

8098

Diag'd. on Diag. Ch. No. 78-3

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Air Photographic (Shoreline)

Field No. CS-283 Office No. T-8098

LOCALITY

State VIRGINIA

DATA RECORD

Shoreline Survey T-8098Quadrangle (II): ~~Richmond, Va. 7¹/₂ minute~~
U.S.G.S.

Project No. (II): CS-283

Field Office:
Air Photographic Party No. 2Chief of Party:
~~Fred. L. Peacock~~
H. O. FortinCompilation Office:
Baltimore Photogrammetric OfficeChief of Party:
Fred. L. PeacockDiv. of Photogrammetry
Office Files

Instructions dated (II III):

March 26, 1942, July 15, 1942

Sept. 30, 1942, Nov. 14, 1942, Nov. 24, 1942

Copy filed in ~~Descriptive~~
~~Report No. T-~~ (VI)

Completed survey received in office: 12/29/44

Reported to Nautical Chart Section: 1/44

Reviewed: 12-28-48 Applied to chart No. 531 Date: Partially 3-30-45
Completely 2-4-47Redrafting Completed: *not to be redrafted*Registered: * 2/5/45
6-22-49Published: *not to be published*

Compilation Scale: 1:10,000

Published Scale: "

Scale Factor (III): None

Geographic Datum (III): N.A. 1927 Datum Plane (III): ~~Mean Sea Level~~ MHW

Reference Station (III): MARION (City of Richmond) 1923, r. 1943

Lat.: 37° 30' 04.063" 125.3 m. Long.: 77° 24' 28.226" 693.3 m. Adjusted
Unadjusted

State Plane Coordinates (VI):

X =

Y =

Military Grid Zone (VI)

* Registered Prior to Review. Corrections made by the reviewer
will be shown on the file copy in red and that fact noted
here. Bgg. 2/5/45. Numerous corrections. A new copy will be registered.

PHOTOGRAPHS (III)

<u>Number</u>	<u>Date</u>	<u>Time</u>	<u>Scale</u>	<u>Stage of Tide</u>
7583 to 7588, Incl.	11-25-41	12:22 P.M.	1:10,000	2.5' above M.L.W.
7596 to 7600, "	11-25-41	12:32 P.M.	1:10,000	2.4' above M.L.W.
7608 to 7616, "	11-25-41	12:45 P.M.	1:10,000	2.3' above M.L.W.

Tide from (III): Predicted tables, Reference Station, Washington, D. C.,
with corrections for Richmond, Va. James River.

Mean Range: 3.7'

Spring Range: 4.2'

Camera: (Kind or source) United States Coast and Geodetic Survey
9 lens camera (focal length $8\frac{1}{4}$ "). All negatives on file in the
Washington Office.

Field Inspection by: Lieut. Comdr. Henry C. Fortin date: Jan. 1943.

Field Edit by: None

date:

Date of Mean High-Water Line Location (III): Date of photographs
supplemented by field inspection data obtained in 1943. Season field in-
spection reports previously submitted.

Projection and Grids ruled by (III) J.T. and B.R.C. date: 9-30-44

" " " checked by: B.R.C. date: 9-30-44

Control plotted by: Mildred M. Trautman date: 10-11-44

Control checked by: Henry P. Eichert date: 10-14-44

Radial Plot by: J. Edward Deal, Jr., & H. R. Brooks date: 11-4-44

Detailed by: Albert C. Rauck, Jr., date: 11-6-44 to
12-19-44

Reviewed in compilation office by: J. Edward Deal, Jr. date: 12-26-44

Field Inspection

Field inspection data for the area of T 8098 are contained in the "Report on Field Inspection of Air Photographs, James River and Tributaries, Virginia" by Henry O. Fortin, dated April 20, 1943. Filed in Division of Photogrammetry, General Files.

This Map Drawing includes the portion of the shoreline of the James River, and adjacent planimetry, in the vicinity of Richmond, Virginia.

26 CONTROL:

The following horizontal control stations are within the limits of this Map Drawing.

U. S. Coast and Geodetic Survey Second Order Triangulation Stations:

BANK (City of Richmond) 1923, r. 1943
BRIDGE (City of Richmond) 1923, r. 1943
CAPITAL (City of Richmond) 1923, r. 1943
FAIRMOUNT (City of Richmond) 1923, r. 1943
FLAG (City of Richmond) 1923, r. 1943
FRANKLIN (City of Richmond) 1923, r. 1943
LEE (City of Richmond) 1923, r. 1943
MARION (City of Richmond) 1923, r. 1943
MOSMILLER (City of Richmond) 1923, r. 1943
OAK GROVE (City of Richmond) 1923, r. 1943
PATTERSON (City of Richmond) 1923, r. 1943
ST. JAMES (City of Richmond) 1923, r. 1943
ST. JOHNS (City of Richmond) 1923, r. 1943
SHEPPARD (City of Richmond) 1923, r. 1943
TRINITY (City of Richmond) 1923, r. 1943
WEATHER BUREAU (City of Richmond) 1923, r. 1943

U. S. Coast and Geodetic Survey Third Order Triangulation Stations:

RICHMOND MASONIC ORPHANAGE, WOODEN WATER TANK, 1941, r. 1943
RICHMOND MASONIC ORPHANAGE, STEEL WATER TANK, 1941, r. 1943
RICHMOND VETERANS MEMORIAL CARILLON TOWER, 1941, r. 1943

U. S. Engineers Triangulation Station:

RHO, r. 1943

U. S. Geological Survey Horizontal Control Station:

1961 (U.S.G.S.) 1931: FULTON (City of Richmond) 1923,
also B.M. 51 (U.S.G.S.) r. 1943

26 CONTROL: (Continued)

The following horizontal control stations fall just outside the limits of this Map Drawing.

U. S. Coast and Geodetic Survey Second Order Triangulation Stations:

BYRON ECCENTRIC (City of Richmond) 1923, 1932, r. 1943
CLUB (City of Richmond) 1923, r. 1943
FIELD (City of Richmond) 1923, r. 1943 (F.I.P.)
HIGHLAND (City of Richmond) 1923, r. 1943
SEMINARY (City of Richmond) 1923, 1931, r. 1943
SOUTH BASE (City of Richmond) 1923, r. 1943
RICHMOND WEST, 1932, r. 1943 (F.I.P.)

U. S. Coast and Geodetic Survey Third Order Triangulation Station:

RED BRICK STACK AT ABANDONED BRICKYARD, 1932, r. 1943

U. S. Geological Survey Horizontal Control Stations:

1908 (U.S.G.S.) 1931: PLAGEMAN'S (City of Richmond) 1923, r. 1943
2212 (U.S.G.S.) 1931: BYRON (City of Richmond) 1923, r. 1943
2204+ PRIVATE ROAD FORK AT RAVENWOOD FARM, 1943
2208+ CROSSROADS, BYRON STREET AND HIGHWAY 360, 1943

U. S. Engineers Triangulation Station:

RHAA, 1943

All of the above listed horizontal control stations were used to establish photograph centers, secondary control points, and detail points.
See Review Report for additional stations

27 RADIAL PLOT:

The radial plot for this Map Drawing is part of the combined radial plot of Map Drawing for Surveys Nos. T-8097 and T-8098 and is described in the Descriptive Report of Map Drawing for Survey No. T-8097 which was forwarded to the Washington Office on December 19, 1944.

Filed in Div. of Photogrammetry - General Files

28 DETAILING:

The shoreline and immediate adjacent planimetry of that part of the James River south of Mayos Bridge has been detailed in accordance with original Instructions, dated March 26, 1942, the Director's Supplemental Instructions, dated July 15, 1942, September 30, 1942, November 24, 1942, and one letter "Extent of Field Inspection", reference 28-PFA, dated December 1, 1942, to Commander Fred. L. Peacock, Officer-in-Charge, Baltimore Field Office. Filed in Div. of Photogrammetry- Office Files

Mayos Bridge had been identified by the Field Inspection Unit as the "Head of Navigation" and is the limit of the field inspection for Project No. CS-283.

All detail southeast of Mayos Bridge has been shown in accordance with the field inspection data and the compiler's interpretation from stereoscopic examination of the nine lens photographs.

The shoreline data furnished the Compilation Office by the Field Inspection Unit was transferred to the office photographs and then detailed on the Map Drawing.

All roads, railroads, bridges, streets, and buildings adjacent to the Mean High-Water Line have been detailed.

The positions of detail points, temporary hydrographic stations, and all stacks, storage tanks, and elevated tanks adjacent to the shoreline, which could be seen on the nine lens photographs, were determined by the usual radial line method. The elevated objects have been symbolized on the Map Drawing and have not been recommended as Recoverable Topographic Stations.

A considerable portion of the shoreline and adjacent planimetric detail of the James River, west and northwest from Mayos Bridge to the west limits of this Map Drawing, and which is located beyond the head of navigation and the limits of field inspection, is detailed according to the compiler's interpretation from stereoscopic examination of the nine lens photographs. The U. S. Geological Survey, Richmond, Va. 7 $\frac{1}{2}$ minute Quadrangle was used extensively as a guide when interpreting adjacent planimetric detail in this area.

At the time the photographs were taken, there was very little water lying in the bed of the river. Rock outcrop, covered in places with a growth of coniferous and deciduous trees, was very much in evidence in the river bed.

Paralleling the north shore of this river bed are a railroad and a canal. The railroad bed acts as a dike for the canal, the water level of which is of a considerable height above the river bed. The interpretation and delineation of this detail was accomplished after careful stereoscopic examination of the photographs was made.

28 DETAILING: (Continued)

Paralleling the south shore is another railroad which could easily be seen on the nine lens photographs.

According to the United States Coast Pilot, 1937, Fourth Edition, Atlantic Coast, Section "C", page 177, spring freshets reaching a height of from 6 to 32 feet occur in the James River in the vicinity of Richmond, Virginia, and it is believed that at these times, the river bed above the head of navigation, is practically filled with water.

The number of nine lens photographs covering the area of this Map Drawing were sufficient for detailing and the average scales of the photographs were in good agreement with the scale of the Map Drawing projection.

It is believed that the position of the Mean High-Water Line in the area of the James River, southeast of Mayos Bridge, has been accurately determined by the compiler and is well within the limits of satisfactory accuracy.

29 SUPPLEMENTAL DATA:

A copy of the U. S. Geological Survey Richmond, Va., 7½ minute Quadrangle was available to the Compilation Office and was used as an aid in the interpretation and detailing of railroads, in conjunction with stereoscopic examination of the photographs.

30 MEAN HIGH-WATER LINE:

The conventional full heavy-weight black acid line has been used to indicate the Mean High-Water Line in the area of the James River below the head of navigation. In that portion of the James River bed above the head of navigation, a full light-weight black acid line has been used to show the amount of water in the river bed at the time the photographs were taken.

31 LOW-WATER AND SHOAL LINES:

No Mean Low-Water Line has been shown on this Map Drawing, and none was indicated by the field inspection data or visible on the nine lens photographs.

As stated in the "Report on Field Inspection of Air Photographs" "James River and Tributaries, Virginia", season 1943, Project No. CS-283, a dotted green line shown on the field inspection photographs, indicated a ^{shallow} ~~shoal~~ line. Several of these ^{shallow} ~~shoal~~ areas were identified within the navigable waters of this portion of the James River, and are shown on this Map Drawing with a dashed, light-weight black acid ink line with the word "SHOAL" lettered within or near the area.

^{shallow} ~~shoal~~

✓ Filed in Div. of Photogrammetry - General Files

32 DETAILS OFFSHORE FROM THE MEAN HIGH WATER LINE:

Numerous details offshore from the Mean High Water Line, such as: rocks, piling areas, piling, dolphins, ruins of an old pier, and cribbing, have been identified by the Field Inspection Unit, and are detailed and appropriately noted on this Map Drawing.

Several rocks appearing on U. & G. S. Chart No. 531 have been shown on the Map Drawing in the James River, off the south shore of Mayos Island. These rocks were not identified by the Field Inspection Unit and it is not known to what extent they bare or cover. It is believed these rocks should be investigated during any future hydrographic survey as their identification, by the compiler, from the available photographs was doubtful. See Review Report

33 WHARVES AND SHORELINE STRUCTURES:

All shoreline structures either visible on the nine lens photographs or identified by the Field Inspection Unit, have been detailed and appropriately noted on this Map Drawing. Piers, jetties, a pipeline pier, an old derrick pier, and retaining walls have been shown in the navigable portion of the James River. 83

34 LANDMARKS AND AIDS TO NAVIGATION:

No objects were recommended for charting as Landmarks within the limits of this Map Drawing. However, C. & G.S. Chart No. 531 shows as Landmarks, a stack, a tank, and a tower within the area of this Map Drawing. The location of the stack and the tank were office identified and radially plotted on the Map Drawing, and are shown with black acid ink, $2\frac{1}{2}$ mm. circles. The tower was not visible to the compiler on the nine lens photographs. Form No. 567 is being submitted for the radially plotted positions of the two Landmarks which were office identified. See Review Report

35 HYDROGRAPHIC CONTROL:

The Compilation Office was furnished the identification of twenty-five (25) temporary hydrographic stations. These were identified on the 1:10,000 field photographs by numbers and their descriptions were listed in a field sketch book (Form No. 274) by corresponding numbers. These stations were transferred to the 1:10,000 office photographs and radially plotted on the Map Drawing.

The numbers of these stations have been noted near the station to which they refer and their descriptions have been listed at the right hand margin on this Map Drawing.

35 HYDROGRAPHIC CONTROL: (Continued)

No Recoverable Topographic Stations were selected within the area of this Map Drawing except the two landmarks relocated by the radial plot. See Review Report

One temporary hydrographic station, identified on this Map Drawing as No. 6, is identified in the Field Sketch Book (Form No. 274) as the U. S. Engineers Horizontal Control Station "ROCK". No geographic position for this station "ROCK" was available to the Compilation Office. The radially plotted position of this station "ROCK" has been scaled and is being submitted on Form No. 524. See Review Report

36 LANDING FIELDS AND AERONAUTICAL AIDS:

The Compilation Office was not furnished any data concerning Landing Fields or Aeronautical Aids within the area of this Map Drawing.

One landing field has been detailed on this Map Drawing in the vicinity of latitude $37^{\circ} 33'$ and longitude $77^{\circ} 24'$. An appropriate note, referring to the runways of this landing field, has been lettered within the area. 88
8/

No name or designation of this landing field is available to the Compilation Office. This landing field has been labelled "LANDING FIELD (Name unknown)". Approved name - "Central Field"

37 JUNCTIONS:

To the north, east, and west, there are no contemporary surveys.

To the south a satisfactory junction has been made with Map Drawing for Survey No. T-8097.

37 GEOGRAPHIC NAMES: Approved list filed in the Geographic Names Section

As instructed, the Field Inspection Unit did not make a geographic name investigation for this Map Drawing. The Geographic Names shown on this Map Drawing have been taken from the only sources available to the Compilation Office, namely: U. S. Coast and Geodetic Survey Chart No. 531, scale 1:20,000, dated March 8, 1944, and the U. S. Geological Survey, $7\frac{1}{2}$ minute Richmond, Va., Quadrangle, scale 1:31,680, edition of 1939.

A list of disputed and undisputed names is attached to this Descriptive Report. When the question of a name dispute arose, between the two sources of name data available to the Compilation Office, preference was given to the U. S. Coast and Geodetic Survey Chart, and its name was used on the Map Drawing.

39 HORIZONTAL ACCURACY:

The probable error in the positions of detail points, the Mean High-Water Line, and well defined objects, is believed to be within the limits of satisfactory accuracy.

40 RECOMMENDATIONS FOR FUTURE SURVEYS:

The shoreline, rough draft, Map Drawing for Survey No. T-8098 is believed to be complete in all details for charting and no other surveys are deemed necessary.

41 BRIDGES:

Several bridges over the James River are shown on this Map Drawing. One highway bridge, namely: Mayos Bridge, crosses the James River at the head of navigation. Three highway bridges and three railroad bridges cross the James River bed above the limits of navigation.

Adjacent to and paralleling the east side of the Atlantic Coast Line Railroad Bridge, is another bridge which is evidently abandoned. This has been detailed with an appropriate note lettered near it on the Map Drawing.

Only one bridge, utilized by the Seaboard Air Line Railway, crosses the James River below the head of navigation. This bridge spans Mayos Island and the James River just east of Mayos Bridge. *No clearances were indicated by the field inspector.*

44 COMPARISON WITH EXISTING TOPOGRAPHIC QUADRANGLES:

A visual comparison only could conveniently be made with the U. S. Geological Survey, 7½ minute Richmond, Va., Quadrangle, Scale 1:31,680, edition of 1939.

With the exception of minute detail such as piers and shoreline structures, all other common shoreline and adjacent planimetric detail in the area of the navigable portion of the James River was in good agreement. The U. S. Geological Survey Quadrangle shows considerable water area in the James River bed above the head of navigation, while very little water was visible in this area on the nine lens photographs, from which this Map Drawing was compiled. This made it difficult to make a good comparison of shoreline detail in this area. Common planimetric detail, adjacent to the shoreline of this area, was in good agreement.

45 COMPARISON WITH NAUTICAL CHARTS:

Comparison was made with the U. S. Coast and Geodetic Survey Chart No. 531, Scale 1:20,000, dated March 6, 1944, by use of the vertical projector.

45 COMPARISON WITH NAUTICAL CHARTS: (Continued)

On the strip of land, east of Mayos Island, and south of the canal on the north side of the river, the chart shows a small body of water in which there are two wrecks. This small body of water is not visible on the photographs as the area is now grown over with small scattered trees and brush. All other common shoreline and planimetric detail is in good agreement. 83 ✓

The west limits of Chart No. 531 is longitude $77^{\circ} 26' 36''$ and only partly covers the area detailed on the Map Drawing above the limits of navigation. Therefore, a complete comparison of the James River bed above the head of navigation could not be made.

Respectfully submitted:
December 26, 1944

Albert C. Rauck, Jr.
Albert C. Rauck, Jr.,
Senior Photogrammetric Aid

Compilation and Descriptive
Report reviewed by:

J. Edward Deal, Jr.
J. Edward Deal, Jr.,
Asst. Photogrammetric Engineer

Compilation of Map Drawing
Supervised by:

J. Edward Deal, Jr.
J. Edward Deal, Jr.,
Asst. Photogrammetric Engineer

Approved and Forwarded:
December 29, 1944

Fred. L. Peacock
Fred. L. Peacock
Chief, Air Photographic Party No. 2

GEOGRAPHIC NAMES

(Undisputed)

- Almond Creek
- Atlantic Coast Line
- Atlantic Coast Line R.R. Bridge
- Belle Isle
- Boulevard Bridge
- Chesapeake and Ohio Railroad
- Chimborazo Park
- Forest Hill Park
- Gambles Hill Park
- Gillie Creek
- Goose Creek
- Hollywood Cemetery
- Hull Street Station
- James River
- Jefferson Davis Highway U.S. 1, 301 ✓
- Lower Rocketts
- Main Street Station
- Maymont Park
- Mayos Bridge
- Mayos Island
- Meadow Street
- Mill Run
- Mt. Calvary Cemetery
- Reedy Creek
- Richmond
- Richmond Fredericksburg & Potomac Railroad
- Richmond Waterworks
- Riverview Cemetery
- Robert E. Lee Bridge
- Rocketts
- Seaboard Air Line Railway
- Semmes Avenue
- Southern
- South Richmond
- State Penitentiary
- Stony Run
- Wm. Byrd Park
- 9th Street Bridge
- U.S. 360
- U.S. 60

Names preceded by ✓ are
approved. 12/10/48
L.H.

T8098

GEOGRAPHIC NAMES

(Disputed)

R. & D. R.R. Bridge
(From U.S.C. & G.S. Chart No. 531)

• Southern
(From U.S.G.S. Richmond, Va.,
Quadrangle)

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

TO BE CHARTED
TO BE DELETED

Descriptions of Photo-Hydro Stations

T-8098

- No. 1 Center of bare spot on prominent point.
- No. 2 E. gable of brick house on N. side of river and E. of bridge.
- No. 3 Base of abutment No. 2, E. face, 3rd from N. bank.
- No. 4 Base of second abutment from S. bank, E. face.
- No. 5 Base of first abutment in water, Seaboard R.R. bridge, S-shore.

- No. 7 W. end of retaining wall on S. side of river.
- No. 8 S. end of retaining wall on S. side of river.
- No. 9 Most southerly dolphin on W. side of river.
- No. 10 Group of pilings at S.E. corner of oil dock.
- No. 11 Group of pilings at N. end of dock, capstan on top of pilings and wrapped with steel cable just below capstan.
- No. 12 Top of large boulder on E. end of stone jetty on W. side of river.
- No. 13 N.E. corner of pier on W-side of river.
- No. 14 Most northerly dolphin on W. side of river. N. of American Oil Co. pier.
- No. 15 Top of pile of concrete on S.W. side of river.
- No. 16 Outshore end of third cribbing E. of No. 15
- No. 69 Center of outer end of jetty, opposite pier on

732

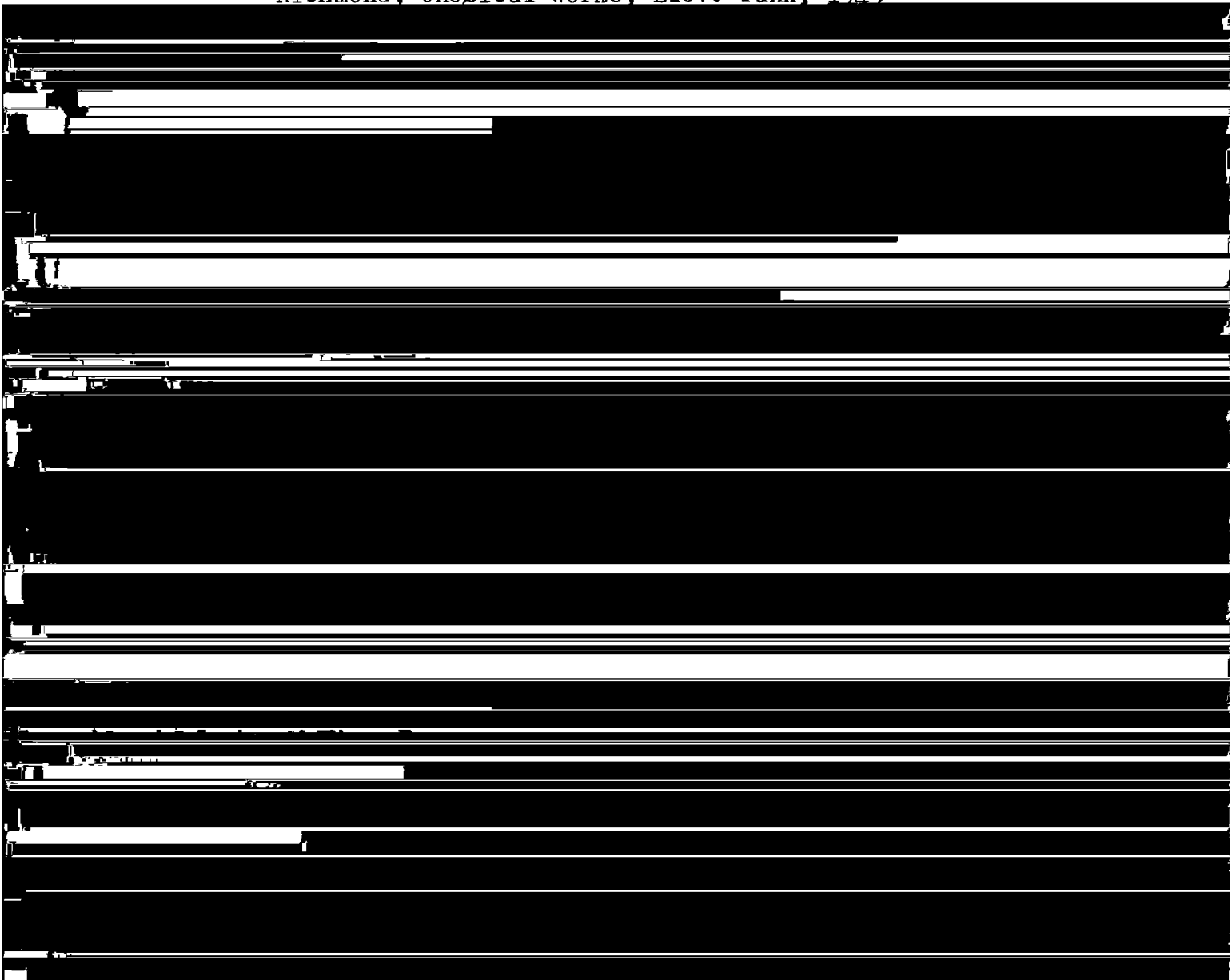
Division of Photogrammetry
Review Report
Shoreline Map Manuscript T-8098

Subject numbers not used in this report have been adequately covered in other parts of the descriptive report.

26 Control

The following triangulation stations were added to the map manuscript:

Richmond, Belle Isle, WRNL, Marconi Radio Mast, 1941
Richmond, Brown and Williamson Tobacco Co., Stack, 1941
Richmond, Central National Bank Bldg., Ventilator, 1941
Richmond, Jefferson Hotel, Northwest Cupola, 1941
Richmond, Jefferson Hotel, Southeast Cupola, 1941
Richmond, Medical College of Virginia Bldg, Beacon, 1941
Richmond, Chemical Works, Elev. Tank, 1943



37 Topographic and Photo-Hydro Stations

A list of descriptions of Photo-Hydro stations was prepared and made a part of the descriptive report.

Form 524 cards were prepared for the following Recoverable Topographic Stations:

Tidal Bench Mark 5, 1943

Tidal Bench Mark 7, 1943

44 Comparison with Existing Surveys

U.S.G.S. Richmond Quadrangle 1:31,680 1939

T-391 1:5,000 1853

T-684 1:5,000 1857-8

T-1493 1:10,000 1879

T-3241 1:10,000 1911

Common features on all previous surveys are superseded by the map manuscript in common area up to the limit of navigation, Mayos Bridge. There was no field inspection beyond that point and all detail shown was ~~drafted~~ ^{compiled} from office interpretation of the aerial photographs.

45 Comparison with Nautical Charts

Chart No. 531 1:20,000 1947

Rocks awash shown on the chart in the vicinity of Mayos Island could not be identified on the photographs.

51 Application to Nautical Charts

The map manuscript has been applied to the nautical chart prior to the date of this report.

Reviewed by:

Under the direction of:

Charles Theurer
C. Theurer 12/29/48

S. V. Griffith
Chief, Review Section *S.V.*

Approved by:

S. V. Griffith, acting
Tech. Asst. to the Chief,
Division of Photogrammetry

H. B. Edmonson
Chief, Nautical Chart Br.
Division of Charts

K. T. Adams
Chief, Div. of Photogrammetry

C. W. M. Scaife
Chief, Div. of Coastal Surveys
1948