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U. S. COAST AND GEODETIC SURVEY.

*Dr. H. S. Pritchett*, Superintendent.

State: *Virginia*

## DESCRIPTIVE REPORT.

*Hydrographic Sheet No. 2404*

LOCALITY:

*Chesapeake Bay  
off Cape Charles  
City*

1899

CHIEF OF PARTY:

*C. C. Yates*

2404

COPY

Sassafras River, Md. Oct. 11, 1899.

Mr. O. H. Tittmann,

Acting Superintendent C. & G. Survey,

Washington, D.C.

Sir:

I have the honor to report that all the sheets, records and computations relating to the "laying off" of the "twenty fathom trial course", Chesapeake Bay, off Cape Charles City, have been completed and delivered to the Office.

An attempt has been made to give all the required information on the face of the smooth sheet and therefore it has not been considered necessary to write a "Descriptive Report".

It was the original intention to have the course exactly one nautical mile and the "Ranges" parallel, but on account of an error in taking out the mean of an angle at the beginning of the work (which was not discovered until yesterday) this was only approximately accomplished.

The computed length of the "Course" is 6077 feet. However for all practical purposes of a speed trial of a thirty knot vessel this is a nautical mile (6080.27 feet) as one-fifth of a second in making the time of the passing of a range would be equivalent to ten feet.

The deviation from the parallel of the ranges is 36". This

is too small to have any effect on the length of the "Course" within the limit of the deep water, provided the course is laid off approximately perpendicular to the ranges.

The distance between the front and rear range marks are less than that which was considered desirable, but the heavily wooded shore made longer ranges impracticable. With the exception of the Cherrystone Light House all the range marks are white and show sharply against a dark background from the trial course. Unless the conditions are favorable the Light House Lantern should be painted white or covered with white cloth before the speed trials.

The least depth on the "Course" is twenty-two fathoms and a continuation of two miles on either end of the course can be had with ten fathoms of water.

On the speed trial it is suggested that good binoculars and a stop watch should be used to mark the time of the passing of the ranges.

All trials should be run at near slack water as the currents are not parallel to the "Course" and therefore cannot be eliminated by doubling on the course.

The necessary data for calculating the approximate time of high and low waters at Old Point Comfort has been given on the face of the sheet and therefore a copy of the Coast and Geodetic Survey Tide Tables should accompany the sheets of the Trial Course.

(Sgd) Asst, C. C. Yates, U. S. C. & G. Survey.