

L E T T E R

FROM

T H E S E C R E T A R Y O F W A R ,

TRANSMITTING,

*In response to resolution of the United States Senate of the 18th ultimo,
reports respecting the entrance of Yaquina Bay, Oregon.*

APRIL 13, 1880.—Referred to the Committee on Commerce and ordered to be printed

WAR DEPARTMENT,
Washington City, April 12, 1880.

The Secretary of War, in response to the resolution of the United States Senate of the 18th ultimo, calling for—

All data in the possession of the Department of Engineers of the United States respecting the entrance to Yaquina Bay, Oregon, showing the depth and width of the channel and the character of obstructions thereto, and particularly a copy of the report of Captain Woods of an examination and survey of the entrance to said harbor made in December, 1879, by direction of the Board of Engineers for the Pacific Coast—

Has the honor to transmit herewith a letter from the Chief of Engineers of the 10th instant, and accompanying copy of one from Lieut. Col. C. S. Stewart, senior member of the Board of Engineers for the Pacific Coast, dated March 31, 1880, and report of Mr. George W. Wood upon the survey of Yaquina Bay, dated November 28, 1879.

ALEX. RAMSEY,
Secretary of War.

The PRESIDENT *pro tempore*
of the United States Senate.

OFFICE OF THE CHIEF OF ENGINEERS,
UNITED STATES ARMY,
Washington, D. C., April 10, 1880.

SIR: I have the honor to return herewith the resolution of the Senate of the United States of the 18th ultimo, directing the Secretary of War—

To furnish the Senate with all data in the possession of the Department of Engineers of the United States respecting the entrance to Yaquina Bay, Oregon, showing the depth and width of the channel and the character of obstructions thereto, and particularly a copy of the report of Captain Woods of an examination and survey of the entrance to said harbor made in December, 1879, by direction of the Board of Engineers for the Pacific Coast—

And to submit, in compliance with its requirements, the inclosed copy of a letter from Lieut. Col. C. S. Stewart, senior member of the Board of

Engineers for the Pacific Coast, dated March 31, 1880, and accompanying report of Mr. George W. Wood upon the survey of Yaquina Bay, Oregon, dated November 28, 1879.

Very respectfully, your obedient servant,

H. G. WRIGHT,

Chief of Engineers, Brig. and Bvt. Maj. Gen.

Hon. ALEXANDER RAMSEY,

Secretary of War.

REPORT OF BOARD OF ENGINEERS FOR THE PACIFIC COAST.

OFFICE OF THE BOARD OF ENGINEERS FOR PACIFIC COAST,
San Francisco, Cal., March 31, 1880.

SIR: In compliance with instructions in letter of March 19, 1880, from the office of the Chief of Engineers, the copy of the resolution of the Senate of the United States of March 18, 1880, in regard to data in the possession of the Department of Engineers of the United States respecting the entrance to Yaquina Bay, Oregon, showing the depth and width of the channel and the character of obstructions thereto, and particularly a copy of the report of Captain Wood of an examination and survey of the entrance to said harbor, made in December, 1879, by direction of the Board of Engineers for the Pacific Coast, has been placed before the board for its information and consideration.

The Board requests me to state that the reliable data of the kind desired in its possession are found in the United States Coast Survey chart of the entrance to Yaquina River, published in 1868, and in the report and map of Captain Wood referred to above. Copies of the letter were forwarded to the Chief of Engineers on the 18th of March.

From an examination of these it is found that a bar obstructs the entrance. The bar is of sand overlying, at least in part, rock, probably a soft sandstone. In some places the rock is bare, in others covered with sand from a few inches to 3 or 4 feet or more in depth. At low-water 9 feet about can be carried over the bar, with a width of channel at the narrowest point between the north and south breakers of 300 yards. The tide rises on an average 8 feet. The length of the bar, measured at low-water between the outer and inner two-fathom curves, is 430 yards; between the three-fathom curves, 1,000 yards; and between the four-fathom, 1,600.

A copy of the Coast Survey chart of 1868 is mailed herewith, on which are indicated the directions of the channel in different years and seasons. The most northern position, that for the year 1868, is marked by the broken line in black. The line in blue gives the direction in May, 1870, corresponding to that represented in the sketch in the upper left-hand corner of the chart. The range for mid-channel, as determined in November, 1879, by Captain Wood, is shown by the red line. The bar, therefore, it is seen, is not fixed in position, but is movable within rather wide limits, and rapidly, as indicated by the changes between 1868 and 1870.

The material of which it is composed, in part at least, shifts back and forth under the varying forces which act upon it. The outflow from the bay is not sufficient to keep the entrance free from sand so as to enable a vessel to carry in, at low-water, more than about 9 feet.

An artificial channel excavated from deep water inside to deep water

outside would not, in the opinion of the Board, with the data before it, remove permanently the obstruction to the entrance.

Very respectfully, your obedient servant,

C. SEAFORTH STEWART,

Lieutenant-Colonel of Engineers, Senior Member of the Board.

The CHIEF OF ENGINEERS, U. S. A.

REPORT OF MR. GEORGE W. WOOD.

UNITED STATES ENGINEER OFFICE,

Portland, Oreg., November 28, 1879.

SIR: In obedience to your orders I proceeded to Yaquina Bay, Oregon, and made a survey of the bar, and have the honor to submit the following report:

I found the channel much to the southward of the range beacon that was standing on the south beach. The weather had been very rough for two weeks prior to my arrival, and the heavy swell from the southwest rolling in broke heavy on the north and south reefs, and at low-water across the only channel at present existing; but at high-water tide quite an opening could be seen between the north and south line of the breakers. I found the north reefs composed of soft sand-rock running southerly from the north head, the first reef rising gradually from seaward and ending with an abrupt steep face to the eastward. This reef can only be seen at low-water.

The inner reef rises gradually like the first, but 5 or 6 feet higher, and can be seen at all stages of tide. The intervening space between the two reefs is filled with sand in some places for a few inches deep and in others 5 or 6 feet. This rock is perforated by a crustacea called rock-oyster.

The north reef, as far as it can be traced at low-water, culminates in a rock, marked on the accompanying chart a rock awash; here the reef appears to sink. The rest of the north breakers are formed by sand. Across the bar, 500 feet wide from north to south and 1,000 feet long from east to west, a depth of 9 feet was found at low-water; and by sounding with an iron-pointed pole, the bed of this channel was found to be of the same formation as the reefs, the bed rock in some places quite bare and in others covered with sand from a few inches deep in some places to 3 and 4 feet in others. The south breakers are formed by detached rocks in a line with and in all probability a continuance of the north reefs.

This harbor is protected by a reef running parallel with the coast about $1\frac{1}{2}$ miles from shore, on which in heavy weather the sea breaks with great violence, and inside this reef, between it and the shore, it is all white broken water to inside the heads, and, in consequence of rocky bottom, buoys are constantly shifting their position and tend to mislead vessels bound to this port. I changed the beacon marked "range" on the chart and erected it more to the southward where a beacon had been placed before, and it now ranges with the flag-staff across mid-channel. This range I am informed by the old settlers is the only one used by the captains of coasting vessels acquainted with this bar.

Very respectfully, your obedient servant,

GEO. W. WOOD.

Col. G. L. GILLÉSPIE,

Corps of Engineers, U. S. A.