APPENDIX No. 47.

Table showing the results of re-examinations for sites of light-houses, beacons, buoys, &c., referred to the Superintendent of the Coast Survey by the Secretary of the Treasury, in accordance with the laws of March 3, 1851, and August 31, 1852, and the recommendation of the Light-house Board.

Sect'n.	State.	No.	Special locality.	Object.	By whom examined.	Report of Superintendent.
I	Maine	1	Nubble, Cape Neddick, York harbor, Me.	Examination and survey for light-house.	Lieutenant Comg. Woodhull.	Report to be made.
	Massachusetts	2	Minot's ledge, Cohasset Rocks, Boston harbor, Mass.	Examination and survey for light-house.	Lieutenant Comg. Stellwagen.	Recommended November 21, 1853.
		3	Deep-hole Rock, Vineyard sound, Mass.	Beacon	Lieutenant Comg. Woodhull.	Spindle recommended Oct. 31, 1853.
		4	Sow and Pigs Rocks, off Cuttyhunk, Mass.	Examination and survey for light-house.	Lieutenant Comg. Woodhull.	Recommended September 3, 1853.
II	New York	5	Romer shoal, New York harbor.	Channel range-lights.	Lieutenant Comg. Woodhull.	Report to be made.
VI	Florida	6	Signals on Florida reef		Lieut. Jas. Totten.	Recommended November 3, 1853.
VIII	Mississippi	7	Entrance to East Pascagoula river.	Examination and survey for light-house.	Lieutenant Comg. Sands.	Recommended November 15, 1853.
	Louisiana	8	Ship shoal and Racoon Point.	Examination and survey for light-house.	Lieutenant Comg. Sands.	Recommended November 16, 1853.
IX	Texas	9	Entrance to Sabine river.	Examination and survey for light-house.	Lieut. Jno. Wilkinson.	Recommended July 12, 1853.
		10	Aransas Pass	Examination and survey for light-house.	Lieutenant Comg. Stellwagen.	Light-vessel recommended September 5, 1853.
X	California	11	Point Bonita	Examination and survey for light-house.	Assistant R. D. Cutts.	Recommended September 1, 1853.
	Do	13	San Pedro	Examination and survey for light-house.	Lieutenant Comg. J. Alden.	Under instructions for examination.
	Do	14	Santa Cruz	Examination and survey for light-house.	Lieutenant Comg. J. Alden.	Under instructions for examination.

APPENDIX No. 48.

Letter of the Superintendent of the Coast Survey to the Secretary of the Treasury, transmitting the report of Lieut. Comg. H. S. Stellwagen, U. S. Navy, assistant in the Coast Survey, on the survey of Minot's Ledge, Cohassett Rocks, Boston Harbor, with a view to the selection of a site for a light-house there.

COAST SURVEY STATION, NEAR PHILLIPS, MAINE,
November 21, 1853.

SIR: I have the honor to transmit, for the use of the Light-house Board, the report of Lieut. Comg. H. S. Stellwagen, U. S. Navy, assistant in the Coast Survey, on the survey of the Cohassett Rocks, Boston harbor, with a view to the selection of a site for a light-house, to replace the one swept from Minot's Ledge, and for which appropriation was made in the act of Congress approved August 31, 1852.

The hydrographic survey was made by Lieut. Comg. Stellwagen, who was aided in the selection of the site for the light-house by Captain H. W. Benham, U. S. corps of engineers, assistant in charge of the Coast Survey office.

I enclose herewith a tracing of the map, upon a scale of $\frac{1}{5000}$, on which the proposed site is indicated by a circle in red ink, the dimensions and relative position of the rocks, and the depth of water, immediately upon and around them.

I concur in the selection of this position for the proposed light-house, and would respectfully request that a copy of this letter, its enclosure, and the sketch, may be forwarded to the Light-house Board, at whose request the survey and examination have been made.

Very respectfully, yours, &c.,

A. D. BACHE, *Superintendent.*

Hon. JAMES GUTHRIE, *Secretary of the Treasury.*

COAST SURVEY STEAMER "BIBB,"
At sea, September 29, 1853.

SIR: To make a survey of each rock that appeared well calculated by size and position to answer the purpose required, on a scale of one five-hundredth, I enclosed each separately, with buoys forming a quadrilateral figure around it at a

proper distance, so as to determine accurately the boundary and area embraced, also the position of each buoy, by that means being enabled to run the lines of soundings truly, placing them parallel and straight, and crossing them in like manner at right-angles, cutting the space into numerous small squares, and showing with the greatest precision the depth of water and the nature of the bottom in all parts of the space enclosed, each sounding being marked in its exact place.

I also obtained, at very low water, the figure and dimensions, with all the elevations and depressions, as presented when bare of each rock, and representing it by a ground-plan and elevated views, the latter in several directions, on a scale of $\frac{1}{12}$.

They are called, respectively, the Inner and Outer Minot, Hogshead Rock, East Willie, and Shag Rock. The three latter present good foundations for the erection of a stone light-house, but are objectionable as lying too far inside the outermost point of danger to serve with certainty in very foggy or snowy weather, particularly for vessels coming from the direction of Scituate light. In this respect the Minots are far preferable, and Captain Benham, engineer corps U. S. Army, assuring me that a sufficiently large and firm basis could be obtained on the Inner Minot, I was convinced that it possessed the greatest advantages, and gave it the most minute examination, enclosing it three times by buoys as before explained, and also measuring its surface and sounding from it in lines varying from a central point in thirty-two different directions, and the Outer Minot in same way with nineteen radiating lines, each line determined by actual measurement as to length, and by angles taken from central point where measuring line was fastened, getting the exact direction of line by the arc subtended between it and a line of sight to an established object on shore; thus each sounding is on a correctly determined line, and at actual measured distances from central point.

The advantages presented by the proposed location on the Inner Minot, are: that it is greatly sheltered by the Outer Minot, and much protected from the force of the sea; that a stone structure, according to Capt. Benham's opinion, (whose long experience and great abilities as an engineer make him a most capable judge,) can be erected, large enough at base, with a perfectly secure foundation on the rock, by preparing the lower courses of large blocks of granite, dressed so as to key or dove-tail together, and to mutually support each other, being still further secured by bolts or clamps to the solid mass of the rock and one another; and by filling all the interstices with concrete, the tower will be almost indestructible.

The examination shows that the work can be prosecuted in very rough weather, as moorings can be placed for vessels, in sufficiently deep water, close to the S. W. side of the Inner Minot, where it and the outer ledge form an excellent breakwater, and the stone and materials can be swung by a derrick directly into place from a vessel's deck. A light-house can thus be built, in a reasonable time, that will last for centuries, and be a warning against all dangers of that group, and standing within three hundred yards of the furthest dangerous spot.

Very respectfully, your obedient servant,

H. S. STELLWAGEN,
Lieut. Comg. U. S. Navy, Assistant in Coast Survey.

Prof. A. D. BACHE,
Superintendent U. S. Coast Survey, near Phillips, Maine.

APPENDIX No. 49.

Letter of the Superintendent of the Coast Survey to the Secretary of the Treasury, communicating the report of Lieut. Comg. M. Woodhull, U. S. N., assistant in the Coast Survey, upon an examination of Deep Hole Rock, in Vineyard Sound, Massachusetts, with reference to placing a beacon there.

C. S. STATION, NEAR PHILLIPS, MAINE, *October* 31, 1853.

SIR: I have the honor to transmit, herewith, the report of Lieut. Comg. M. Woodhull in relation to placing a beacon on Deep Hole Rock, in Vineyard sound, Massachusetts, the result of his examination, made under my instructions, and by direction of the department.

I would respectfully request that a copy of this letter, and accompanying report and sketch, may be transmitted to the Light-house Board, by whose request the examination was made.

Very respectfully, yours, &c.,

A. D. BACHE, *Superintendent.*

HON. JAMES GUTHRIE, *Secretary of the Treasury.*

U. S. SCHOONER "GALLATIN,"
Wood's Hole, October 22, 1853.

SIR: I have the honor to inform you that I completed, yesterday, the survey of "Deep Hole Rock," at the entrance of "Deep Hole harbor," near Cotuit. This rock is about fifteen feet long and about twelve feet wide, and has on it, in the shoalest spot, three and a half feet of water at low tide. Though soundings around it are remarkably regular, being almost a dead flat, with thirteen and a half feet on it at low water, I should think a good-sized spindle would answer all the purposes of a beacon, and could be more easily erected, and be much less expensive. There is now a large red buoy near it, which I am of the opinion, if it could be properly placed and maintained in its position, would answer. However, as a spindle is more permanent, and as it could be so constructed as to show prominently, it would be the best distinguishing mark, under the circumstances, that could be devised. I send you the chart of the rock, which will, perhaps, give you a better idea of the subject than any written exposition would do. If it is determined to put a beacon on it, the apex of the rock will have to be cut off, shaped as shown in the sketch, which will increase the expense.

"Deep Hole harbor" is principally used as an anchorage in a northeast blow for coasters bound along the north shore of Nantucket sound. Further than this it is of small importance, the rock being entirely out of the way of the entrance