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Diag. Cht. No. 1209-2

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DESCRIPTIVE REPORT.

*Hydrographic* Sheet No. *2599*

LOCALITY:

*Middle of Horseshoe Channel*  
*South Cross Rip Channel*

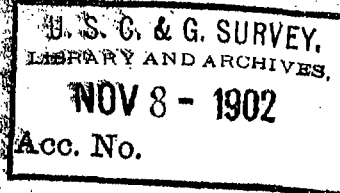
*Nantucket Sound*

1902

CHIEF OF PARTY:

*R. L. Faris, asst.*

2599



2599.-Middle of Horseshoe Channel, Nantucket Sound.

The following information is the result of personal observation.

In the channel through the Horseshoe Shoal 7 or 8 fathoms were found. A vessel of <sup>5 1/2</sup> ~~six~~ fathoms draught can get through by careful navigation, though it is not advisable for a stranger to approach that channel, as the current sweeps over the shoals in several directions, cause thereof unknown.

About four miles NNW from the south entrance of Cross Rip Channel a fair anchorage can be had from ENE to NW winds on the SW side of Horseshoe Shoal in 3-1/2 fathoms of water. Sticky bottom.

South Cross Rip Channel, Nantucket Sound.

The following information is the result of personal observation.

This is the channel <sup>often</sup> ~~most~~ used by navigators, The greatest depth was found to be about five fathoms.

No material change of depth was found from previous surveys.

This channel is easy of approach, and there is no danger whatsoever, as the current runs in the direction of the channel. A good anchorage can be had about six and one half miles west from Cross Rip Lt. Vessel under Cape Poge Lt. House, in channel leading north and South in from NW to SW winds in three and three quarters fathoms water. Hard bottom, good holding ground.

REPORT  
on  
HYDROGRAPHIC SHEET  
NO. 2599.  
Nantucket Sound,  
South Cross Rip Channel and  
Middle of Horseshoe Shoal Channel,  
Mass.  
Assistant Paris,  
1902.

*Copy to Paris  
10/11/4/03*

The smooth sheet was of paper unfit for such purpose, and the protracted positions were marked and numbered with very large figures and circles that obscured the soundings. A new projection was made and the protracted positions transferred to it from the original.

All the soundings on the sheet were reduced a second time. In the field an unauthorized correction for range and time was applied, that the Office did not consider sufficiently well determined to warrant its use.

The record of angles for determination of hydrographic signals is in poor shape, irregular, incomplete and uncertain, making it very difficult, if not impossible, to verify the plotted positions of signals.

Title and notes were incomplete.

Though the bottom over area considered is extremely irregular, two leads were used and apparently with excellent results, indicating merely that the leadsmen were capable and trustworthy, all that is necessary for successful use of two leads.

Attention is directed to the details of bottom relief developed on this sheet and in a measure confirmed by examination of earlier surveys in same general locality. Instead

of the irregular holes and spots indicated on other sheets, it appears that the bottom is made up of well defined sand waves, or ridges, normal to mean direction of the current, - on this sheet their direction is N.E.-S.W. throughout and independent of variation of general depth. Of the other sheets examined, Hyd. 2040 gave the strongest proof of the existence of such sand waves. At the S.E. point of Nantucket Id. the waves are parallel to the shore at only one point, then shift in opposite directions as their distance from that point increases\* either way (see tracing).

This is probably the point where the ebb current, striking the S.E. side of Nantucket Id. separates, one part deflected along the east side to the northward, the other along the south side to the westward. The flood current at this point would probably be inappreciable.

If the bottom is of the form indicated, the fact should be established by further examination on ground, or, failing that, by replotting part of Sheet 2599 on scale sufficiently large to plot all the soundings taken.

It is evident that if we have to deal with a regular system of waves, or ridges, and not irregular holes or spots, many of the details of field practice in this locality should be modified.

In addition, information of value or interest may be developed in regard to currents and shoal movements and formation.

J. T. W. (Signed).

4-3-03.

HYDROGRAPHIC SHEET No. 2599.

"Nantucket Sound".

The uncertainty in the soundings and reduction for tides does not justify the assumption that the figures show the true depths so closely as to warrant the curves as drawn.

I recommend a tracing should be prepared showing the generalization required for publication, to be filed with the sheet.

*Herbert G. Ogden*

Inspector of Hydrography and Topography.

*Oct 26.03*