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U. S. SURVEY
COAST AND GEODETIC SURVEY
NO. 1000-1

Diag. Cht. No. 1000-1

3314

Department of Commerce and Labor
COAST AND GEODETIC SURVEY

Superintendent.

State: *Melaware, Md., & Va*

DESCRIPTIVE REPORT.

Hyd. Sheet No. *3314*

LOCALITY:

Coast of Del, Md., & Va
no work to

1901

CHIEF OF PARTY:

A. C. Hodykins

Hyd. 3314.

3314

DEPARTMENT OF COMMERCE, AND LABOR

COAST AND GEODETIC SURVEY.

O. H. TITMANN, SUPERINTENDENT.

C. & G. SURVEY.
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HYDROGRAPHY

CAPE HENLOPEN TO CAPE HENRY

COAST OF DELAWARE, MARYLAND, VIRGINIA.

C. & G. S. S. BACHE

W. C. HODGKINS, CHIEF OF PARTY.

Begun August 2, 1911

Ended Nov. 23, 1911

Scale 1:200000

Tide Staffs at

DELAWARE BREAKWATER

ASSATEAGUE ANCHORAGE

CAPE CHARLES QUARANTINE

Positions platted by F. B. T. SIEMS.

Soundings platted by H. L. Simons

DESCRIPTIVE REPORT

to accompany Hydrographic Sheet No. 3377

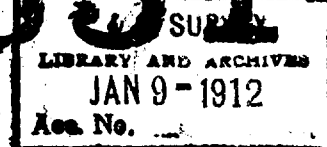
Scale 1:200000

COAST OF DELAWARE, MARYLAND AND VIRGINIA

by the party on the Steamer BACHE

W. C. HODGKINS, Commanding.

1911



The hydrography shown on this sheet was done in pursuance of the Superintendent's Instructions dated July 17, 1911, based upon former instructions dated October 25 and 26, 1909, the purpose of the work being to verify or disprove the numerous reports of changes in the shoals between the Delaware and the Chesapeake Bays.

The work was taken up shortly after the arrival of the BACHE at Norfolk from Key West.

Arrangements were first made for the reading of the tide upon a staff secured to the wharf at the Cape Charles Quarantine Station and referred to the bench marks at that station. It should be noted that the levels run by this party in making that reference indicate that the relation between the two principal bench marks is not the same as that reported in the description furnished by the Office. At somewhat later dates, tide readings were begun at Delaware Breakwater and at Assateague Anchorage. The series at the latter point is somewhat broken and less reliable than the others, owing to the lack of a competent observer.

Hydrography was begun on August 3, 1911, and was prosecuted as steadily as practicable until August 26, upon which date work was necessarily suspended to permit the making of repairs to the main engine, these having become imperatively necessary.

The repairs took longer than had been estimated and it was not until October 9 that the off-shore hydrography was resumed.

Descriptive Report No. 2.

From that time until November 21, the work was advanced as rapidly as possible, though considerably retarded by adverse weather conditions. During the latter part of the period, the weather was so cold and windy that it was difficult to do any work and at last it became necessary to suspend operations for the season.

In line with what has just been said, it will be seen from the sheet that the work thus far accomplished forms only a small fraction of that outlined in the instructions cited above. It will also be seen that the work done is by no means uniformly distributed, some areas of considerable sizes having been left untouched, while other portions have received considerable attention.

I wish to forestall criticism in that respect by the statement that I fully realize that the sheet is far from complete and that very much more work must be done to completely fulfil the instructions.

The irregularity of distribution was due partly to design and partly to accident. In compliance with directions sent me, the main effort was concentrated on the region northward from Fishing Point and it was only on account of some special reasons, to be stated later, that any work was done to the southward of that point.

It naturally happened that, in the effort to utilize all of the time possible, more lines were run in regions frequently traversed in the passage to and from anchorages. And, on account of the scarcity of points of reference while running the lines, it sometimes happened that the ship was set off her intended course, thus bringing certain lines closer together or farther apart than was intended.

All of the aids to navigation shown on the sheet were determined by observation, with the exception of the Five Fathom Bank Light-Vessel, the position of which had been determined the previous fall and which was assumed to hold the same position. Very little work was dependent upon that position.

Descriptive Report No. 3.

I call special attention to the position of Paramore Beach Life Saving Station, which was determined by sextant angles from the ship. The position platted on the sheet as furnished me was considerably in error. The angles measured for that purpose are recorded in the sounding books and are available for plating on a larger scale if desired, though it was necessary to use some distant objects in fixing the ship's positions.

At the time of the resumption of work in October, through the active cooperation of Inspector H. C. Poundstone of the Fifth Light-House District, as authorized by Commissioner G. R. Putnam, ten large white spar buoys were established in a nearly straight line from the vicinity of Winter Quarter Shoal Light-Vessel to that of the Five Fathom Bank Light-Vessel.

The positions of these buoys were determined by bearings and distances obtained by the patent log, the distances being run in both directions, to eliminate error of run, so far as was possible.

The buoys, so fixed, proved of the greatest assistance in checking the courses and distances on the sounding lines and it is a matter of keen regret with me that the inclement fall weather prevented me from getting the full measure of usefulness from them.

It has been mentioned that some work was done to the southward of Fishing Point, outside of the area specially selected for immediate attention. Some of this was due to the utilization of time that would otherwise have been lost in long runs, by putting in the time in work near the Chesapeake Entrance; and in the latter part of the season some lines were run between Winter Quarter Shoal and Cape Henry, in consequence of a report from a vessel of the U. S. Navy that abnormal soundings had been obtained while making a passage over that region.

Descriptive Report No. 4.

In conclusion, the hope may be expressed that while only a partial development of the area covered by the sheet has been obtained and while further work in that region will undoubtedly be needed, the hydrography executed during the past season may serve to indicate the general tendency of the changes, if any, since the former surveys were made and also to indicate the area in which further development is most urgently needed.

I desire to commend the industry and interest in the work generally shown by both officers and enlisted men of the BACHE'S complement.

Respectfully submitted,



Assistant Coast and Geodetic Survey,
Commanding BACHE.

January 2, 1912.

To the Superintendent,

Coast and Geodetic Survey,

Washington, D. C.

VEC
Feb. 2, 1912.

HYDROGRAPHIC SHEET 3314.

Atlantic Coast, Cape Henry, Virginia, to Cape
Henlopen, Delaware by Asst. W. C. Hodgkins in 1911.

TIDES.

	Cape Charles	'Assateague Boat Ho.	Anch. Near	'Delaware Breakwater
	ft.	Wharf ft.	LSS ft.	ft.
Mean low water, or plane of reference on staff	2.5'	3.3	2.1	6.1
Lowest tide observed	" 0.9'	1.9	0.7	3.1
Highest " " " "	" 7.0'	8.8	7.6	14.6
Mean range of tide	2.8'	3.8	3.8	4.4

STATISTICS OF HYDROGRAPHIC SHEET NO.

SCALE 1:200000

3314
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OFF SHORE, FROM DELAWARE ENTRANCE TO CHESAPEAKE ENTRANCE.

Date 1911.	Vol.	Letter.	Miles.	Positions.	Angles.	Soundings.	Boat.
August 3	1	A	26.05	79	56	360	BACHE.
" 4	1	B	41.34	202	48	447	"
" 5	1	C	44.04	206	44	270	"
" 9	1	D	37.80	79		491	"
" 9	2	D	12.23	27		142	"
" 10	2	E	47.76	96	42	563	"
" 11	2	F	60.54	27	16	537	"
" 12	2	G	65.23	120		553	"
" 12	3	G	4.43	12		30	"
" 15	3	H	22.53	69		353	"
" 16	3	I	56.28	219	84	693	"
" 17	3	K	56.15	179	80	624	"
" 18	4	L	38.68	120	12	448	"
" 19	4	M	55.45	185	116	629	"
" 23	4	N	41.00	102	60	431	"
" 24	4	O	8.43	13	16	83	"
" 24	5	Q	54.72	180	36	501	"
" 25	5	P	53.98	152	28	427	"
" 26	5	Q	63.90	114	10	543	"
October 9	6	R	25.00	73	76	256	"
" 12	6	S	47.92	120		488	"
" 13	6	T	38.62	81	20	383	"
" 14	6	U	40.04	165	70	357	"
" 19	7	V	34.07	76		401	"
" 21	8	W	30.36	41	24	293	"
" 22	8	X	2.83	10		24	"
" 23	8	Y	43.45	90	25	334	"
" 25	8	Z	22.87	55	129	308	"
" 26	8	A'	53.05	121		433	"
" 27	8	B'	14.44	42		144	"
" 27	9	B'	20.22	58		172	"
November 2	7	C'	6.84	16	29	171	"
" 3	9	D'	9.73	24		123	"
" 4	9	E'	35.05	93		257	"
" 6	9	F'	51.55	113		363	"
" 7	7	G'	51.26	106		474	"
" 8	7	H'	2.12	8		46	"
" 10	9	I'	35.84	70		249	"
" 11	9	K'	60.10	120		430	"
" 14	7	L'	60.92	87	31	312	"
" 15	7	M'	34.10	83	42	375	"
" 16	10	N'	14.03	27		133	"
" 17	10	O'	46.70	121	54	541	"
" 21	10	P'	6.81	19	43	72	"
TOTAL	10	40	1578.46	4000	1191	15664	

Hyd. Sheet No 3314

Feb 27 1912

As there is not sufficient data in the office with which to verify the lines on this sheet they were accepted as plotted by the field party.

The work on the area covered by is not complete but that which has been done appears to be very good. There are but few crossings where the depths do not agree.

The line of soundings from 1-54 L runs past the southern limit of the sheet and can not be plotted with the data now at hand.

This work should have been plotted on a much larger scale.

A. L. Simmons

83
SMA

3314^a

C. & G. SURVEY,
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3314a

Department of Commerce and Labor
COAST AND GEODETIC SURVEY

Superintendent.

State: *Md & Va*

DESCRIPTIVE REPORT.

Hyd. Sheet No. *3314*^a

LOCALITY:

1902

CHIEF OF PARTY:

H. C. Hodgkins

B

33148
G. L. ...
FEB 20 1913
Acc. No

DEPARTMENT OF COMMERCE AND LABOR.
COAST AND GEODETIC SURVEY.
O. H. TITMANN, SUPERINTENDENT.

HYDROGRAPHY.
COAST OF MARYLAND AND VIRGINIA,
VICINITY OF REPORTED DANGER NEAR WINTER QUARTER SHOALS LIGHT VESSEL

C. & G. S. S. BACHE
W. C. HODGKINS, CHIEF OF PARTY.

Begun Nov. 13, 1912.
Ended Dec. 4, 1912.

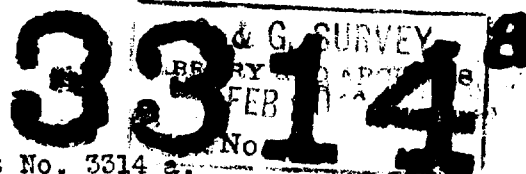
Scale 1:200000

Tide Staff at
DELAWARE BREAKWATER.

Positions platted by L. A. Potter
on Sheet No. 1220, Scale 1:80000.

DESCRIPTIVE REPORT

to accompany Hydrographic Sheet No. 3314 a.



Examination northeastward of Winter Quarter Shoal Light Vessel.

Coast of Maryland and Virginia.

Scale 1:80000

Surveyed in November and December, 1912.

by the party on the Steamer BACHE

under the command of Assistant W. C. HODGKINS.

This work was done in pursuance of orders dated August 16 and October 28, 1912, following the receipt by the office of reports of dangers in that locality.

To facilitate the determination of positions, two floating signals, known as "Mid" and "Far", were moored to the northeastward of the Winter Quarter Shoal Light Vessel, all three objects being approximately in one line.

The azimuth of that line was determined by an observation of the sun on the horizon and the distances between the marks by patent log, running several times in both directions.

The position of Winter Quarter Shoal Light Vessel was fixed by its bearing and distance from the gas buoy, the distance being run several times in opposite directions.

The position of the gas buoy was fixed by cuts from positions determined by angles on shore objects.

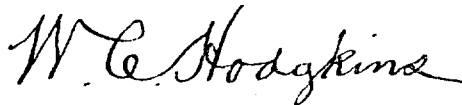
During the work in the suspected area, the submarine sentry was kept in use, set to a depth sufficient to strike any shoal area without touching at the depth shown on the chart.

The only occasion when it gave any indication was on a line running to the westward over an area known to be shoal, when the kite tripped and came to the surface with the depth equal to that for which it was set.

The suspected area was pretty closely covered without finding any indication of a shoal. In addition, some lines were run in going to or from that special area, bringing the total of the work up to 290.7 miles, with 1831 soundings.

On account of the small scale of Original sheet No. 3314, covering this region, this work was platted for the present upon a copy of Chart No. 1220, on 1:80000 scale.

Respectfully submitted,

A handwritten signature in cursive script, reading "W. C. Hodgkins".

Chief of Party.

To the Superintendent,

Coast and Geodetic Survey,

Washington, D. C.

February 14, 1913.

3314^B

Statistics of Hydrographic Sheet No. 3314 a.

Scale ⁵⁰⁰⁰⁰ 1:200000.

C. & G. SURVEY,
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 FEB 20 1913
 Acc. No _____

Date. 1912.	Vol.	Letter.	Miles.	Sound'gs	Angles.	Positions	Boat.
Nov. 13	1	Q'	21.88	107	14	44	BACHE
" 14	1	R'	29.94	151	32	61	"
" 15	1	S'	25.50	204		52	"
" 16	1	T'	7.14	60		13	"
" 21	1	U'	40.65	228		89	"
" 22	1	V'	23.00	146		47	"
" 23	1	W'	41.45	306		59	"
" 26	2	X'	34.92	187	46	69	"
" 27	2	Y'	50.09	313	106	110	"
Dec. 4	2	Z'	16.12	129		30	"
Total.	2	10	290.69	1831	198	574	BACHE.

VEC
Mar. 13, 1913.

HYDROGRAPHIC SHEET 3314a.

Vicinity of Winter Quarter Shoal, Coast of Maryland
and Virginia by Assistant W. C. Hodgkins in 1912.

TIDES.

	Breakwater Front Light ft.
Mean low water, or plane of reference on staff	3.6
Lowest tide observed " "	0.5
Highest " " " "	12.1
Mean range of tide	4.4

Coast and Geodetic Survey

MAR 13 1913

TIDAL DIVISION

Report on Hyd. Sheet 3314^a

This is an examination northeast of Winterquarter Shoal Light vessel in search of reported shoals in that vicinity and while no shoals were found in that locality 291 miles of sounding lines were run and would have been a valuable addition to the hydrography of that locality had the current been good. As surveyed the positions of the soundings are questionable. The positions depend upon the position of Winter Quarter Shoal Light vessel and are good relative to that position. The Light vessel was determined as follows. 1st The Bache was placed near the Winter Quarter Shoal can buoy and direction to the buoy taken and the distance to the buoy estimated. The Bache was located by sextant angles on 3 shore objects (misty and objects indistinct) No check. An angle was also taken between a shore object and the Gas buoy to the southward. 2nd Later on one of the sounding lines, the ship was located by sextant angles and an angle read between the Can buoy,

located as stated above, and the Gas buoy which was thus located by two doubtful angles only. 3rd The ship was then placed several times on range - Gas buoy to the Light vessel and the direction of the range ~~was~~ taken. These directions varied from 92° to 98° . The distance between the gas buoy and light vessel was then determined by log readings back and forth between the two objects and the mean taken. No current observations taken nor the direction and force of the wind stated.

The gas buoy was thus located 9 tenths of a mile S.W. of its charted position and the Light vessel 6 tenths of a mile S.E. of its charted position.

The control being so unsatisfactory the positions as plotted in the field were accepted. The positions of the soundings can be regarded as approximate only.

Geo L Flower