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Diag. Chart No. 1107

Treasury Department,
U. S. COAST AND GEODETIC SURVEY.

O. H. Tittmann
Superintendent.

State: *Mass.*

2654

DESCRIPTIVE REPORT.

Hydrographic Sheet No. 2654

LOCALITY:

*Examination of Nantucket
Shoals, Vicinity of
Nantucket Shoals
Light Vessel*

1903

CHIEF OF PARTY:

G. L. Jarvis

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Remarks on

Nantucket Shoals Hydrographic Sheet.

The work covered by this sheet is a resurvey in the vicinity of Phelps Bank and Nantucket Shoals Light Vessel, for the purpose of ascertaining any changes that may have recently taken place in this region.

The location of the Sounding lines on this sheet depends upon the compass bearings on the light vessel and the distances run by patent log and the courses by Standard Compass.

The lines beginning from a departure from the lightship were run out for the desired distance and then the course changed and continued back towards the lightship and ended with bearings upon it; In plotting these lines, running out from the lightship and back again it was found that they had to be adjusted to comply with the effect of the current on the vessel while running the line.

Astronomical observations were made whenever possible for location of ship's position but I believe but little dependence can be put in them owing to the generally poor horizon and hazy atmosphere. Fog and cloudy weather interfered with the astronomical location of the ship's position.

The location of the light vessel as determined by the Captain of it, from observations covering a period of a month is, Latitude $40^{\circ} 37' 00''$; Longitude $69^{\circ} 37' 15''$.

The longitude observed by Mr. Kramer, Aid, on Sept. 9th. is $69^{\circ} 37' 13.8''$ (mean of 5 sets of observations) Mr. Kramer had no opportunity to get latitude observations while he was on the light vessel- I think it is safe to depend upon the position of the light vessel as here given as there is such a good agreement in the two deter-

minations of longitude above given - the longitude being much the more difficult of the two coordinates to determine .

In the development of Phelps Bank a notable change in depth of water was found; the shallowest water now on this bank being six (6) fathoms instead of ten (10) as given on our charts.

Most of the shoal spots that have been reported by passing ships were found to exist.

The execution of this piece of work was difficult and unsatisfactory on account of foggy and hazy weather and the irregularity of the tidal currents in this region; and the lines as plotted on this sheet are as near their true positions as I am able to plot them.

R. L. Jarvis
Assist. C. & G. S.

Chief of Party.