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SEP 18 1906

No. 2820

Diag. Cht. No. 8502-1

Department of Commerce and Labor
COAST AND GEODETIC SURVEY

O. H. Tittmann
Superintendent.

State: *Alaska*

DESCRIPTIVE REPORT.

Hyac Sheet No. *2820*

LOCALITY:

Reconnaissance

South of Cape

St. Elias

1906

CHIEF OF PARTY:

H. W. Rhodes

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DESCRIPTIVE REPORT

Reconnaissance South of Cape St. Elias, Alaska. No.

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Instructions for this reconnaissance were to locate the sounding lines by bearings on Pinnacle Rock and by log distances.

Owing to the strong tidal currents sweeping across the reef, it was deemed necessary to have a second point determined, in order to secure cross bearings, and for this purpose the center of S.E. Rocks was located as accurately as possible by bearings on it and Pinnacle Rock with log distances at slack water.

With these points then for cross bearings and log readings taken at all positions, a set of lines were run across the shoal as near to the breakers as it was deemed prudent to take the ship; and a line also run out several miles and back on the apparent extension of the shoal.

Owing to the impossibility of plotting the work as it was executed, it was necessary to run to lines wholly by eye and therefore impossible to run them exactly where desired.

On account of the very large compass deviations on the "McARTHUR", it was found necessary to swing ship for a deviation card in the latitude of Cape St. Elias before the work could be plotted.

Owing to the large change in bearings for a small change in ship's head, and to the strong tidal currents mentioned above, it has frequently been found impossible to get an agreement in successive positions, as plotted by bearings or by log distances. However the whole sheet has been plotted twice in the rough, and a careful mean value taken for all conflicting positions. consider-

ing wind and tide, and it is believed no positions are seriously in error.

Soundings were taken with hand lead where the depths permitted, and at greater depths with the hand sounding machine, using a Tanner Machine Indicator.

Ordinates for the reduction of soundings have been computed from Tables 2A and 2B of the Tide Tables.

The usual course followed by commercial steamers approaching Kayak from the Eastward or Southeastward is $3/4$ mile South of S.E.Rocks.

Respectfully submitted,

H. W. Rhodes.

Ass't. C. & G. Survey.

Commanding "McARTHUR"

Department of Commerce and Labor

Hyd Sheet #2820

A few slight corrections made
in the soundings as plotted by the
field party owing to a discrepancy
in the reduced sound.

The sub-marine survey was used in
the lines shown in color.

H. L. Sumner

Oct. 20, 1906.

Department of Commerce and Labor

*Soundings are expressed in fathoms
and show the depth - etc*