

Geo. Town College Observatory

43D CONGRESS, }
1st Session. }

HOUSE OF REPRESENTATIVES.

{ Ex. Doc.
No. 133.

REPORT OF THE SUPERINTENDENT

OF THE

UNITED STATES COAST SURVEY,

SHOWING

THE PROGRESS OF THE SURVEY

DURING

THE YEAR 1873.

WASHINGTON:
GOVERNMENT PRINTING OFFICE,
1875.

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tober, the *Yukon* was held by three anchors in Humboldt harbor, which had been surveyed by the party last year, but the schooner *William Whelan* was driven ashore and totally wrecked at Unga, twelve miles to the southward. On receipt of a note which Captain Holder had sent by a native, Assistant Dall promptly went to the site of the disaster and brought the captain and crew of the wrecked vessel, on the schooner *Yukon*, to San Francisco.

In advance of sailing for Alaska the attention of Mr. Dall had been requested for the selection of a site proper for landing a telegraph-cable intended to traverse the Northern Pacific. This service his large experience in the operations of the Western Union Telegraph Company in previous years enabled him to perform to the satisfaction of the agents of the enterprise. A site was chosen for a telegraph-station on the island of Kyska, and the harbor and its vicinity were carefully surveyed.

"We obtained over a thousand astronomical observations during the season, and nearly as many for magnetic elements. The latter show an average decrease in the declination of more than two degrees at most of the stations, since observations were last taken, more than twenty years ago. Our stations are at nearly even distances from the Shumagins to the western end of the chain."

"Deep-sea soundings were made wherever opportunity offered, and much greater depths were found than any previously reported in Behring Sea. We found, too, the deposition of Globigerina mud, or recent chalk-formation, going on at the depth of 800 fathoms."

Soundings made by the party in the *Yukon* disprove the existence of the Bogosloff reef, which has been marked on previous general charts as extending for twenty miles from Unimak. "We found 800 fathoms and no bottom on the exact line of the supposed reef less than ten miles from the island."

The report of Mr. Dall includes special mention of the energy, interest, and competency displayed by Mr. Marcus Baker, the astronomical aid in the party, who lost no opportunity for securing results. Much of the season was passed amid rains and fogs, but a large store of important hydrographic particulars has been gathered, and the positions of most of the prominent volcanic peaks were determined approximately, as landmarks for charts.

The schooner *Yukon* arrived at San Francisco on the 6th of November, after a passage of eighteen days, from the Shumagin Islands. Assistant Dall and his aid, Mr. Baker, are now engaged in the computations and other office details pertaining to the operations of the present year on the coast of Alaska.

The report made by Mr. Dall, after his return to San Francisco, is given in the Appendix, No. 11.

Tidal observations.—The self-registering gauge intended to secure a series of observations at Saint Paul's Island, in Behring Sea, arrived there in April, 1872, but unfortunately the fastenings of the clock-face had given way in the transit, and thus some parts of the apparatus had been injured. Capt. Charles Bryant, to whom the instrument was consigned, repaired the clock as far as possible in the absence of ordinary facilities, and put the tide-gauge into working order at Village Cove, on the western side of the island, where it was fastened to a crib of timber filled with stone. A bench-mark was established on a rock near the crib. With occasional stoppages, owing to the injury which the clock had received on its passage, the times and heights of the tide were recorded during June, July, and August of 1872. After that the record was more frequently interrupted by defect in the moving apparatus, and Captain Bryant, who had done the utmost to preserve continuity of the record, was constrained to remove the instrument in the middle of December. Soon afterward the northern drift-ice from Behring Sea, swept in by southwest winds, filled the cove, and in loosening with the approach of spring carried away the crib which had been constructed to sustain the tide-gauge. The records for six months, of which the last three are marked by numerous interruptions, have been received at the office.

COAST SURVEY OFFICE.

The operations of the Coast Survey Office have been conducted, as for many years past, by Assistant J. E. Hilgard, who resumed their immediate direction upon his return from Europe at the beginning of November, relieving Assistant C. S. Peirce from temporary charge of the Office.