mile | 33 1/2 | Coarse gravel and pebbles | 69.0 | 53.0 | 39.0 | T. |
| 1082 | Aug. 2 | 11.45 | | | Cape Cod Light, NW. 1/4 N., 11 1/2 miles | NW. by N., 1/2 mile | 28 | Coarse gravel | 70.0 | 59.0 | 40.0 | T. |
| 1083 | Aug. 2 | 12.45 p.m. | | | Cape Cod Light, W by N., 15 miles | W.S.W., 1/2 mile | 83 1/2 | do | 77.0 | 64.0 | 38.0 | T. |
| 1084 | Aug. 2 | 2.20 | | | Cape Cod Light, W.N.W. 1/4 W., 8 miles | W.S.W., 1 mile | 37 1/2 | Coarse sand | 78.0 | 62.5 | 38.0 | T. |
| 1085 | Aug. 3 | 6.15 a.m. | | | Race Point Light, S. 33° E., 2 miles | S. by E., 1 mile | 34 1/2 | Fine sand, green mud | 67.0 | 64.0 | 39.0 | T. |
| 1086 | Aug. 3 | 7.00 | | | Race Point Light, S. 20° W., 2 1/2 miles | S., 1/2 mile | 24 | Fine sand | 74.0 | 64.0 | 39.5 | T. |
| 1087 | Aug. 3 | 8.30 | | | Cape Cod Light, S.S.W., 7 miles | W.S.W. 1/2 mile | 44 | Gray sand | 84.0 | 62.5 | 39.0 | T. |
| 1088 | Aug. 3 | 9.50 | | | Cape Cod Light, SW. 1/4 W., 9 1/2 miles | NW., 1 1/2 miles | 90 | Coarse sand | 82.5 | 62.0 | 38.0 | T. |
| 1089 | Aug. 3 | 11.10 | | | Cape Cod Light, SW. 1/4 W., 14 miles | NW. by W., 1/2 mile | 110 | Gray mud | 78.0 | 63.0 | 38.5 | T. |
| 1090 | Aug. 3 | 11.50 | | | Cape Cod Light, SW. 1/4 W., 13 1/2 miles | W.S.W., 1 mile | 110 | do | 81.5 | 62.0 | 38.5 | T. |
| Atlantic Ocean: | | | | | | | | | | | | |
| 1091 | Aug. 11 | 5.30 a.m. | 40 03 | 69 44 | Off Martha's Vineyard | NW. by W., 1/2 mile | 65 | Gray sand, broken shells | 77.0 | 75.0 | 46.0 | T. |
| 1092 | Aug. 11 | 6.54 | 39 58 | 69 42 | do | N.N.W., 1/2 mile | 202 | Gray sand | 79.0 | 75.0 | 41.0 | T. |
| 1093 | Aug. 11 | 8.35 | 39 56 | 69 45 | do | N.N.W., 1 mile | 349 | Blue mud, sand | 82.0 | 75.0 | 40.0 | T. |
| 1094 | Aug. 11 | 10.10 | 39 57 | 69 47 | do | NW. by N., 1 mile | 301 | Blue mud | 84.0 | 76.0 | 40.0 | T. |
| 1095 | Aug. 11 | 11.55 | 39 55 28 | 69 47 | do | N.N.W. 1/4 W., 1/2 mile | 321 | Soft green mud | 82.0 | 78.0 | 40.0 | T. |
| 1096 | Aug. 11 | 1.39 p.m. | 39 53 | 69 47 | do | NW. 1/4 N., 1/2 mile | 317 | do | 78.0 | 75.5 | 40.0 | T. |
| 1097 | Aug. 11 | 3.10 | 39 54 | 69 44 | do | N. 1/4 W., 1/2 mile | 158 | Fine sand | 76.0 | 75.5 | 45.0 | T. |
| 1098 | Aug. 11 | 4.35 | 39 53 | 69 43 | do | N. by E., 1/2 mile | 156 | do | 78.0 | 75.0 | 43.5 | T. |
| Vineyard Sound: | | | | | | | | | | | | |
| 1099 | Aug. 18 | 11.06 a.m. | | | Nobaka Point Light, W.S.W. 1/4 W., 1 1/2 miles | NE. by N. 1/2 mile | 6 | Sand, gravel | 76.0 | 72.0 | 71.5 | T. |
| 1100 | Aug. 18 | 11.47 | | | Nobaka Point Light, W.S.W. 1/4 W., 1 1/2 miles | NE. by N. 1/2 mile | 4 1/2 | Sand, gravel, shells | 77.0 | 72.0 | 71.5 | T. |

Dredging stations of the steamer Fish Hawk for 1880, 1881, and 1882—Continued.

| Serial num- ber. | Date. | Hour. | Latitude N. | Longi- tude W. | Locality. | Drift. | Depth in fathoms. | Nature of bottom. | Temperatures. | | | Apparatus used. |
|---------------------|---------|------------|----------------|-------------------|--|-------------------------|----------------------|---|---------------|-------|--------------|--------------------|
| | | | | | | | | | Air. | Surf. | Bot- tom. | |
| | 1882. | | o " | o " | Vineyard Sound: | | | | | | | |
| 1101 | Aug. 18 | 12.15 p.m. | | | Nobska Point Light, W. by S. 1½ miles | NE., 1 mile | 5 | Sand, gravel, shells | 78.0 | 72.0 | 71.0 | F. F. F. |
| 1102 | Aug. 18 | 1.10 | | | East Chop Light, NW. ½ W., 2½ miles | E. by S., ½ mile | 5 | Coarse sand | 73.0 | 70.0 | 69.0 | F. F. F. |
| 1103 | Aug. 18 | 1.42 | | | East Chop Light, NW. ½ W., 2½ miles | E. by S., ½ mile | 5 | do | 70.0 | 70.0 | 69.0 | F. F. F. |
| 1104 | Aug. 18 | 2.12 | | | East Chop Light, W. NW. ½ W., 4 miles | N. by W. ½ W., ½ mile | 8½ | Shells | 79.0 | 70.0 | 69.0 | F. F. F. |
| 1105 | Aug. 18 | 3.00 | | | Cape Pogo Light, S. by W., 4 miles | NE. by E. ½ E., 2 miles | 10 | Coarse sand | 80.0 | 72.0 | 71.0 | T. |
| 1106 | Aug. 18 | 3.35 | | | Cape Pogo Light, S. by W. ½ W., 5½ miles | NE. by N., ½ mile | 5 | Sand, shells | 80.0 | 72.5 | 72.0 | T. |
| | | | | | Atlantic Ocean: | | | | | | | |
| 1107 | Aug. 22 | 6.00 a.m. | 40 02 | 70 35 | Off Martha's Vineyard | NW., 1 mile | 118 | Gray mud | 69.5 | 71.0 | 48.0 | T. |
| 1108 | Aug. 22 | 6.55 | 40 02 | 70 37 30 | do | NW., ½ mile | 101 | Gray mud, fine sand | 69.5 | 71.0 | 48.0 | T. |
| 1109 | Aug. 22 | 7.55 | 40 03 | 70 38 | do | N. NW., 1 mile | 89 | Gray mud | 70.5 | 71.0 | 49.0 | F. F. F. |
| 1110 | Aug. 22 | 9.16 | 40 02 | 70 35 | do | N. by W. ½ W., 1 mile | 100 | Green mud, fine sand | 75.0 | 72.0 | 47.0 | T. |
| 1111 | Aug. 22 | 10.45 | 40 01 33 | 70 35 | do | N. NE. ½ E., 1 mile | 124 | Fine sand | 76.0 | 72.0 | 47.0 | T. |
| 1112 | Aug. 22 | 12.43 p.m. | 39 56 | 70 35 | do | NW. by N., 1 mile | 245 | Green mud, sand | 72.0 | 72.0 | 43.0 | T. |
| 1113 | Aug. 22 | 1.45 | 39 57 | 70 37 | do | N., 1 mile | 192 | Green mud | 75.0 | 72.0 | 43.0 | T. |
| 1114 | Aug. 22 | 2.40 | 39 58 | 70 38 | do | N. by W., 1 mile | 171 | do | 74.0 | 72.0 | 43.0 | T. |
| 1115 | Aug. 22 | 3.28 | 39 59 | 70 41 | do | W. by N., ½ mile | 146 | Green mud, sand | 75.0 | 72.5 | 45.0 | R. D. |
| 1116 | Aug. 22 | 4.20 | 39 59 | 70 44 | do | NW. by W., 1 mile | 144 | do | 77.0 | 72.0 | 46.0 | T. |
| 1117 | Aug. 22 | 5.30 | 40 02 | 70 45 | do | N. by E., 1 mile | 89 | Fine sand | 78.0 | 72.0 | 48.0 | T. |
| 1118 | Aug. 22 | 6.20 | 40 03 | 70 45 | do | N. NW., ½ mile | 70 | do | 74.0 | 72.0 | 49.0 | F. F. F. |
| 1119 | Aug. 26 | 6.32 a.m. | 40 08 | 68 45 | do | NE. ½ N., ½ mile | 97 | Sand, broken shells | 68.0 | 65.0 | 48.0 | T. |
| 1120 | Aug. 26 | 7.41 | 40 05 | 68 48 | do | NW., 1½ miles | 194 | Fine sand, stones | 69.0 | 65.0 | 43.5 | T. |
| 1121 | Aug. 26 | 9.05 | 40 04 | 68 49 | do | W. NW., 1 mile | 234 | do | 65.0 | 65.0 | 41.5 | T. |
| 1122 | Aug. 26 | 10.23 | 40 02 | 68 50 | do | NW., 1 mile | 351 | do | 70.0 | 67.0 | 40.5 | T. |
| 1123 | Aug. 26 | 12.00 p.m. | 39 59 45 | 68 54 | do | N. NW., 1 mile | 787 | Fine sand, green mud | 70.0 | 69.0 | 39.0 | T. |
| 1124 | Aug. 26 | 4.01 p.m. | 40 01 | 68 54 | do | NW. by N., 1 mile | 640 | Fine sand, green mud, lime- stone nodules. | 65.0 | 65.0 | 39.0 | T. |
| 1125 | Aug. 26 | 5.45 | 40 03 | 68 56 | do | NW. by W., 1 mile | 291 | Sand, mud. | 65.0 | 64.0 | 40.0 | T. |
| | | | | | Vineyard Sound, Menemsha Light: | | | | | | | |
| 1126 | Aug. 28 | 1.46 p.m. | | | Gay Head Light-house, W. SW., 2½ miles | SE. by E., ½ mile | 14 | Sand, black mud | 72.0 | 66.0 | 63.5 | T. |
| 1127 | Aug. 28 | 2.30 | | | Gay Head Light-house, W. by S., 3 miles | E. SE., ½ mile | 10 | Gray sand, mud | 66.0 | | 64.0 | T. |
| 1128 | Aug. 28 | 3.10 | | | Gay Head Light-house, W. ½ S., 2½ miles | S. by E., ½ mile | 9 | do | 69.0 | 66.0 | 65.0 | D. |
| | | | | | North of Noman's Land: | | | | | | | |
| 1129 | Sept. 2 | 2.00 | | | Fishing Village, S., ½ mile | NE. by E., ½ mile | 4 | Sand, stones | 72.0 | 65.0 | 62.0 | D. |
| 1130 | Sept. 2 | 2.13 | | | Fishing Village S. ½ E., ½ mile | NW. by N., ½ mile | 4 | do | 72.0 | 65.0 | 62.0 | D. |
| 1131 | Sept. 2 | 2.29 | | | Fishing Village, SE. by E., ½ mile | E. by N., ½ mile | 4 | do | 72.0 | 65.0 | 63.0 | D. |

| | | | | | | | | | | | | | |
|---------------------------------|----------|-------------|----------|-------|--|---------------------------------------|------------------------|---------|------------------------------|------|------|-------|----|
| 1132 | Sept. 2 | 2.45 | | | | Fishing Village, SE. by E. ¼ mile | N. NE. ¼ mile | 4 | do | 72.0 | 65.0 | 62.0 | D. |
| 1133 | Sept. 2 | 3.10 | | | | Fishing Village, SE. ¼ mile | E. by S. ¼ mile | 4 | do | 72.0 | 65.0 | 62.0 | D. |
| Vineyard Sound, Menemsha Bight: | | | | | | | | | | | | | |
| 1134 | Sept. 6 | 1.26 p. m. | | | | Gay Head Light, W. SW. ¼ W., 2½ miles | NW. by N. ¼ mile | 9½ | Sand, mud | 76.0 | 66.0 | 64.0 | T. |
| 1135 | Sept. 6 | 2.20 | | | | Gay Head Light, W. ¼ S., 3 miles | NE. ¼ mile | 7½ | do | 71.0 | 65.0 | 64.0 | T. |
| 1136 | Sept. 6 | 3.50 | | | | Gay Head Light, W. SW. ¼ W., 3 miles | NE. ¼ mile | 10 | Mud | 70.0 | 66.0 | 63.0 | D. |
| Atlantic Ocean: | | | | | | | | | | | | | |
| 1137 | Sept. 8 | 6.00 a. m. | 39 40 | 71 52 | | Off Martha's Vineyard | N. NW. ¼ mile | 173 | Fine sand, pebbles | 68.0 | 70.0 | 46.0 | T. |
| 1138 | Sept. 8 | 7.24 | 39 39 | 71 54 | | do | NW. ¼ mile | 168 | do | 72.0 | 71.0 | 46.0 | T. |
| 1139 | Sept. 8 | 8.48 | 39 37 | 71 55 | | do | NW. by W., ¼ miles | 291 | Mud | 74.0 | 72.0 | 44.0 | T. |
| 1140 | Sept. 8 | 10.35 | 39 34 | 71 56 | | do | N. ¼ mile | 374 | Fine sand, soft mud, pebbles | 78.0 | 73.0 | 40.0 | T. |
| 1141 | Sept. 8 | 12.27 p. m. | 39 32 | 71 57 | | do | W. by N., ¼ N., 1 mile | 389 | Sand and mud | 80.0 | 74.0 | 40.0 | T. |
| 1142 | Sept. 8 | 1.52 | 39 32 | 72 00 | | do | W. by S., ¼ mile | 322 | Mud, with sand and pebbles | 80.0 | 74.0 | 41.0 | T. |
| 1143 | Sept. 8 | 3.36 | 39 29 | 72 01 | | do | NW., 2 miles | 452 | Soft mud | 80.0 | 74.0 | 40.0 | T. |
| 1144 | Sept. 8 | 6.00 | 39 31 | 72 06 | | do | N., 1 mile | 386 | do | 75.0 | 74.0 | 41.0 | T. |
| 1145* | Sept. 21 | | 40 03 | 70 28 | | do | | 135-160 | | | | C. T. | |
| 1146 | Sept. 21 | | 40 02 | 70 41 | | do | | 170-150 | | | | C. T. | |
| 1147 | Sept. 22 | | 40 01 | 71 02 | | do | | 125 | | | | C. T. | |
| 1148 | Sept. 23 | | 39 54 | 71 22 | | do | | 100-125 | | | | C. T. | |
| 1149 | Sept. 23 | | 39 50 | 71 25 | | do | | 110 | | | | C. T. | |
| 1150 | Oct. 4 | 6.35 a. m. | 39 58 | 70 37 | | do | E. ¼ mile | 140 | Sand | 65.0 | 62.0 | 47.0 | T. |
| 1151 | Oct. 4 | 7.45 | 39 58 30 | 70 37 | | do | E., 2 miles | 125 | do | 66.0 | 62.0 | 48.0 | T. |
| 1152 | Oct. 4 | 8.42 | 39 58 | 70 35 | | do | E., 1½ miles | 115 | do | 68.0 | 62.0 | 48.0 | T. |
| 1153 | Oct. 4 | 10.45 | 39 54 | 70 37 | | do | N., ¼ W., 1½ miles | 225 | Sand and mud | 70.0 | 62.5 | 44.0 | T. |
| 1154 | Oct. 4 | 12.10 p. m. | 39 55 31 | 70 39 | | do | N. by W., 1½ miles | 183 | do | 62.0 | 62.5 | | T. |
| 1155 | Oct. 4 | 4.06 | 39 52 | 70 30 | | do | N. NW. ¼ mile | 554 | Soft mud | 64.0 | 63.0 | 40.0 | T. |

* Nos. 1145-1149 indicate the stations of the fishing schooner *Josie Reeves*, using cod trawl-lines.

Dredging stations of the steamer Fish Hawk from 1833 to 1887.

| Serial num- ber. | Date. | Hour. | Latitude N. | Longi- tude W. | Locality. | Drift. | Depth in fathoms. | Nature of bottom. | Temperatures. | | | Apparatus used. |
|---------------------|---------|------------|----------------|-------------------|---|----------------------------|----------------------|---------------------|---------------|-------|--------------|--------------------|
| | | | | | | | | | Air. | Surf. | Bot- tom. | |
| | 1882. | | o' " | o' " | | | | | o | o | o | |
| 1156 | Aug. 23 | 6.00 a.m. | 40 13 | 70 29 | Off Nantucket..... | NW, 1 mile..... | 60 | Mud..... | 71.0 | 67.0 | 45.0 | T. |
| 1157 | Aug. 23 | 6.35 | 40 14 | 70 29 15 | do..... | do..... | 62 | Soft mud..... | 73.0 | 70.0 | 45.0 | T. |
| 1158 | Aug. 23 | 8.00 | 40 16 | 70 31 | do..... | W. by N., 1 mile..... | 62 | Soft green mud..... | 74.0 | 67.0 | 45.0 | T. |
| 1159 | Aug. 23 | 10.15 | 40 20 | 70 35 | do..... | N., 1 mile..... | 55 | Soft mud..... | 74.0 | 67.5 | 44.0 | T. |
| 1160 | Aug. 23 | 10.25 | 40 24 | 70 35 | do..... | WNW., ½ mile..... | 41 | Black mud..... | 76.0 | 70.0 | 43.0 | T. |
| 1161 | Aug. 23 | 12.45 p.m. | 40 28 | 70 37 | do..... | NW. by W., 1 mile..... | 45 | do..... | 77.0 | 69.0 | 44.0 | T. |
| 1162 | Aug. 23 | 2.15 | 40 32 | 70 39 | do..... | N. by W., 1 mile..... | 45 | do..... | 77.0 | 68.0 | 46.5 | T. |
| 1163 | Aug. 23 | 3.25 | 40 35 30 | 70 41 | do..... | NW. by W., ½ mile..... | 31 | Sand and mud..... | 77.0 | 71.0 | 46.0 | T. |
| 1164 | Aug. 23 | 5.00 | 40 43 | 70 45 | do..... | WNW., ½ mile..... | 31 | Mud..... | 75.0 | 70.0 | 44.0 | T. |
| 1165 | Aug. 23 | 6.25 | 40 50 | 70 49 | do..... | do..... | 32 | Gray sand..... | 73.0 | 68.0 | 45.0 | T. |
| | | | | | Off Menemsha Bight: | | | | | | | |
| 1166 | Aug. 27 | 1.00 | | | Gay Head, W. ½ S., 2 miles; north end of Nashawena, N. by W. ¼ W., 6 miles. | NW., ½ mile..... | 8 | Sand..... | 77.0 | 66.5 | 65.5 | T. |
| 1167 | Aug. 27 | 1.45 | | | Gay Head, W. ½ S., 2½ miles; north end of Nashawena, NNW., 6 miles. | NW. by W., ¼ mile..... | 9 | do..... | 77.0 | | | T. |
| 1168 | Aug. 27 | 2.00 | | | Gay Head, W. by S. ½ S., 2½ miles; north end of Nashawena, N. by W. ½ W., 5½ miles. | ENE., ½ mile..... | 11 | do..... | 76.0 | | | T. |
| 1169 | Aug. 27 | 2.30 | | | Gay Head, W. by S. ½ S., 2½ miles; north end of Nashawena, NNW., ½ W., 5½ miles. | S., ½ mile..... | 12 | do..... | 77.0 | 66.0 | 64.5 | T. |
| 1170 | Aug. 27 | 3.00 | | | Gay Head, W. by S., 2½ miles; north end of Nashawena, NNW., 6½ miles. | NNW., ½ mile..... | 12 | do..... | 77.0 | 67.0 | 65.0 | T. |
| | | | | | Off Martha's Vineyard: | | | | | | | |
| 1171 | Sept. 6 | 12.05 | | | Katama Point, E. ½ S., 1 mile..... | W., ¼ mile..... | 2-4 | do..... | 66.0 | 68.5 | 62.0 | D. |
| 1172 | Sept. 6 | 12.15 | | | Katama Point, E. ½ S., 1½ miles..... | do..... | 5 | do..... | 66.0 | 68.0 | 62.0 | D. |
| 1173 | Sept. 6 | 1.05 | | | Katama Point, E. ½ S., 2½ miles..... | do..... | 2½ | do..... | 66.0 | 68.0 | 63.0 | D. |
| 1174 | Sept. 6 | 1.43 | | | Katama Point, E. ½ S., 3½ miles..... | S. by E., ¼ mile..... | 5 | do..... | 67.0 | 68.0 | 63.0 | D. |
| 1175 | Sept. 6 | 2.05 | | | Katama Point, E. ½ S., 3½ miles..... | S., ½ mile..... | 5½ | do..... | 67.0 | 68.0 | 63.0 | T. |
| 1176 | Sept. 6 | 2.12 | | | SE. end of No Man's Land, W. by S., 7½ miles. | S. by W., ¼ mile..... | 13 | do..... | 68.0 | 67.0 | 60.0 | T. |
| | 1884. | | | | East of Martha's Vineyard: | | | | | | | |
| 1177 | Aug. 18 | 12.10 m. | | | Near Howe's Shoal and Buoy No. 4. | W. by S. ½ S., ½ mile..... | 3-7 | do..... | 78.0 | 69.0 | | T. |
| | | | | | Menemsha Bight: | | | | | | | |
| 1178 | Aug. 25 | 12.30 p.m. | | | Gay Head, SW. ¼ W., 1½ miles; S. end of Nashawena, NW., 3 miles. | NE..... | 13 | Hard..... | 72.0 | 66.0 | | T. |
| 1179 | Aug. 25 | 1.15 | | | Gay Head, SSW., ½ mile; S. end of Nashawena, N. ¼ E. | NE., ½ mile..... | 12½ | Sticky..... | 79.0 | 66.0 | | T. |

| | | | | | | | | | | | |
|-------|---------|-------------|-------|--|-----------------------------------|--------------------|----------------------|------|------|-------|------|
| 1180 | Aug. 25 | 1.45 | ..... | Gay Head, SSW.; S. end of Nashawena, N. by E. | W. by S., $\frac{1}{2}$ mile..... | 12-14 |do..... | 78.0 | 66.0 | ..... | T. |
| 1181 | Sept. 2 | 1.00 | ..... | Buzzard's Bay: Penikese Island, S., $2\frac{1}{2}$ miles; Hen and Chickens Light-ship, SW. $\frac{1}{2}$ W., $\frac{3}{4}$ miles. | NE., $\frac{1}{2}$ mile..... | 12 | Rocky..... | 76.0 | 68.0 | ..... | T. |
| 1182 | Sept. 2 | 1.30 | ..... | Penikese Island, S., $2\frac{1}{2}$ miles; Hen and Chickens Light-ship, W. by S., $3\frac{1}{2}$ miles. | NE., $\frac{1}{2}$ mile..... | 9 $\frac{1}{2}$ | Hard sand..... | 76.0 | 68.0 | ..... | T. |
| 1183 | Sept. 2 | 2.25 | ..... | Penikese Island, SSW., $\frac{3}{4}$ miles Dumpling Light, N., $2\frac{1}{2}$ miles. | N., $\frac{1}{2}$ mile..... | 11 | Sticky..... | 76.0 | 68.0 | ..... | T. |
| 1184 | Sept. 2 | 2.45 | ..... | Dumpling Light, N., $\frac{3}{4}$ miles; S. end of Pasque Island, S. by W., $2\frac{1}{2}$ miles. | E. by S., $\frac{1}{2}$ mile..... | 10 |do..... | 76.0 | 68.0 | ..... | T. |
| 1185 | Sept. 2 | 3.15 | ..... | Dumpling Light, NW. by W., $\frac{3}{4}$ miles; NE. end of Pasque Island, S. by W., 2 miles. | ESE., 2 miles..... | 10 |do..... | 78.0 | 68.0 | ..... | T. |
| 1186 | Sept. 2 | 4.00 | ..... | NE. end of Pasque Island, SW. $\frac{1}{2}$ S., $\frac{3}{4}$ miles; to within $\frac{1}{2}$ mile N. of Gt. Woepecket Island. | E., $\frac{3}{4}$ miles..... | 8 |do..... | 78.0 | 68.0 | ..... | T. |
| 1187 | Sept. 8 | 10.20 a. m. | ..... | Vineyard Sound: Nobska Light, SW. by W., 2 miles; Falmouth Heights, NE. by E., $1\frac{1}{2}$ miles. | S. by E., $\frac{1}{2}$ mile..... | 4-5 | Hard sand..... | 72.0 | 69.0 | ..... | T. |
| 1188 | Sept. 8 | 10.40 | ..... | Nobska Light, SW. by W., 2 miles; Falmouth Heights, NE. by E., $1\frac{1}{2}$ miles. | S. by E., $\frac{1}{2}$ mile..... | 4 $\frac{1}{2}$ -5 |do..... | 72.0 | 69.0 | ..... | T. |
| 1189 | Sept. 8 | 11.20 | ..... | Nobska Light, SSW. 2 miles; Falmouth Heights, ENE., $2\frac{1}{2}$ miles. | NW., $\frac{1}{2}$ mile..... | 4 $\frac{1}{2}$ -5 |do..... | 72.0 | 69.0 | ..... | T. |
| 1190 | Sept. 8 | 11.40 | ..... | Nobska Light, WSW. 2 miles; Falmouth Heights, E. by S., $\frac{3}{4}$ miles. | NNW., $\frac{1}{2}$ mile..... | 3-6 | Hard and sticky..... | 72.0 | 69.0 | ..... | R.D. |
| 1191 | Sept. 8 | 12.55 p. m. | ..... | Edgartown Light, S. by W., $\frac{3}{4}$ miles; Cape Poge Light, SE., $\frac{3}{4}$ miles. | NW., $\frac{1}{2}$ mile..... | 6 | Hard and shells..... | 78.0 | 69.0 | ..... | T. |
| 1886. | | | | Monemaba Bight: | | | | | | | |
| 1192 | Sept. 4 | 9.35 a. m. | ..... | Gay Head Light, W., 4 miles; Tarpaulin Cove Light, N. by E. $\frac{1}{2}$ E., $\frac{1}{2}$ miles. | SW..... | 8 $\frac{1}{2}$ | Soft..... | 68.0 | 65.0 | 69.0 | T. |
| 1193 | Sept. 4 | 10.02 | ..... | Gay Head Light, W. by S. $\frac{1}{2}$ S., 4 miles; Tarpaulin Cove Light, N. by E. $\frac{1}{2}$ E., $\frac{1}{2}$ miles. | NE..... | 10 $\frac{1}{2}$ |do..... | 70.0 | 65.0 | 67.0 | T. |
| 1194 | Sept. 4 | 10.28 | ..... | Gay Head Light, W. by S. $\frac{1}{2}$ S., 4 miles; Tarpaulin Cove Light, N. by E. $\frac{1}{2}$ E., $\frac{1}{2}$ miles. | NE..... | 11 |do..... | 70.0 | 65.0 | 66.0 | T. |
| 1195 | Sept. 4 | 12.18 p. m. | ..... | Off Falmouth: Nobska Light, W. by S. $\frac{1}{2}$ S., $2\frac{1}{2}$ miles; West Chop Light, SE. by S., 9 miles. | ..... | 4 $\frac{1}{2}$ | Hard..... | 71.0 | 68.0 | 70.0 | T. |
| 1196 | Sept. 4 | 12.34 | ..... | Nobska Light, SE. by S., $2\frac{1}{2}$ miles; West Chop Light, W. by S. $\frac{1}{2}$ S., 9 miles. | ..... | 4 $\frac{1}{2}$ |do..... | 72.0 | 69.0 | 70.0 | T. |

Dredging stations of the steamer Fish Hawk from 1883 to 1887—Continued.

| Serial number. | Date. | Hour. | Latitude N. | Longitude W. | Locality. | Drift. | Depth in fathoms. | Nature of bottom. | Temperatures. | | | Depth standard. |
|----------------|-----------------|-------------|-------------|--------------|---|---|-------------------|------------------------------|---------------|-------|--------------|-----------------|
| | | | | | | | | | Air. | Surf. | Bot- tom. | |
| 1197 | 1887. Aug. 9 | 10.50 | | | Off Falmouth: Nobska Light, S. by W. $\frac{1}{2}$ W.; East Chop Light, SE. $\frac{1}{2}$ S. 9 miles; Falmouth Heights, E. N. E. | | 4 $\frac{1}{2}$ | Shells, sand | 72.0 | 72.0 | 71.5 | T. |
| 1198 | Aug. 9 | 11.05 | | | Nobska Light, W. $\frac{1}{2}$ S., 2 miles; Falmouth, NE. by E., 1 mile. | E., $\frac{1}{2}$ mile. | 4 $\frac{1}{2}$ | Shells, grass, sand | 70.0 | 72.0 | 71.5 | T. |
| 1199 | Aug. 9 | 11.28 | | | Nobska Light, SW. by W. $\frac{1}{2}$ W., $\frac{1}{2}$ miles; East Chop Light, SE., 9 miles. | ESE., $\frac{1}{2}$ mile. | 4 | Shells, sand, gravel, grass. | 70.0 | 72.0 | 71.5 | T. |
| 1200 | Aug. 9 | 11.49 | | | Nobska Light, W. by S., 2 miles; Falmouth, NE. by E., $\frac{1}{2}$ miles; East Chop Light, SE. by S., $\frac{1}{2}$ miles. | S. by E., $\frac{1}{2}$ mile. | 5 $\frac{1}{2}$ | Sand, shells, mud | 70.0 | 71.0 | 72.0 | T. |
| 1201 | Aug. 9 | 12.20 p. m. | | | Nobska Light, SW. by W. $\frac{1}{2}$ W., $\frac{1}{2}$ miles; East Chop Light, SE. by S. $\frac{1}{2}$ S., 9 miles. | NE., $\frac{1}{2}$ mile. | 2 $\frac{1}{2}$ | Sand, gravel | 71.0 | 71.0 | 72.0 | T. |
| 1202 | Aug. 9 | 3.50 | | | Meneasha Bight: Gay Head Light, W. $\frac{1}{2}$ S., 4 $\frac{1}{2}$ miles; Centre Quick's Hole, N. by W. $\frac{1}{2}$ W.; Tarpaulin Cove, NNE. $\frac{1}{2}$ E. 7 miles. | NW. $\frac{1}{2}$ W., $\frac{1}{2}$ mile. | 7 | Hard sand | 69.0 | 67.0 | 68.0 | T. |
| 1203 | Aug. 9 | 4.07 | | | Gay Head Light, W. by S.; Centre Quick's Hole, N. by W. $\frac{1}{2}$ W.; Tarpaulin Cove, NNE. $\frac{1}{2}$ E. | NW. $\frac{1}{2}$ W., $\frac{1}{2}$ mile. | 8 | do | 70.0 | 69.0 | 67.0 | T. |
| 1204 | Aug. 9 | 4.25 | | | Gay Head Light, WSW., 3 miles; Centre Quick's Hole, N. by W. $\frac{1}{2}$ W. $\frac{3}{4}$ miles; Tarpaulin Cove, NE. by N. $\frac{1}{2}$ N., 8 miles. | N. $\frac{1}{2}$ W., $\frac{1}{2}$ mile. | 9 | do | 70.0 | 69.0 | 68.0 | T. |
| 1205 | Aug. 11 | 10.42 a. m. | | | Off East Chop: Nobska Light, NW. $\frac{3}{4}$ W.; West Chop, W. by N. $\frac{1}{2}$ N., 2 miles; East Chop, W. by N. $\frac{1}{2}$ N. | W. by S., $\frac{1}{2}$ mile. | 10 | Shells, sand, rock | 73.0 | 71.0 | 72.0 | D. |
| 1206 | Aug. 11 | 10.55 | | | Nobska Light, NW. $\frac{1}{2}$ W., $\frac{1}{2}$ miles; West Chop, W. by N. $\frac{1}{2}$ N.; East Chop, W. $\frac{1}{2}$ N. | E. by S., $\frac{1}{2}$ S., $\frac{1}{2}$ mile. | 11 | Sand, shells, gravel, mud. | 73.0 | 70.5 | 72.0 | D. |
| 1207 | Aug. 11 | 11.10 | | | Nobska Light, NW. by W. $\frac{1}{2}$ W.; West Chop, W. by N. $\frac{1}{2}$ N., 3 miles; East Chop, W. $\frac{1}{2}$ N. | E. by S. $\frac{1}{2}$ S., $\frac{1}{2}$ mile. | 11 $\frac{1}{2}$ | Sand, gravel | 73.0 | 71.0 | 72.0 | D. |
| 1208 | Aug. 11 | 11.29 | | | Nobska Light, NW. $\frac{1}{2}$ N.; Edgartown Light, S. $\frac{1}{2}$ W.; East Chop, W. by N. $\frac{1}{2}$ N. | | 10 | Sand, gravel, shells | 72.0 | 70.5 | 72.0 | D. |

| | | | | | | | | | | | |
|----------------------|---------|--------------|--|--|-----------------------|-----|---------------------------|------|------|------|---------|
| 1209 | Aug. 11 | 12.50 p. m | | <i>Muskeget Channel:</i> SE. end Martha's Vineyard, SW. $\frac{1}{2}$ S.; Cape Poge, N. $\frac{1}{2}$ E.; Life-saving station on Muskeget Island, SE $\frac{1}{2}$ E. | N. $\frac{1}{2}$ mile | 5 | Sand | 70.0 | 69.0 | 69.5 | T. |
| 1210 | Aug. 11 | 1. 13 | | SE. end Martha's Vineyard, SW. by S. $\frac{1}{2}$ S.; Cape Poge, N. $\frac{1}{2}$ W.; Muskeget, SE. $\frac{1}{2}$ E. | N. $\frac{1}{2}$ mile | 3 | do | 70.5 | 70.0 | 71.0 | T. |
| 1211) to 1221) | Aug. 15 | | | Buzzard's Bay: From West Island to N. end of Wood's Holl. | | 6-8 | Black mud, shells, grass. | 69.5 | 70.0 | 71.1 | D. & T. |
| 1222 | Aug. 27 | 10. 08 a. m. | | Vineyard Sound: Nobska Light, N. by W. $\frac{1}{2}$ W.; Tarpanlin Cove, W. $\frac{1}{2}$ S.; West Chop, SE. $\frac{1}{2}$ S. | W. $\frac{1}{2}$ mile | 12 | Sand, shells | 67.0 | 68.0 | 69.0 | D. |
| 1223 | Aug. 27 | 10. 20 | | Nobska Light, NW. by N. $\frac{1}{2}$ N.; Tarpanlin Cove, W. $\frac{1}{2}$ S.; West Chop SE. $\frac{1}{2}$ S. | W. $\frac{1}{2}$ mile | 12 | do | 67.0 | 68.0 | 68.0 | D. |
| 1224 | Aug. 27 | 10. 36 | | Nobska Light, N. $\frac{1}{2}$ E.; Tarpanlin Cove, W. $\frac{1}{2}$ S.; West Chop, SE. by E. $\frac{1}{2}$ E. | W. $\frac{1}{2}$ mile | 11 | do | 67.0 | 68.0 | 68.0 | D. |
| 1225 | Aug. 27 | 10. 55 | | Nobska Light, N. by E. $\frac{1}{2}$ E.; Tarpanlin Cove, W. $\frac{1}{2}$ S.; West Chop, SE. by E. $\frac{1}{2}$ E. | W. $\frac{1}{2}$ mile | 13 | Shells, gravel, sand | 67.0 | 68.0 | 68.0 | D. |
| 1226 | Aug. 27 | 11. 14 | | Nobska Light, NNE.; Tarpanlin Cove, W. $\frac{1}{2}$ S.; West Chop, E. by S. $\frac{1}{2}$ S. | W. $\frac{1}{2}$ mile | 13 | Sand, shells | 67.0 | 68.0 | 68.0 | T. |
| 1227 | Aug. 27 | 11. 32 | | Nobska Light, NE. $\frac{1}{2}$ N.; Tarpanlin Cove, W. $\frac{1}{2}$ S.; West Chop, E. by S. $\frac{1}{2}$ S. | W. $\frac{1}{2}$ mile | 13 | do | 67.0 | 68.0 | 68.0 | T. |
| 1228 | Aug. 29 | 10. 42 | | Vineyard Sound Light-ship W.; Cuttyhunk, NW. $\frac{1}{2}$ W.; Gay Head, SE. $\frac{1}{2}$ S. | W. $\frac{1}{2}$ mile | 18 | Sand | 65.0 | 64.0 | 61.0 | T. |
| 1229 | Aug. 29 | 11. 12 | | Vineyard Sound Light-ship, W. $\frac{1}{2}$ S.; Cuttyhunk, NW. $\frac{1}{2}$ N. | W. $\frac{1}{2}$ mile | 15 | do | 66.0 | 64.0 | 62.0 | T. |
| 1230 | Aug. 29 | 11. 47 | | Vineyard Sound Light-ship, W. $\frac{1}{2}$ N.; Cuttyhunk, N. by W. $\frac{1}{2}$ W.; Gay Head, SE. $\frac{1}{2}$ E. | W. $\frac{1}{2}$ mile | 14 | do | 65.0 | 64.0 | 61.0 | T. |
| 1231 | Aug. 29 | 12. 15 p. m. | | Vineyard Sound Light-ship, W. by N. $\frac{1}{2}$ N.; Cuttyhunk, N. by W. $\frac{1}{2}$ W.; Gay Head, SE. $\frac{1}{2}$ E. | W. $\frac{1}{2}$ mile | 16 | do | 65.0 | 64.0 | 62.0 | D. |
| 1232 | Aug. 29 | 1. 00 | | Vineyard Sound Light-ship, W. by N. $\frac{1}{2}$ N.; Cuttyhunk, NW. by N. $\frac{1}{2}$ N.; Gay Head, SE. $\frac{1}{2}$ E. | W. $\frac{1}{2}$ mile | 13 | Mud, shells | 65.0 | 64.0 | 62.5 | T. |
| 1233 | Aug. 29 | 1. 27 | | Vineyard Sound Light-ship, W. $\frac{1}{2}$ N.; Cuttyhunk, NW. $\frac{1}{2}$ N.; Gay Head, SE. $\frac{1}{2}$ E. | W. $\frac{1}{2}$ mile | 13 | Sand, shells | 65.0 | 64.0 | 62.0 | T. |
| 1234 | Aug. 29 | 1. 49 | | Vineyard Sound Light-ship, W. $\frac{1}{2}$ N.; Cuttyhunk, NW. by N. $\frac{1}{2}$ N.; Gay Head, SE. $\frac{1}{2}$ E. | W. $\frac{1}{2}$ mile | 12 | do | 65.0 | 64.0 | 62.5 | D. |

Dredging stations of the Steamer Fish Hawk from 1883 to 1887—Continued.

| Serial num- ber. | Date. | Hour. | Latitude N. | Longi- tude W. | Locality. | Drift. | Depth, in fathoms. | Nature of bottom. | Temperatures. | | | Apparatus used. |
|---------------------|------------------|------------|----------------|-------------------|--|-----------------------|--------------------------|--------------------------|---------------|-------|--------------|--------------------|
| | | | | | | | | | Air. | Surf. | Bot- tom. | |
| 1235 | 1887. Aug. 29 | 2.10 p.m. | 0 11 | 0 11 | Vineyard Sound—Continued. Vineyard Sound Light-ship, W. by N. ½ N.; Cuttyhunk, NW. ½ N.; Gay Head, SE. by S. ½ S. | W. ¼ mile..... | 12 | Sand, shells..... | 65.0 | 64.0 | 62.5 | T. |
| 1236 | Aug. 30 | 9.03 a.m. | | | Block Island Sound: Gay Head Light, NE. by E. ½ E.; Cut- tyhunk Light, N. by E.; No Man's Land, SE. by E. ½ E. | S. by E., ¾ mile..... | 19½ | Hard..... | 65.0 | 62.0 | 60.0 | T. |
| 1237 | Aug. 30 | 10.00 | | | Gay Head Light, E. by N.; Cuttyhunk, NE. by N.; No Man's Land, SE. by E. ½ E. | ¾ mile..... | 20 | do..... | 67.0 | 64.0 | 59.0 | T. |
| 1238 | Aug. 30 | 10.45 | | | Gay Head Light, E. by N. ½ N.; Cutty- hunk, NE. by N. ½ N.; No Man's Land, SSE. | ¾ mile..... | 20 | Sand, broken shells..... | 65.0 | 61.0 | 61.0 | D. |
| 1239 | Aug. 30 | 11.35 | | | Hen and Chickens Light-ship, N. by E. ½ E.; Cuttyhunk, NE.; No Man's Land, SE. ½ E. | ¾ mile..... | 16 | Hard..... | 65.0 | 62.0 | 61.0 | T. |
| 1240 | Aug. 30 | 12.44 p.m. | | | Gay Head Light, E. by S. ¾ S.; No Man's Land, SSE. ½ E.; Vineyard Sound Light-ship, NW. ½ W. | ¾ mile..... | 18½ | Blue mud..... | 64.0 | 62.0 | 60.0 | T. |
| 1241 | Sept. 5 | 10.27 a.m. | | | Nantucket Sound: Bishop and Clerks Light-ship, E. ½ N.; Succonesset Light-ship, W. by N. ¾ N. | ESE., ¼ mile..... | 21 | Sand, broken shells... | 70.0 | 68.0 | 69.5 | D. |
| 1242 | Sept. 5 | 10.50 | | | Bishop and Clerks Light-ship, E. ½ N.; Succonesset Light-ship, W. ½ N. | NNW., ¼ mile..... | 18 | Sand, shells..... | 70.0 | 68.0 | 69.0 | T. |
| 1243 | Sept. 5 | 11.15 | | | Bishop and Clerks Light-ship, E. ½ N.; Succonesset Light-ship, W. ½ N. | N. by E., ¼ mile..... | 15½ | Sand, shells, rocks... | 70.0 | 68.0 | 69.5 | D. |
| 1244 | Sept. 5 | 11.54 | | | Bishop and Clerks Light-ship, E. ½ N.; Succonesset Light-ship, W. ½ S.; Hyannis Light, NE. by N. ½ N. | W. by N., ¼ mile..... | 5½ | Sand, shells, mud..... | 70.0 | 67.0 | 69.5 | D. |
| 1245 | Sept. 5 | 12.27 p.m. | | | Bishop and Clerks Light-ship, E. by S. ½ S.; Collins' Beacon, N. by W. ¾ W.; Hyannis Light, NE. ½ N. | W. by N., ½ mile..... | 4½ | Sand, shells..... | 68.0 | 68.0 | 69.5 | T. |
| 1246 | Sept. 5 | 1.00 | | | Succonesset Light-ship, SW. ¾ S.; Collins' Beacon, N.; Hyannis Light, NE. ½ N. | W. by N., ¼ mile..... | 5½ | do..... | 68.0 | 68.0 | 69.5 | T. |
| 1247 | Sept. 6 | 9.49 a.m. | 41 00 45 | 71 00 05 | Southwest of Gay Head..... | NE. ½ N., ¾ mile..... | 27 | Sand..... | 67.0 | 65.0 | 53.5 | T. |
| 1248 | Sept. 6 | 10.30 | 41 02 00 | 71 00 00 | do..... | do..... | 26½ | do..... | 68.0 | 64.0 | 55.0 | T. |
| 1249 | Sept. 6 | 11.29 | 41 04 00 | 70 59 30 | do..... | do..... | 22½ | do..... | 67.0 | 64.0 | 57.0 | T. |
| 1250 | Sept. 6 | 12.30 p.m. | 41 06 00 | 70 59 15 | do..... | do..... | 20½ | do..... | 67.0 | 64.0 | 58.5 | T. |
| 1251 | Sept. 6 | 1.36 | 41 10 00 | 70 59 15 | do..... | do..... | 17 | do..... | 67.0 | 64.0 | 60.0 | T. |