4077 4078

Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

State: Virginia

11—5613

# DESCRIPTIVE REPORT.

Sheet No. 4077 4078

LOCALITY:

Hampton Creek & approaches,
Hampton Roads -

1919

CHIEF OF PARTY:

Porter, L. A.

POST-OFFICE ADDRESS: C. & G. Survey Str."Onward", Hampton, Va. MAIL CLERK

TELEGRAPH ADDRESS:

EXPRESS OFFICE:

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

# DESCRIPTIVE REPORT

## TO ACCOMPANY SHEET Nos. 4077 and 4078

The sheet on a scale of 1:10,000, covers Hampton Roads, from Old Point Comfort to Newport News, southward to Craney Island Flats, except Hampton Creek and approaches. It was done under orders dated November 14, 1918.

The sheet on a scale of 1:5,000, covers Hampton Creek and approaches eastward to Old Point Comfort and southward to Hampton Bar. This sheet was laid out and furnished after work on the main sheet had started, and it was therefore not possible to keep the record books for the two sheets separate.

All positions plotted on the 1:5,000 scale sheet are checked in blue in the sounding books, and all positions plotted on the 1:10,000 scale sheet are checked in red.

Great difficulty was experienced, while running the north and south lines in keeping them properly spaced, on account of the strong tidal currents, and the fact that a short change in position often encountered a very great change in the direction and velocity of the current. The lines in the deep water at the eastern end of the sheet were mostly run at slack water.

## T I D E S .

1. An automatic tide gauge was operated at Old Point Comfort throughout the season.
2. Tides were also observed on staff gauges at Soldiers Home Wharf in Hampton Creek.
3. Newport News.
4. Newport News Middle Ground Lighthouse.
5. Ferry Wharf, west side, Sewalls Point.
6. Miles Watch House on Craney Island Flats.

Tides were read at these stations for the most part continuously and simultaneously, although they were omitted at times. This was found necessary on account of the fact that the tidal plane seems to vary considerably at different points, and also that the work on a single day often involved tides at several stations.

Desc.Rep.,Shts.# & #

The tide books have all been reduced, using at Old Point Comfort the plane furnished by the office, at Newport News the mean of the low waters previously observed and observed during the present season, and at the other stations the mean of the low waters observed during the present season.

The sounding books have also been marked as to the tide station to be used, the limits to be reduced at each tide station being indicated on the boat sheet. This was done with the intention of reducing the soundings, but on account of the complexity of the tidal planes, the records were ordered transmitted without reduction of soundings.

The land bordering on Hampton Roads is mostly highly developed, and has numerous promenint landmarks. A list of the prominent landmarks recommended to be shown on the chart is attached.

COAST PILOT INFORMATION.

Unless otherwise stated the published descriptions in Coast Pilot, Section C, are correct.

OLD POINT COMFORT - The depth at the outer end of the Steamer Wharf is about 30 feet, and at the two small boat wharves, on either side of the steamer wharf, 6 to 12 feet.

MOTHER HAWKINS HOLE - The depth is 9 to 20 feet. The buoyed channel leading northward from the west end of Old Point Comfort leads to an oyster and fish wharf at Phoebus, to which a depth of about 7 feet at low water can be carried. Dredging has been done along the eastern side of this channel to reclaim land at the southwestern end of Mill Creek, and was still in progress in June 1919. The bottom is very irregular.

HAMPTON CREEK - The easterly tributary of Hampton Creek just inside the entrance has been privately dredged to a depth of about 11 feet to the power plants of the Soldiers Home and Hampton Normal School. It is used principally for towing coal to the plants.

SUNSET CREEK - The westerly tributary of Hampton Creek just inside the entrance, has a yard for building wooden ships, and a power plant to which coal barges go. There are two channels. A straight dredged channel with a depth of about 11 feet favors the south side to the shipyard; in June 1919, it was marked on the south side by stakes. An uncharted crooked channel with a depth of about 6 feet favors the north side to the power plant.

Des.Rep.,Shts.# & #

The best water in entering Hampton Creek leads close westward of the red beacon and red buoy, in mid channel through the entrance, and favors the east side off the mouth of Sunset Creek, then leads in mid channel to the steamer wharf (yellow building).

About 2 miles westward of the entrance of Hampton Creek, a privately dredged channel with a depth of about 2-1/2 feet leads into a small basin in front of an oyster packing plant. The channel was marked by bush stakes in 1919.

NEWPORT NEWS SMALL BOAT HARBOR AND MUNICIPAL PIERS - There are machine shops on the harbor, and gasoline, water and provisions in limited quantities are obtainable. A steamer line to Baltimore, a ferry line to Sewalls Point and a boat line to Norfolk operate from the municipal wharf.

Soundings along the sides and ends of the wharves at Nweport News were made by Captain E. B. Latham in 1918, and were therefore not done by this party.

WILLOUGHBY BANK - The three tripod beacons formerly marking the north side of the dumping ground on Willoughby Bank, have carried away, and three beacons have recently been established to replace them. Their positions have been determined by triangulation, and are submitted in the list of prominent objects to be charted.

The changes on the south side of Hampton Roads will be reported in the descriptive reports of the topographic sheets of that section.

L.A.Potter.

L.A.Potter, Jr.H.& G.Engineer,
Chief of Party.

POST-OFFICE ADDRESS:

TELEGRAPH ADDRESS:

EXPRESS OFFICE:

# DEPARTMENT OF COMMERCE

## U. S. COAST AND GEODETIC SURVEY

STATISTICS SHEET No._____

-----ooo-----

| Date 1918-19 | Letter | Volume | Positions | Soundings | Miles statute | Vessel |
|---|---|---|---|---|---|---|
| Nov. 8 | a | 1 | 106 | 797 | 8.0 | Skiff |
| " 12 | b | 1 | 12 | 124 | 1.3 | " |
| " 13 | c | 1 | 87 | 982 | 16.6 | Skiff & Launch 7067 |
| " 14 | d | 1&2 | 91 | 764 | 22.3 | Launch 7067 |
| " 15 | e | 2 | 74 | 638 | 16.4 | " |
| " 21 | f | 2 | 86 | 678 | 14.1 | " |
| " 22 | g | 2&3 | 110 | 763 | 19.5 | " |
| Dec. 9 | h | 3 | 81 | 350 | 9.7 | " 7086 |
| " 12 | i | 3 | 63 | 318 | 8.5 | " |
| " 13 | j | 3 | 20 | 128 | 2.7 | " |
| " 18 | k | 4 | 105 | 711 | 15.3 | " |
| " 19 | l | 4 | 105 | 537 | 16.3 | " |
| " 20 | m | 4 | 118 | 609 | 16.1 | " |
| " 23 | n | 5 | 108 | 437 | 16.3 | " |
| " 26 | p | 5 | 87 | 470 | 14.5 | " |
| " 27 | q | 5 | 75 | 399 | 13.7 | " |
| " 30 | r | 5 | 122 | 596 | 21.1 | " |
| " 31 | s | 6 | 67 | 361 | 10.9 | " |
| Jan. 4 | t | 6 | 12 | 83 | 2.3 | " |
| " 6 | u | 6 | 47 | 267 | 8.0 | " |
| " 13 | v | 6 | 68 | 457 | 11.1 | " |
| " 14 | w | 6 | 117 | 752 | 19.8 | " |
| " 15 | x | 7 | 52 | 360 | 9.7 | " |
| " 16 | y | 7 | 134 | 988 | 27.8 | " |
| " 17 | z | 7 | 92 | 558 | 17.1 | " |
| " 20 | A | 7&8 | 156 | 835 | 22.1 | " |
| " 21 | B | 8 | 65 | 405 | 9.5 | " |
| " 24 | C | 8 | 133 | 765 | 22.1 | " |
| " 25 | D | 8 | 61 | 388 | 11.4 | " |
| " 27 | E | 8&9 | 111 | 658 | 20.9 | " |
| 30 | 30 | 8 | 2565 | 16078 | 425.1 | |

Statistics Sht.#_____

| Date 1918-19 | Letter | Volume | Position | Soundinds | Miles statute | Vessel |
|---|---|---|---|---|---|---|
| Brought for'd-- | 30 | 8 | 2565 | 16078 | 425.1 | |
| Jan. 28 | F | 9 | 164 | 994 | 32.0 | Launch 7086 |
| " 28 | a' | 16 | 105 | 721 | 6.9 | Skiff |
| " 29 | G | 9 | 46 | 321 | 9.7 | Launch 7086 |
| " 30 | H | 9&10 | 149 | 854 | 31.9 | " |
| " 31 | I | 10 | 135 | 784 | 22.5 | " |
| " 31 | b' | 16 | 114 | 782 | 8.0 | Skiff |
| Feb. 3 | J | 10 | 94 | 584 | 18.8 | Launch 7086 |
| " 5 | K | 10&11 | 133 | 707 | 22.0 | " |
| " 6 | L | 11 | 64 | 457 | 10.8 | " |
| " 8 | M | 11 | 127 | 599 | 20.0 | " |
| " 11 | N | 11 | 80 | 395 | 12.0 | " |
| " 12 | P | 11&12 | 105 | 724 | 22.4 | " |
| " 13 | Q | 12 | 62 | 374 | 9.5 | " |
| " 14 | R | 12 | 107 | 705 | 22.7 | " |
| " 17 | S | 12 | 56 | 235 | 7.0 | " |
| " 19 | T | 12 | 9 | 68 | 2.0 | " |
| " 20 | U | 12 | 38 | 214 | 8.0 | " |
| " 24 | V | 13 | 139 | 695 | 26.0 | " |
| " 25 | W | 13 | 37 | 186 | 6.0 | " |
| " 27 | X | 13 | 130 | 750 | 24.5 | " |
| " 28 | Y | 13 | 18 | 105 | 4.2 | " |
| Mar 3 | Z | 13&14 | 56 | 358 | 11.0 | " |
| " 4 | A' | 14 | 124 | 722 | 23.8 | " |
| " 5 | B' | 14 | 19 | 101 | 2.3 | " |
| " 7 | C' | 14 | 113 | 621 | 18.0 | " Navy |
| " 10 | D' | 14 | 61 | 557 | 7.2 | " 7086 |
| " 11 | E' | 15 | 53 | 415 | 6.7 | " |
| May 28 | F' | 15 | 48 | 358 | 2.5 | " & skiff |
| " 29 | G' | 15 | 58 | 279 | 4.2 | " Navy |
| June 12 | H' | 15 | 8 | 84 | 0.8 | Skiff |
| TOTAL---- | 60 | 16 | 5017 | 30827 | 828.5 | |

U. S. ARMY ENGINEERS

TIDE PLANE

in

HAMPTON ROADS

---oo---

The tidal plane of the U. S. Army Engineers in Hampton Roads is based on a long series of tidal observations at the foot of Main Street, Norfolk, taken many years ago. This plane seems to be used for the whole of Hampton Roads, although it is admitted by the U.S.Engineers that it is probably not entirely correct at present, since the depth and width of the Elizabeth River channel has been increased.

The following are the tidal bench marks used by the U. S. Army Engineers in Hampton Roads:

MIDDLE GROUND LIGHTHOUSE - The center of a one-inch square beaded band around the base of the lighthouse. Height 12.5 feet above mean low water. This bench mark is connected with the tide staff (See tide book)

VIRGINIAN RAILWAY PIER, SEWALLS POINT - No.1, 4 nails on front of wharf, elevation 4 feet above m. l. w. No.2, the top of the northwest holding down bolt, connecting with the foundation of the wharf, elevation 6 feet above m. l. w. These bench marks were connected with my tide staff at Sewalls Point (See level record)

OLD POINT COMFORT - The bench marks and elevations used by the U. S. Engineers are the same as those used by the Coast and Geodetic Survey.

POST-OFFICE ADDRESS: Coast Survey Str. "Onward", Hampton, Va.

TELEGRAPH ADDRESS:

EXPRESS OFFICE:

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

# LEVELS AND BENCH MARKS at NAVAL BASE

The following information is submitted concerning the bench marks and tide staff established and used by P. C. Whitney in August and September, 1917. Information was requested in an office letter dated Nov. 20, 1918.

The tide staff was on the east side of the lagoon, or small boat harbor, on the north side of the Naval Base, and has been carried away.

All elevations were referred to the plane of reference used by the U. S. Army Engineers for this section, elevations were established by a line of levels run from an engineers bench mark consisting of four nails in the front of the Virginian Railway coal pier on the west side of Sewalls Point. The elevation of this bench mark is 4 feet above m. l. w. plane used by the Engineers.

Another U. S. Army Engineers bench mark is the top of the northwest holding down bolt of the Virginian Railway coal pier, elevation 6 feet above m. l. w.

Three bench marks were established by P. C. Whitney in the Naval Base. The bench can not be found, but the heights of the bench marks have been obtained from two different sources.

B. M. 1, is a standard brass bench mark set in concrete flush with the ground, at the southeast corner of Gilbert Street and Maryland Avenue, Naval Base. It is inside a high wire fence, 5 meters from the fence along the north side, and 2.5 meters from the fence along the west side. elevation 11.532 feet above U. S. Engineers m. l. w. level.

B. M. 2, similar to B.Ms. 1 and 2, has been destroyed by building operations.

Levels & B.M.,Naval Base.

B. M. 3. A standard brass bench mark, set in concrete flush with the surface of the ground at the southwest corner of Gilbert Street and East Commonwealth Avenue. It is 10 meters from the edge of the curb eastward, and 8.5 meters from the edge of the curb northward. Elevation 14.633 above U.S.Engineers m. l. w.

The following bench marks, already in position, were also leveled by Mr. Whitney:

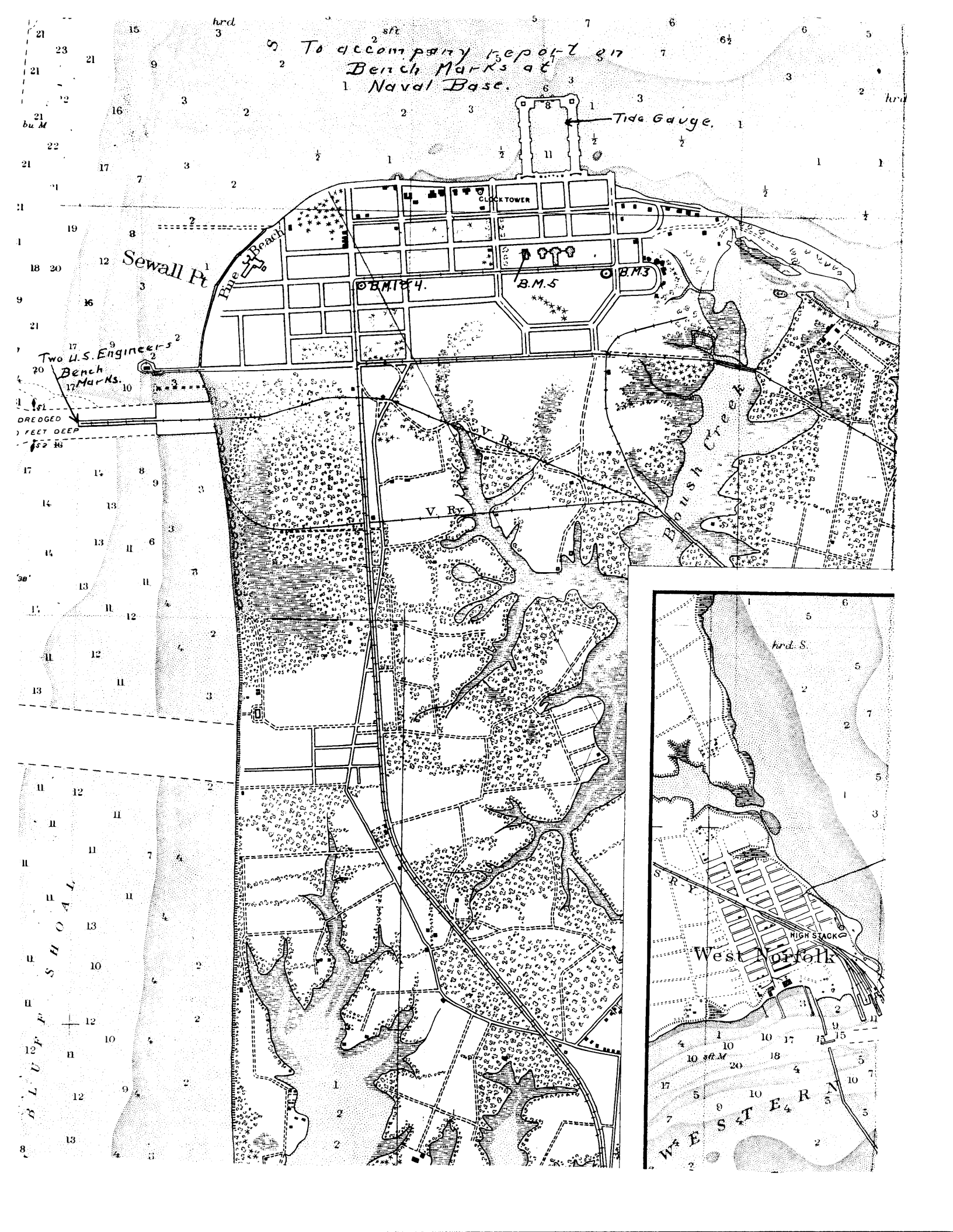
B. M. 4. Nail in root of tree, southeast corner Gilbert Street and Maryland Avenue. Elevation 12.036 ft.

B. M. 5. Cement platform under keystone center arch, entrance Historical Building on Pocahontas Street. Elevation 13.884.

On account of their lack of distinguishing marks, these marks should not be used if others are available.

L. A. Potter,

L.A.Potter, Jr.H.& G.Engineer,
Chief of Party.


To accompany report on
Bench Marks at
Naval Base.
Tide Gauge.
CLOCK TOWER
Sewall Pt
Pine Beach
B.M.184.
B.M.5
B.M.3
Two U.S. Engineers
Bench Marks.
DREDGED
FEET DEEP
V. Ry.
V. Ry.
Bush Creek
S. R. Y.
HIGH STACK
West Norfolk
SHOAL
BLUFF
WESTERN

ADDRESS
U. S. COAST AND GEODETIC SURVEY
WASHINGTON, D. C.

REFER TO NO 41-ACC

FIELD

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
WASHINGTON August 30, 1919.

Division of Hydrography and Topography:

Division of Charts: ✓

Tidal reductions are approved in
16 voulumes of sounding records for

HYDROGRAPHIC SHEETS 4077 and 4078

Hampton Roads, Va.
L. A. Potter in 1919.

Plane of reference is
Mean low water, reading

3.9 ft. on tide staff at Old Point Comfort.
2.0 ft. on tide staff at Soldier's Home Wharf.
2.4 ft. on tide staff at Sewall Point.
3.1 ft. on tide staff No. 1. at Newport News middle Ground L. H.
4.2 ft. on tide staff No. 2. at Newport News middle Ground L. H.
2.7 ft. on tide staff at Miles Watch House, Craney, Island Flats.
1.9 ft. on tide staff at Newport News, Va.

Condition of records, very satisfactory.

L. P. Shidy

Acting Chief, Section of Tides
and Currents.

Hydrographic Sheet 4077

Surveyed by L. A. Potter in 1918-19

Hampton Roads, Va,

The protracting and plotting contained errors that would have avoided had greater pains been taken.

Positionnnumbers and letters are much too large.

Positions of signals should be accentuated by light dots to assist in plotting.

On a number of days the sounding records do not show that the leadline was tested either at the beginning or ending of day's work.

In but a few cases are the locationsof beginning and ending of sounding lines described in the remarks column.

Notwithstanding the defects noted above the survey is in accordance with the instructions, the area is well developed and the sheet should be approved.

The boat sheets should be destroyed.

E. P. Ellis.

April 8, 1920.

Hydrographic Sheet 4078

Hampton Roads, Va.

Surveyed by L. A. Potter in 1918-19.

This sheet was not well laid out in the office, as the field party found it necessary to attach 5 dog ears (including 7 triangulation points). The sheet should have been large enough to include them.

The positions of signals should have been accentuated by light dots to assist protracting.

The numbers and latters of boat's positions are very poorly drawn, and not in accordance with General Instructions. They are too large and carelessly drawn and the day letter should be given for every fifth position - not at every position.

In practically no cases are the locations and endings of sounding lines given in the sounding records as directed by par. 295 of G. I.

Inonly about one-half of the days do the records show that the leadline was tested at the beginning and ending of the day's work.

Attention is called to the report of R. L. Johnston, the office draftsman who verified and inked the sheet. The defective protracting caused the waste of considerable time in the office. As is noted in Mr. Johnston's report, a number of lines required adjustment and some had to be rejected as they were manifestly in error.

Notwithstanding minor defects the survey is in accordance with the instructions, the ground is well covered and the sheet should be approved.

The boat sheets should be destroyed.

E. P. Ellis,

April 8, 1920.

Hyd. Sheet No 4077

Within the limits of the work, the ground is very well covered and the developement sufficient.

The irregularity in the six foot curve is caused by differences of one foot in the soundings.

The shoal in the entrance of the creek on the left hand side of Hampton Creek, (Sunset Creek), encroaches somewhat within the limits of the dredged channel, as it is shown on the chart.

The work in the channel south of the Hotel Chamberlin is not reliable, probably due to poor control. Several lines crossing the end of Hampton Bar and vicinity had to be arbitrarily rejected. The shoaler soundings were used here in drawing the curves as Capt. Potter is positive that the bar extends out to the buoy.

There is evidence that the boat had difficulty in holding a course, probably due to strong currents.

P. L. Johnston

# Hyd. Sheet No 4078

This sheet was protracted in the field and the soundings plotted, verified and inked in the office. The sheet was very dirty when it reached the office. The protracting of the field party was not carefully done. Without reprotracting the sheet but simply by testing the protracting of about twenty per cent of the positions, a number of positions were found to be in error while many others were only approximately correct.

The hydrography on this sheet covers a large area and the ground seems to be well covered and shoal developement sufficient. The majority of the crossings are fairly good, but throughout the work there are a great many lines which will not cross. Each of these was taken separately and an adjustment attempted and often successfully made. Such lines as could not be changed but which appeared to be either out of position or wrong were treated as follows. Lines shoaler than the surrounding work were shown as plotted, but a few lines much deeper than the adjacent hydrography were arbitrarily rejected.

The work on Hyd 4084 does not join up well with Hyd 3982 probably due to the fact that dredging has been in progress since Hyd 3982 was surveyed.

The boat seems to have been frequently off course on this work.

R. L. Johnston

Form 537
11—5812

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

# HYDROGRAPHIC TITLE SHEET

The finished Hydrographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

U. S. Coast and Geodetic Survey.

Register No. 4077

State . . Virginia. . . . . .

General locality . Hampton Roads. . . . . .

Locality . . . Hampton Creek and Approaches . . . . . .

Chief of party . L. A. Potter, Jr. H.& G.Engineer . .

Surveyed by H.P.Odessey, W.H.Overshiner, L.A.Potter .

Date of survey . November 8, 1918 to June 12, 1919. .

Scale . 1:5,000. . . . . .

Soundings in . . . . . .

Plane of reference . . . . . .

Protracted by L.M.G., H.P.O. and J.W.C. Soundings in pencil by . . . . .

Inked by . . . . . Verified by . . . . . .

Records accompanying sheet (check those forwarded):

Des. report, 17 Tide books, 3 Marigrams, 2 Boat sheets,

16 Sounding books, ..... Wire-drag books, ..... Photographs.

2 Level books, 1 Tracing, 1 Chart showing buoys.

Data from other sources affecting sheet . . . . . .

Remarks:

Records in common with sheet No. 4078, scale 1:10,000, of Hampton Roads.

CHE

Form 537
11—5812

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

# HYDROGRAPHIC TITLE SHEET

The finished Hydrographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

U. S. Coast and Geodetic Survey.

Register No. 4078

State . . . Virginia . . . . . .

General locality Hampton Roads . . . . . .

Locality . . . ~~Hampton Roads~~ Old Pt. Comfort to Newport News

Chief of party L.A.Potter, Jr.H.& G.Engineer . . . . .

Surveyed by mostly by H.P.Odessey, part by L.A.Potter

Date of survey November 8, 1918 to June 12, 1919 . . .

Scale . 1:10,000 . . . . . .

Soundings in . . . . . .

Plane of reference . . . . . .

Protracted by L.M.G., J.W.C. and H.P.O. Soundings in pencil by [illegible]

Inked by [illegible] . . . . Verified by [illegible] . . . . . .

Records accompanying sheet (check those forwarded):

Des. report, 17 Tide books, 3 Marigrams, 2 Boat sheets,

16 Sounding books, ..... Wire-drag books, ..... Photographs.

Data from other sources affecting sheet 2 Level books, 1 Tracing, 1 Chart showing buoys. . . . . .

Remarks:

Records in common with sheet No._____,

scale 1:5,000, of Hampton Creek and approaches.