3658

Diag. Cht. No. 1222-2

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. ..... *Office No.* H-3658

LOCALITY

State VIRGINIA

General locality CHESAPEAKE BAY

Locality CHESAPEAKE BAY ENTRANCE TO CAPE CHARLES CITY

19~~4~~14

CHIEF OF PARTY

O. W. Ferguson

LIBRARY & ARCHIVES

DATE MAY 27, 1914

B-1870-1 (1)

3658

DEPARTMENT OF COMMERCE. *U. S. Schr. Matchless.*

H 3658

COAST AND GEODETIC SURVEY.

O. H. Tittmann, Superintendent.

Survey of the Chesapeake Bay, Eastern Shore, Va.

TITLE SHEET

3658

For Hydrographic Sheet, C. Cape Charles Harbor, Va.

Extending from near Old Plantation Light House to Cherrystone Creek.

(between)

Latitude	37°	14'	30"	to	37°	17'	30"
Longitude	76°	1'	00"	to	76°	2'	30"

Scale 1:5,000

March 1914.

Schooner "Matchless".

O. W. Ferguson, Assistant, C.&.G.Survey, in Command.

OBSERVERS.

O.W.Ferguson, Assistant.

James E. Marsh, Mate.

Walter E. Perkins, Deck Officer.

B. Paul Burtis, Deck Officer.

U. S. Schr. Matchless.

DEPARTMENT OF COMMERCE. April 30th, 1914

COAST AND GEODETIC SURVEY.

O. H. Tittmann Superintendent.

Survey of the Chesapeake Bay from entrance to Cape Charles City

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TITLE SHEET

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- - -

For Hydrographic Sheet A.

Extending from three miles below Fisherman Island to Cape Charles City

(between)

Latitude 37° 02' to 37° 16'

Longitude 76° 57' to 77° 05'

Scale, 1 : 20,000

From Sept, 23rd 1913 to January 20th 1914.

SCHOONER"MATCHLESS"

O.W.Ferguson,Assistant; C.&.G.S.in Command.

(observers)

O. W. Ferguson, Assistant.

James E. Marsh, Mate.

Douglass Karr, Aid.

M. D. Glessner, Deck Officer.

Walter E. Perkins, " "

B. Paul Burtis, " "

DEPARTMENT OF COMMERCE.

COAST AND GEODETIC SURVEY.

O.H.TITTMANN, Superintendent.

Survey of the Chesapeake Bay from entrance to Cape Charles City, Va.

DESCRIPTIVE REPORT.

For Hydrographic Sheet **3658**

Extending from three miles below Fishermans Island to Cape Charles City, Va.

(between)

Latitude	37°	02'	to	37°	16'
Longitude	76°	57'	to	77°	05'

Scale 1:20,000.

From Sept 23 rd, 1913 to January 20 th, 1914.

SCHOONER "MATCHLESS".

O.W.Ferguson Assistant, C.& G.Survey, in Command.

OBSERVERS.

O.W.Ferguson, Assisbant. James E.Marsh, Mate, Douglas Karr, Aid.

M.D.Glessner, Deck Officer. Walter E. Perkins, Deck Officer.

Paul B. Burtis, Deck Officer. H. W. Godsey, Chief Writer.

RECORDERS.

W.H.Clark, Aid. H.W.Godsey, C. W. A.S.Bristow, Writer 2 cl.

LEADSMEN.

J.A.Roberson, Sea. Richard Diggs, Sea. and H.C.Tong, Sea.

Coxswain.

H.H.Thomas, C.B.M. R. Myrdal, S.M.M. and W.H.Buckmaster Q.M.

TIDE OBSERVERS.

The entire Crew.

Description Report Hydrographic Sheet A.Chesapeake Bay entrance, to Cape Charles City, Va.April 30th 1914.

DESCRIPTIONS.

* * * * *

This sheet extends from deep water in the entrance south of Fishermans Island, to Cape Charles City, Va. and from shore an average of three miles (as directed)to depth of from 12 to 36 feet . The bottom is all sandy and hard, favorable for clams and a considerably roughed up into bars holes and ridges all of which are developed.

TOWNS.

Cape Charles City, Va. 16 miles above the entrance is the only town on the sheet and has a population of 1945. It is a harbor for a good many small ships all during the year. The New york , Philadelphia and Norfolk R.R.business is the principle feature of the town , where all freight is transfered to Barges and towed to Norfolk, and through passengers are transfered to steamboats and taken to Norfolk via. old point Cumfort.

This Railroad , with some directions from the Corps of Engineers , have greatly improved the entrance and harbor by building breakwaters, dredging, and putting up lights, and this is a shipping point for a large amount of produce. The U.S. Quarantine located at fishermans Island and consisting of large accommodations, is strictly under controll of the goverment, where a keeper is maintained.

OCCUPATION.

* - - -*

The occupation of the inhabitants of Cape Charles is largely relative to the Rail Road , large ships being located here. It is a large distributing Center and many stores are located here. A large part of the land just back from the shore which is rendered barren from the shifting sand, is occupied

DESCRIPTION REPORE OF HYDROGRAPHIC SHEET A. CHESAPEAKE BAY Entrance, TO CAPE CHARLES CITY, Va. April 30th, 1914.

as farms and sold or held at phenomenally high prices 150 to 300 per acre. A large part of the land is planted in potatoes as this crop has done well here for several years and produced large profits.

A goodly number of people are employed at fishing, crabbing, oystering and freighting.

PRODUCE.

The products of this region are potatoes, Cabbage, Peas and the various products of the farm in smaller quantities.

Oysters are cultivated in the creeks and large quantities of crabs are dredged off this bottom.

SHORES.

The shores are sandy with quite shoal water making out from 100 m. to about a half mile. The belt from shore back about 200 m. is covered with irregular sand dunes from 8 to 43 feet high, and is covered with a growth of timber, generally pine. The bark of these pines are so permeated with sand that saw mills frequently refuse to work up the trees cut from near the shore.

U. S. Schr. Matchless.

DESCRIPTION REPORT OF HYDROGRAPHIC SHEET A. CHESAPEAKE BAY TO Entrance

CAPE CHARLES CITY, VA. April 30th, 1914.

CREEKS

The only creeks on this shore are

(1) A thoroughfare around Fisherman Island furnishing navigation to small boats drawing three feet.

(2) Old Plantation Creek though quite large is not navigable, there being a bulkhead accross its mouth and only two feet at low water, but at high water Batteaux and Bugeyes convey supplies in and out.

(3) Cape Charles Creek is small and has been mostly made by dredging. It furnishes dockage for the Railroad and the town of Cape Charles.

WATER

Fresh water is obtained in abundance by digging wells or boring, is not of a real good quality, being impregnated with iron. The railroad and the town of Cape Charles are supplied from tanks, into which water is forced.

BOTTOM

The bottom is irregular in surface, uniformily sandy and hard. In front of Fisherman Island and behind the bar which is over a mile from shore, there is good holding bottom, also there is good holding bottom in the harbor at Cape Charles and northwest of the Breakwater.

The outer and lower end of Cherrystone Light House Bar has cut away materially, improving the North Channel, prolonged.

U. S. Schr. Matchless.

DESCRIPTION REPORT OF HYDROGRAPHIC SHEET A, CHESAPEAKE BAY TO Entrance to CAPE CHARLES CITY, VA. April 30th, 1914.

CURRENTS.

The tidal currents on this sheet are pretty strong, 1.15 knots per hour found at Old Plantation Flats Light House. In the enterance below and east of Fisherman Island the currents are very strong, tearing in and out at every rise and fall of the tide, rendering hydrography difficulty, and the signals are far away. at about two knots per hour at half tides and doubles 3 K at times. It was found quite impossible to find a water signal that could withstand these currents & waves.

DAY MARKS AND LIGHTS.

This region is well lighted and buoyed, with the Cape Henry and Cape Charles lights, light on the Quarantine Pier, the 35 ft. channel Light Ship with dredged channel further lighted and buoyed, Old Plantation Flats Light House, Cherrystone Light House, and the harbor lights at Cape Charles withred and black and striped buoys marking the channels and middle grounds. A whistling and lighted buoy should be in place of No.2 off the Nautilus Shoals and the Isaacs for guiding small steamers through the North channel, and at the "inner middle ground buoy" lower end should be placed a black and red bell buoy with light at night; and the same for the upper end of the middle. This cutoff would then be much used to great advantage, saving time and distance.

HARBORS

This sheet is an exposed region with wide waters and no harbors excepting the little one at Cape Charles City, maintained by the Pennsylvania R.R.Co. It is difficult to get over the bar and behind Fishermans Island, through the inlet, especially when the waves are breaking, and Old Plantation Creek is dangerous to enter, as it only affords two feet at low water.

DESCRIPTION REPORT OF HYDROGRAPHIC SHEET A. ENTRANCE TO CHESAPEAKE BAY TO CAPE CHARLES CITY, VA. APRIL 30 th, 1914.

NAVIGATION

The channel around Nautical Shoals, from 25 to 64 feet,(in holes) continues good for 25 feet, and pratical; after some bouying, to Quarantine Station; stand ½ mile out; then N.W.X.N. clearing the Latimer Shoal and passing one mile west of Old Plantation Flats Light House, up the bay. There should be a middle ground bouy at each end of Latimer Shoal, and Nun Bouy No.10 would be much better at night if lighted, and serve as a guide to the North Channel, straight to the bouy for 15 miles.

For entering Cape Charles City, from Old Point Comfort, and Light Ship 35, approach the Light House on a N.N.E. course and pass it on a course N.E.X.N.(true) 500 yards on the Starboard beam, if the second range (which is "0 Arm", a water signal, and ⊙ White Slats on shore), and a deeper channel is sought; or take the course N.E.X.N.(true) in passing, if the first range is desired (which is two lights on shore); in either case continue untill the Red Beacon and large Middle Breakwater light (two bright white lights) are in range, and continue this course to Black Beacon, then N.X.E?(true)rounding in between Red outer breakwater light, and Red Beacon light, and the middle breakwaterlight, the last two which (forming the above range) are bright white lights; and enter the harbor.

Lee Boat Sheet, 1:5000, Cape Charles City, where this would be lined out. O.W.F.

CRAFTS.

But few schooners now ply these waters, but many Batteaux, Bug Eyes and launches, with gasoline power, are employed; also there is,(twice a day) large passenger steamers running between Cape Charles, Old Point and Norfolk; also a fleet of very large Tug Boats and Barges,(a ferry) in conjunction with the Penna. Railroad. Many boats are engaged dredging for crabs.

SHIPPING.

These boats are freighted with crabs, fish, fertalizer, farm products and with a large freightage of potatoes in season.

O. W. Ferguson,
Assistant.

STATISTICS FOR SHEET A. CAPE CHARLES, Va. April 30th, 1914

DATE	1913.	LETTER	VOL.	POSITIONS	SOUNDINGS	MILES STATUTE	VESSEL.
Oct. 2	"	a	1	16	139	2.75	LAUNCH
" 6	"	b	1	33	289	6.35	"
" 8	"	c	1	87	687	19.05	"
" 9	"	d	1	85	604	18.75	"
" 10	"	e	1	98	588	18.000	"
" 16	"	f	2	153	1168	29.00	"
" 17	"	g	2	87	644	18.50	"
Nov. 5	"	h	2	101	764	21.05	"
" 6	"	i	3	130	974	31.25	"
" 7	"	k	3	150	972	32.90	"
" 13	"	l	4	61	483	12.90	"
" 14	"	m	4	28	171	5.00	"
" 15	"	n	4	80	551	16.08	"
" 18	"	o	4	130	900	24.08	"
" 19	"	p	5	105	764	19.00	"
" 20	"	r	5	133	1036	28.00	"
" 21	"	s	5-6	98	658	22.40	"
" 22	"	t	6	71	529	16.00	"
" 24	"	u	6	69	532	17.00	"
Dec. 1	"	w	6	32	222	5.50	"
" 6	"	x	6	67	514	13.50	"
" 12	"	y	7	94	718	18.80	"
" 13	"	z	7	27	203	5.00	"
" 15	"	a'	7	113	841	21.90	"
" 16	"	b'	7	59	444	13.80	"
Jan.22	1914.	c'	8	96	626	18.50	"
" 26	"	d'	8	102	659	21.00	"
" 28	"	e'	8	106	743	21.00	"
April 7	"	f'	9	54	281	10.25	"
" 16	"	g'	9	35	229	7.25	"
" 28	"	h'	9	99	754	23.50	"
" 29	"	i'	10	42	269	7.25	"
" 30	"	k'	10	73	401	13.00	"
May 18	"	l'	10	99	592	20.25	
		34	10	2,813	19,949	578.56	

C. M. Sr

1 : 20,000 U. S. Schr. Matchless. 1913 - 1914

The inclosed [ ] are points both permanent and conspicuous

Lower Sheet.-A-

From Entrance to Chesapeake Bay to Cape Charles City, Va.

Station	Latitude			Longitude			Station	Latitude			Longitude		
	°	'	m	°	'	m		°	'	m	°	'	m
B. ⊙ fly	37	09	248	75	59	147	Crow ⊙ Spar on mem	37	11	1487	76	01	687
Beach △ 1913 marked	37	15	403.2	76	01	5b3.3	D. ⊙ Pastow	37	07	500	75	58	326
Ben ⊙ Fg Signal	37	11	937	76	00	139	Dead ⊙ Tree	37	13	509	76	00	1258
Beacon, Black	37	15	695.7	76	01	1432.2	Diggs House Fish net	37	10	1109	75	59	690
Bright-white Flash Low, Channel Range													
Beacon, Red	37	15	1589.1	76	01	991.2	E ⊙ fly wire	37	07	1579	75	58	348
Bo. spar buoy	37	04	718	75	59	675	Elliott △ 1913 Large Sta marked	37	12	995.7	76	00	1258.9
Boy	37	12	571	76	02		End "U.S.E" △ Large Sta marked	37	14	217.7	76	00	1335.7
Buoy, Bell	37	14	1805	76	02	261	Fish ⊙ Fg signal Reference mark	37	05	99	75	58	166
" Black Spar	37	12	1369	76	06	650	Flag Staff ⊙ at Quarantine	37	05	1767	75	58	938
							Front Range, 1st; low light	37	15	1284	76	01	626
" " "	37	11	824	76	06	808	Good ⊙ s buoy	37	04	118	76	00	255
" Nun #10 Fg	37	16	1454.4	76	05	62.5	Is ⊙	37	07	389	75	58	1166
" Red Spar	37	13	114	76	01	1000	Isaac, buoy.	37	03	765	75	57	1480
" " "	37	11	789	76	06	693	Light Ship. 35'C	37	06	1595.0	76	07	88.9
" " "	37	12	1373	76	06	509	Naut, buoy	37	02	1568	75	56	1332
" R+B "	37	06	695	76	00	687	Old ⊙ Old Chanty	37	09	489	75	58	920
" White "	37	12	6	76	06	822	On ⊙	37	12	535	76	02	265
(Westernmost) Bkw. Lt. Inner	37	15	806.8	76	01	695.5	Plantation Lt. H4	37	13	1341.9	76	02	1230.7
" " Outer Red Bright-white Lt., High range for Channel	37	15	1793.4	76	01	10 22.5	Quarantine △ 1906	37	05	1388.4	75	58	674.7
" " Middle	37	16	15	76	01	889	Rap △ 1913	37	15	1537.1	76	01	679.4
Range Arm Low	37	14	1154	76	01	1148							
C ⊙ fly wire	37	10	310	75	59	1172	Shanty Chan. of Nassawadox Creek	37	05	74	75	57	840
Cape C. Lt. H (new)	37	07	692.8	75	54	600.0	2nd. range signal	no light; high					
Fg. 11 to Cam R ⊙	37	08	1017	78	58	641							
Costin △ 1913 Range marker	37	12	141.0	76	00	946.3	Slats.	37	14	1670	76	02	405
Church Spire N. ME	37	16	173.5	76	00	1460.2	Tall ⊙	37	13	1638	76	01	451
" " S ½ M E	37	16	248.3	76	00	1389.5	Wat ⊙	37	03	1621	75	57	834
Cherrystone Lt. H. 1867 △	37	15	1177.5	76	02	114.9							

Two Sheets

.2.

U. S. Schr. Matchless.

1 : 20,000 1913 - 1914

Lower Sheet A

From Entrance to Chesapeake Bay to Cape Charles City, Va.

Station	Latitude	Longitude		
	o ' m	o ' m		
~~Water △ 1899~~	~~37 15 1044~~	~~76 02 1128~~	Engulfed - gone.	
Water Tank △ at Quarantine 1904	37 05 1663	75 58 994		
Weir	37 09 1183	75 59 342		
Center of Wharf, House Quarantine	37 05 1641	75 58 1261		
Wise △ 1904 Large Sta. marked	37 07 673.4	75 58 83.6		

C. W. H.

VEC
July 7, 1914.

HYDROGRAPHIC SHEET 3658.

Vicinity of Cape Charles, Chesapeake Bay, Virginia,

by Assistant O W. Ferguson in 1913.

TIDES.

	Cape Charles	
	Quarantine	City
	ft.	ft.
Mean low water, or plane of reference on staff	3.6	3.9
Lowest tide observed " "	2.2	1.6
Highest " " " "	8.4	7.9
Mean range of tide	3.0	2.3

3658

EXAMINATION OF HYDROGRAPHIC SHEETS
by the
DIVISIONS OF FIELD WORK AND FIELD RECORDS.

Sheet No. 3658

1. + Are numbers of hydrographic sheets adjoining limits of work shown? yes

2. Are transferred soundings of adjacent hydrographic sheets made to show that ground has been covered?

3. + Is sheet of proper size?

4. + Is sheet well laid out, no additions required?

5. Are limits of hydrography regular?

6. + Are positions of signals accentuated by light dot of black ink to assist plotting? No

7. + Are tidal stations plotted on sheet? No

8. Is area of work completely covered?

9. Are critical soundings and dangers shown distinctly?

10. + Is the control good? More signals desirable.

11. + Are positions of signals clearly shown?

12. Are soundings well distributed?

13. Are shoals carefully and sufficiently developed?

14. Do soundings cross satisfactorily? yes

15. Is existence or non-existence of a reported shoal determined?

.....

16. Is least sounding over bar probably determined by check soundings or diagonal sounding lines crossing same? No.....
17 ft. channel to Cape Charles City
over bar inadequately developed.....

17.+ Are projection and plotting checked? .....

18. Is the scale of this sheet sufficient to show the necessary details in the navigable channels? .....

.....

19. +Is the shoreline shown? .....

20.+ Is there an accompanying list of plane table or sextant positions of signals? Yes.....

21. Has sufficient attention been given to the development of channel? .....

.....

22. Are sufficient bottom characteristics shown? .....

.....

23. Are sounding lines normal to coast? .....

.....

24. Have suspicious soundings been investigated? .....

.....

25. Are ranges or bearings given for important shoals? .....

.....

26.. Are sailing directions given? Yes.....

27. Is the general hydrography in the entire area properly developed? .....

28. Are shallow channels for motor boats sounded? .....

.....

29. Is there a note as to coloration of water in or near mouths of rivers and bays? No .....

30. Is there any information given as to obtaining fresh water? .. Yes .....

31. Are there proper intervals between soundings? .....

.....

32. Are projecting points of land and reefs determined by sufficient lines with soundings at close intervals run at right angle to direction of points? .....

.....

33. Is there sufficient data to draw depth curves? .....

.....

34. Are shoal areas remote from shore properly developed by independent system of buoy signals placed in the vicinity of shoal?

.....

35. Are soundings obtained at docks in harbor? .....

.....

36. Is there a full list of data effecting sheet given? .....

..... No .....

37. Are description of hydrographic signals and marking of same recorded? ..... No .....

38. Is there a list of land marks given? ... Yes .....

39.+ Does descriptive report give date of instructions? No

40. Are small islets and rocks distinctly shown? .....

41. Is information relative to anchorage given? .....

42.+ Are survey methods explained sufficiently? No

43. Are geographical names given on sheet? .....

44. Are coast pilot notes given? .....

45. Is the unit of soundings given in title? .....

46. Are sufficient depth curves shown? .....

47. Are aids to navigation shown? .....

48. Are grass or kelp indications shown? .....

49. Are sailing courses shown on sheet? .....

50. Is descriptive note given as to visibility of shoals? No

51. Are dangers fully described in descriptive report? .....

52. Is the character of reefs described on sheet? .....

53. Are beaches indicated where vessels in distress could be safely beached? No

54. Are standard symbols used in drafting? .....

55. Is information relative to currents given? Yes

56. Is there a statement as to certainty or probability of least depth over dangers given? .....

57. Is the existence of certain shoals doubtful? .....

58. Is a general description of coast given? .....

59. Is information relative to commercial importance given? yes

60. Does the descriptive report cover one or a moderate number of sheets? .....

61. Are descriptions of headlands given? .....

62. Is the nature of shoals whether coral rock or sand shown on sheet? no

63.+ Is the position of the tide gauge well selected? Is the tidal data sufficient for the reduction of soundings over the area of the sheet? .....

64.+ Have projection lines been numbered around all the edges? .....

65.+ Has the geographic position of one of the triangulation points on the sheet been inked near the bottom edge of the sheet? .....

66. Was the speed of the sounding boat such as to allow vertical readings of the leadline? .....

67. Were lines of soundings run along the axis of narrow channels? .....

68. Have rocks or shoals seen from the sounding boat in passing been definitely located? .....

69. Have charted shoals reefs, or rocks been investigated? .....

70.+ Have sounding records been kept in approved form? .....

71. Are Wire drag surveys required? .....

72. Is the area between the soundings taken and the shore indicated or described as being covered by reefs, etc. as the case may be?

.....

Other Remarks line of soundings of 31 feet among general depth of 29 fe. probably incorrect.

.....

The forgoing points marked by a cross (+) and the following additional points are to be considered for wire drag hydrographic sheets.

73. What additional areas, if any, in the locality covered by the sheet should be dragged? .....

.....

74. Number of small areas inside limits of work missed by drag (few, moderate number, numerous) .....

75. Are shoals discovered with drag clearly shown? .....

76. Were shoals later covered by drag set at suitable depth? .....

.....

77. Are all areas missed by drag clearly shown? .....

78. Are overlaps ample? .....

79. Do effective depths conform to instructions under which the work was done? .....

80. If work was done before present practice as regards effective depths was adopted, should the area be re-dragged to conform to the present practice? .....

.....

.....

81. Are all shoals discovered shown on current issue of chart? .....

.....

The following note was on hyd. sheet 3658, in pencil, when received in the office:—

A few (10th, 16th & 17th Oct.) of the first days soundings on this sheet about Fishermans Island were reduced from the Quarantine Gauge Book 1 furnished by Capt. Hodgkins. All of the other soundings were reduced from the Cape Charles City Gauge. The seven days observations of all highs and lows at Quarantine, Old Plantation Lt. Ho. Cape Charles City and Nasawaddox Gauge show that the tides at Cape C. City (at upper end of this sheet) are 50 minutes later than at Quarantine Gauge. The correction for this was made.