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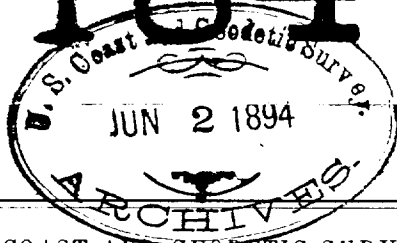
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Form 504	
U. S. COAST AND GEODETIC SURVEY	
DEPARTMENT OF COMMERCE	
DESCRIPTIVE REPORT	
Type of Survey	<i>Hydrographic</i>
Field No.	Office No. <i>2184</i>
LOCALITY	
State	<i>North Carolina</i>
General locality	<i>Outer Diamond</i>
Locality	<i>Shoal.</i>
	<i>1894</i>
	191
CHIEF OF PARTY	
<i>L. M. Garrett U.S.N.</i>	
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U. S. COAST AND GEODETIC SURVEY.

T. C. Mendenhall, Superintendent.

State: *North Carolina.*

DESCRIPTIVE REPORT.

Hydrographic Sheet No. 2184.

LOCALITY:

*Outer Diamond Shoal,
off Cape Hatteras.*

1894.

CHIEF OF PARTY:

Lieut. L. M. Garrett, U. S. N.

2184

Write me at: *Wm E. Woodall Esq. Baltimore Md.*

Telegraph me at:

My Express Office is: JUN. 1. 1894. 006974

~~Assistant in Charge~~
U. S. Coast and Geodetic Survey, *Ste. Endeavour.*

Baltimore Md.

Hydrographer
May 19th 1894

2-587

Dr. J. C. Mendenhall,

T. C. Mendenhall

Superintendent Coast & Geodetic Survey,

Washington

D.C.

Sir:

I beg to submit the following descriptive report of the survey of the Outer Diamonds Shoal off Cape Hatteras, N.C., made by the party under my charge in obedience to your instructions of April 12 1894.

The Endeavour arrived at Hatteras Inlet on the 18th of April but owing to the poor postal facilities did not receive the sheet and data from the office until the 24th.

King's Pt A was re-occupied on the next day and a 30 fath pole tripod erected over it.

With this and Hatteras Light as a base the various points on the shoal were determined.

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The only checks which could be obtained on these positions were angles from the vessel off shore using Oliver Reef Lt as a left object. This light being off the limits of the projection could not be used by me in the plotting but can be used if necessary at the office.

The foremast of the S.S. Metherby (or Metherby) on the outer shoals was cut in and used as a Mast. The absence of this spar would have rendered the work exceedingly difficult as nothing but Haller's Light is visible on shore.

We were ready to commence sounding any day after the 27th but it continued windy and rough until May 5. On the 4th a tide staff was set up just inside the inlet (see sketch in tide book) which however is not in the limits of the sheet. High and low water were observed whenever the weather allowed, and continuous readings on working days. On the morning of the 5th of May I steamed up to the slough and hoisted a boat with sail set in 5 fms. water, 10 fms

chain and a 150 lb kedge on range with
 Haller's Light and Beacon and angles to
 Cross Hill LSS and o Fish. With this o Boat
 for a middle object the lines of A day were
 run. This signal being six miles from
 the marking ground was carried with
 difficulty some while the sun was on it
 and was lost directly the sun passed to
 the westward of it. Furthermore it did
 not furnish well conditioned angles, so
 I determined to move it to the Ed.

The ship was accordingly anchored at
 the new position selected and located by
 observing angles on Haller's Lt., Cross Hill LSS,
 o Fish, o Mast, & o Boat. The boat and
 moorings were then moved to their new position
 and anchored in 7 fath water to form o Beacon.

Rising wind and sea prevented any
 further sounding on this day and the
 moorings were buoyed and left where they
 remained undisturbed until the work was
 finished. This position was afterwards
 fixed by a cut from Haller's Light, and

was checked on all subsequent working days. At the close of Bay the 10th enough lines had been run to develop the shoal and the following day being calm was used in getting a comparison of the tides at Haller's Cove and Inlet. The beach at this point is very steep to land it was quite impossible with ^{the} ~~any~~ means at my disposal to set up ^a any gauge, so I conceived the plan of setting up a level at a convenient distance from ~~the~~ high water mark and observing on the rock here with its foot just at the water mark on the beach.

Half hourly readings were obtained during the day as the tide advanced and receded. The results were perfectly satisfactory.

The 12th continued smooth and pleasant; advantage was taken of it and further lines were run on the shore to make certain of having enough in case a day should not plot satisfactorily. This done I returned to the Inlet and awaited the arrival of the tender and bays, meanwhile plotting up the

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mark. The Maple was reported off the point on the morning of the 16th. We met her between the shoals and the inlet. Captain Yates Sterling, U.S.N., Inspector of the 5th Lt. District, came on board the Endeavor and both vessels steamed back to the shoals.

Capt. Sterling had no instructions. The copy of the letter of the L. H. Board furnished me with only instructions directed that the buoys be placed 200 feet apart on the 18 ft. curve as near as practicable to the shallowest point. I should therefore have placed them on the outer edge of the inner and largest shoal included by the 18 ft curve as it had less water on it than the others, was in a measure protected by the outlying lumps, and ran out of the strong current which snakes around the edge of this shoal. Captain Sterling however informed me that the contrivance to be used in boring there drew 21 feet of water, and could not therefore be taken to that point without danger. We therefore

concluded that the only available point was the one selected, on the outer edge of the outer lump. I then steamed slowly up to this from the SE until 21 feet of water was found with the lead and anchored.

Angler showed us to be a little inside the curve as drawn on my tracing. but we had 21 feet of water although at this time, 4.30 p.m. the 16th, it should have been about high water and spring tide. A small marker buoy was dropped and I requested Capt. Sterling to place the first buoy some 20 or 30 metres to the SE of the marker.

We then steamed to the SW and dropped the second marker in 21 feet of water about 200 feet SW of the first one. The mate dropped the buoys as requested and our work was finished. At 6.00 p.m. I had picked up my boat and moorings and started for Hampton Roads where a tracing of the shore with positions of buoys marked was mailed to Mr. Julius Pelley and the Landcar proceeded to

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11/10/94

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Batteries.

The pilots at Haller's Inlet informed me that this outer depression varies greatly in shape and depth. Two of them declared that they had seen it dry at one time.

On every one of the four days we marked on it a strong current - 2 k. I should say - made along the outer edge to the N. & E. This is like what is shown by the lines of soundings, which bend sharply in that direction as soon as the edge of the shoal was reached.

Full notes will be found in tide book explaining plane of reference adopted with reasons therefor.

Very respectfully
L. M. Garrett,
Lieutenant, U.S.N., Comdg.