**DESCRIPTIVE REPORT**

**Type of Survey**  PLANIMETRIC

**Locality**
- **State**: ALABAMA
- **General locality**: MOBILE BAY
- **Locality**: DEER RIVER

**1957 - 1961**

**Chief of Party**
Joseph K. Wilson, Chief of Field Party
V. Ralph Sobieralski, Tampa District Officer

**Library & Archives**

**Date**

---

**Form 504**
U. S. Department of Commerce
Coast and Geodetic Survey

**Field No.**

**Office No.** T-10939

---

**T-10939**
DESCRIPTIVE REPORT - DATA RECORD

T - 10939

Project No. (II): Ph-5704  Quadrangle Name (IV):

Field Office (II): Pascagoula, Mississippi  Chief of Party: Joseph K. Wilson

Photogrammetric Office (III): Tampa District Office  Officer-in-Charge: V. Ralph Sobieralski

Instructions dated (II) 23 June 1958 (Field)  Copy filed in Division of Photogrammetry (IV)
10 Feb. 1959 (Field Suppl. 1)
(III) 7 April 1959 (Office)
17 Aug. 1959 (Office Suppl. 1)  9 September 1959 (Stereo Bridging)
17 Aug. 1959 (Field Suppl. 2)  6 October 1959 (Office Suppl. 1)
17 Aug. 1959 (Field Suppl. 2)  10 November 1959 (Field & Office Suppl. 3)
Location of Aids to Navigation dated 7 October 1959

Method of Compilation (III): Graphic

Manuscript Scale (III): 1:10,000  Stereoscopic Plotting Instrument Scale (III): Inapplicable

Scale Factor (III): None

Date received in Washington Office (IV): JUL 2 0 1961  Date reported to Nautical Chart Branch (IV):

Applied to Chart No.  Date:  Date registered (IV):

Publication Scale (IV):

Geographic Datum (III): N. A. 1927

Vertical Datum (III): MHW

Mean sea level except as follows:
Elevations shown as (T) refer to mean high water
Elevations shown as (Q) refer to sounding datum
i.e., mean low water or mean lower low water

Reference Station (III): 310-2 (AGS) 1940

Lat.:  Long.:  Adjusted

Plane Coordinates (IV):

State: ALABAMA  Zone: WEST

x = 307,892.46 Ft.

x = 185,994.90 Ft.

Roman numerals indicate whether the item is to be entered by (II) Field Party, (III) Photogrammetric Office,
or (IV) Washington Office.

When entering names of personnel on this record give the surname and initials, not initials only.
Areas contoured by various personnel
(Show name within area)

(II) (III)

Inapplicable
DESCRIPTIVE REPORT - DATA RECORD

Field Inspection by (II): Wm. M. Reynolds
M. A. Stewart

Date: May 1959

Planetable contouring by (II): Inapplicable

Date:

Completion Surveys by (II): E. E. Brown

Date: March 1961

Mean High Water Location (III) (State date and method of location): Air Photo Compilation
Date of photography: 19 November 1957

Projection and Grids ruled by (IV): P. J. Dempsey (W.O.)

Date: Aug. 1959

Projection and Grids checked by (IV): R. D. Shoup (W.O.)

Date: Aug. 1959

Control plotted by (III): V. P. Cackowski

Date: Sept. 1959

Control checked by (III): R. R. Wagner

Date: Sept. 1959

Radial Plot on Stereoscopic: R. R. Wagner

Date: Jan. 1960

Control-extension by (III):

Planimetry

Date:

Stereoscopic Instrument compilation (III): Inapplicable

Contours

Date:

Manuscript delineated by (III): E. T. Ogilby

Date: April 1960

of compilation

Photogrammetric Office Review by (III): W. H. Shearouse

Date: May 1960

Elevations on Manuscript checked by (II) (III):
Inapplicable

Date:
**DESCRIPTIVE REPORT - DATA RECORD**

**Camera (kind or source) (III):** C&GS Nine-lens camera

<table>
<thead>
<tr>
<th>Number</th>
<th>Date</th>
<th>Time</th>
<th>Scale</th>
<th>Stage of Tide</th>
</tr>
</thead>
<tbody>
<tr>
<td>56803</td>
<td>19 Nov. 1957</td>
<td>1442</td>
<td>1:10,000</td>
<td>+0.6</td>
</tr>
<tr>
<td>56804</td>
<td></td>
<td>1443</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Predicted Tide (III):**

<table>
<thead>
<tr>
<th>Reference Station:</th>
<th>MOBILE, MOBILE RIVER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subordinate Station:</td>
<td></td>
</tr>
<tr>
<td>Subordinate Station:</td>
<td></td>
</tr>
</tbody>
</table>

**Washington Office Review by (IV):**

| Final Drafting by | V. P. Cackowski (Tampa District Office) | Date: May 1961 |
| " reviewed by: | W. H. Shearouse, (Tampa District Office) | Date: May 1961 |

**Drafting verified for reproduction by (IV):**

**Proof Edit by (IV):**

| Land Area (Sq. Statute Miles) (III): | 9 |
| Shoreline (More than 200 meters to opposite shore) (III): | 8 |
| Control Leveling · Miles (II): | Inapplicable |
| Number of Triangulation Stations searched for (II): | 8 Recovered: 2 Identified: 3* |
| Number of BMs searched for (II): | None Recovered: Identified: |
| Number of Recoverable Photo Stations established (III): | 2 |
| Number of Temporary Photo Hydro Stations established (III): | None |

**Remarks:**

*Reference Mark identified for one lost station*
2. AREAL FIELD INSPECTION

These maps are located along the western shore of Mobile Bay and just south of the city of Mobile.

There are no incorporated towns or airports within the limits of these maps. The Gulf-Mobile and Ohio Railroad has been discontinued. It has been shown as dismantled in places and in other areas it has been omitted as it is no longer a map feature. The Louisville and Nashville Railroad in map T-10938 is active.

The Theodore Army Terminal, two pieces of U.S. Air Force property and the south portion of Brookley Air Force Base are located within the limits of these maps.

The area is served by State Highway 59, 163 and U.S. Highway 90. Dog River runs through map T-10937.

Field inspection has been accomplished on the following nine-lens photographs: 56783, 56784, 56785, 56803, 56804, 56805, 56806, 56807, 56850, 56851, 56852, 56853, 56854.

The 1957 nine-lens photographs were of fair quality. Some prints were very clear while others were distorted. The field inspection is believed to be complete and all phases adequately indicated.

3. HORIZONTAL CONTROL

All coast and Geodetic Survey and Alabama Geodetic Survey stations have been searched for and reported on form 526.

The following stations have been reported on form 526 as "destroyed", "lost" or "not recovered":

**T-10937**

- **DOG RIVER BEACON** EGC., 1935
- 310-6, Ala. Geod. S., 1940
- 312-3, Ala. Geod. S., 1939
- 312-4, Ala. Geod. S., 1939
- 330-2, Ala. Geod. S., 1940

**T-10938**

- 300-8, Ala. Geod. S., 1939
- 300-9, Ala. Geod. S., 1939
- 302-1, Ala. Geod. S., 1940
- 302-2, Ala. Geod. S., 1940
- 307-1, Ala. Geod. S., 1940
- 322-2, Ala. Geod. S., 1940
- 332-1, Ala. Geod. S., 1940
- 332-2, Ala. Geod. S., 1940
T-10939

310-3, Ala. Geod. S., 1940
310-4, Ala. Geod. S., 1940
332-4, Ala. Geod. S., 1940
332-5, Ala. Geod. S., 1940

Two substitute points were identified for station McCOWIN, 1935. Either of which are believed to be adequate, however substitute point No. 1 is probably the weaker of the two.

There was no supplemental control established.

4. VERTICAL CONTROL

There are no tidal bench marks within the limits of these sheets.

5. CONTOURS AND DRAINAGE

Contouring is inapplicable.
The drainage has been delineated throughout the limits of these maps. In many areas there is no definite drainage due to the flatness of the land.
All drainage, within this area, is toward either Mobile Bay, Dog River, Deer River or Fowl River.

6. WOODLAND COVER

The cover was classified in accordance with Project Instructions and the Topographic Manual. The field inspector has shown in its entirety all swamp and marsh limits. As a whole, the distinction between marsh and swamp can be easily seen. Areas which photographed gray, are sometimes swamp or marsh. Other areas which photographed white are either marsh or fast land.

7. SHORELINE AND ALONGSHORE FEATURES

The mean high-water line is both apparent and fast. It has been shown in accordance with symbols as specified in the Topographic Manual. The shoreline was inspected by skiff or by walking along the shore.
The low-water line was not determined. The land area along Mobile Bay is about 6 to 12 feet above sea level. There is little or no foreshore.
All Docks, wharves, piers, etc. have been indicated on the photographs. Submarine and overhead cables, crossing navigable waters, have been shown on the photographs.

Shoreline inspection has been shown on the following nine-lens photographs: 56803, 56804, 56805, 56806, 56807, 56849, 56850, 56851, 56852, 56853, 56854.

8. OFFSHORE FEATURES

Several piling have been shown on the photographs. No other offshore features were noted.
9. LANDMARKS AND AIDS

There are no landmarks for Nautical Charts within this area.
Several fixed aids to Navigation were identified. Fixed aids, which could be identified by the direct method, are shown on the photographs while single pile structures, which could not be seen on the photographs, were located by sextant fixes. Form 567 will be submitted for these aids at a later date.
There are no aeronautical aids.

10. BOUNDARIES, MONUMENTS AND LINES

Boundary limits have been shown on the photographs for the Theodore Army Terminal, portion of Brookley Air Force Base, and two U. S. Air Force properties. A map of the Theodore Army Terminal, showing its boundary limits, is included with the map data. The limits of this reservation have been shown on the photographs throughout, however, the compiler should make any small necessary adjustments which can be taken from the boundary map.

11. OTHER CONTROL

There were no monumented topographic stations established.
There were no photo-hydro objects identified.

12. OTHER INTERIOR FEATURES

Roads and buildings have been classified on the photographs in accordance with Photogrammetric Instructions 54 and 56.
In accordance with project instructions, there were no bridge clearances measured.

13. GEOGRAPHIC NAMES

A systematic Geographic Names Investigation was not required. There were no name discrepancies noted other than the new names of the federal properties discussed under paragraph 10.

14. SPECIAL REPORTS AND SUPPLEMENTAL DATA

Transmittal of maps T-10940 thru T-10943 to Washington on 4-21-59.

Submitted; 21 May 1959

Joseph K. Wilson
Chief of Party
# U.S. Department of Commerce
## Coast and Geodetic Survey
### Descriptive Report
#### Control Record

<table>
<thead>
<tr>
<th>Station</th>
<th>Source of Information (Index)</th>
<th>Datum</th>
<th>N.A. 1927 - Datum Distance from Grid or Projection Line in Meters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deer R.M 2, 1935</td>
<td>1</td>
<td>30 32</td>
<td>629.7</td>
</tr>
<tr>
<td>Reynolds R.M 2, 1935</td>
<td>1</td>
<td>30 30</td>
<td>597.9</td>
</tr>
<tr>
<td>310-2 (AGS) 1940</td>
<td>A.G.P page 33</td>
<td>0 185,944.50 ft 180,892.46 ft</td>
<td>6246.4 7084.0</td>
</tr>
<tr>
<td>310-3 (AGS) 1940</td>
<td>1</td>
<td>0 197,214.34 ft 197,185.57 ft</td>
<td>70141.5 94454.8</td>
</tr>
<tr>
<td>310-4 (AGS) 1940</td>
<td>A.G.R. page 48</td>
<td>0 182,814.84 ft 182,815.35 ft</td>
<td>62807.3 62822.1</td>
</tr>
<tr>
<td>332-1 (AGS) 1940</td>
<td>1</td>
<td>0 200,986.95 ft 200,986.95 ft</td>
<td>61345.7 95163.0</td>
</tr>
<tr>
<td>332-5 (AGS) 1940</td>
<td>3</td>
<td>201,450.32</td>
<td>1402.2 2428.5</td>
</tr>
<tr>
<td>Island, 1959</td>
<td>Field Notes</td>
<td>30 31 14.04</td>
<td>4823 (4151.5) PCP 6/30/60</td>
</tr>
<tr>
<td>Theodore, U.S. Army Terminal</td>
<td>Field Notes</td>
<td>30 32 56.33</td>
<td>17346 (113.0) PCP 6/30/60</td>
</tr>
<tr>
<td>Waterfront</td>
<td>Field Notes</td>
<td>NA 88 06 40.68</td>
<td>1084.2 (514.9) PCP 6/30/60</td>
</tr>
</tbody>
</table>

1 ft = 304.8006 meters

Compted by: 1959
Date: 17 Sept 1959
Checked by: 115
Date: 18 Sept 1959
COMPILATION REPORT T-10939

PHOTOGRAHMETRIC PLOT REPORT

Submitted with T-10928.

31. Delineation

The graphic method was used. The field inspection was adequate except for the drainage problems discussed under Item 34. The nine-lens photographs were of fair scale and a flight of single-lens infragon "L" series photography was used to assist in the interpretation of the shoreline.

32. Control

See photogrammetric plot report.

33. Supplemental Data

Plan of Theodore Army Terminal - see Item 41.

34. Contours and Drainage

Contours are inapplicable.

The drainage was delineated by the field inspector which proved to be "sketched", in the dense swamps. In a number of places throughout the project this sketching was found to be in error, which cast doubt on all such streams. Therefore, only the drainage positively identified by stereoscopic examination has been shown on the map manuscript. Please refer to a letter dated 10 October 1960 on DRAINAGE, PH-5704, to Chief, Photogrammetry Division from Tampa District Officer, a copy of which is enclosed herewith.

35. Shoreline and Alongsore Details

The shoreline and alongshore details were indicated on the photographs by the field inspector. The low-water line was from office interpretation.

36. Offshore Details

Located from the photographs without difficulty.
To: Chief, Photogrammetry Division
    Coast and Geodetic Survey
    Washington, D. C.

Subject: Drainage - PH-570h, MOBILE BAY

The greater portion of the drainage in subject project consists of narrow fingers of swamp (500-1500 Ft. wide) with a perennial stream meandering through the swamp. The field inspector has complied with project instructions by delineating this drainage on the field photographs. Due to the density of the swamp trees, it is impossible to see the stream beds except for occasional short stretches.

We have carefully examined all the streams under the stereoscope on various office photographs. Comparison with the U. S. Geological Survey quadrangles indicates their drainage delineation to be more accurate than our field party's delineation. (Reference copy of memorandum to Wilson attached). One sample area has been returned to the field party and our conclusions were verified for that one particular stream.

We do not believe the streams warrant the expense of the field party traversing them for accurate location, neither do we believe that they should be mapped unless their position is fairly accurate. It appears that this drainage has been delineated on the field photographs without an adequate check with U.S.G.S. quadrangles and/or actual field investigation even though considerable time was probably spent on this phase of the field work. Considerable time has also been spent studying these discrepancies in the office.

It is suggested that the field parties be informed of a definite policy on how much time should be spent on accurately locating drainage, omitting it entirely, or using F.D.U.

On this project, since the narrow fingers of swamp indicate the drainage pattern fairly well, and the streams can be identified only in short stretches, we are omitting them as a whole.

Survey T-10938 is being scribed and will be forwarded in approximately four (4) weeks. The foregoing discrepancies will be noted on various field photographs for your attention.

It is thought that bringing this matter to your attention might eliminate similar difficulties in future projects.

(signed) William R. Kachel

LCFR, CGS

Tampa District Officer
37. **LANDMARKS AND AIDS**

There are no landmarks.

*Form 567 for nonfloating aids to navigation was submitted to the Washington Office under date of 15 July 1960.*

38. **CONTROL FOR FUTURE SURVEYS**

One topographic station was established. This station was identified on the field photograph but was not listed in Item 11. It was used to locate daybeacons from sextant fixes however and is included in Item 49.

39. **JUNCTIONS**

Junctions were made with T-10937 to the north, T-10938 to the west and T-10941 to the south. Mobile Bay lies to the east.

40. **HORIZONTAL AND VERTICAL CONTROL**

No statement.

41. **BOUNDARIES**

The boundary of Theodore Army Terminal was delineated from the field inspection on photographs 56802 and 56852. The map of this reservation mentioned in Item 10 was not received with the project data. A copy was obtained later which proved the delineation to be substantially correct.
16. COMPARISON WITH EXISTING MAPS

Comparison was made with C&GS Air Photo Compilation T-5532, DOG RIVER AND VICINITY, 1935, scale 1:20,000; and USGS Quadrangle HOLLINGER'S ISLAND, dated 1953, scale 1:24,000. The comparison was favorable and the changes were to be expected because of the difference in dates.

17. COMPARISON WITH NAUTICAL CHARTS

Comparison was made with C&GS Chart 1266, scale 1:80,000, dated January 1961, corrected to 11 February 1961, and found to be favorable. The source of the topography for the chart appears to be the maps listed under Item 16.

ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY

None.

ITEMS TO BE CARRIED FORWARD

None.

William A. Rasuer

for E. T. Ogilby
Cartographer (Photo)

APPROVED AND FORWARDED

V. Ralph Sobieralski
Tampa District Officer
48. GEOGRAPHIC NAME LIST

Geographic names were taken from the HOLLINGER'S ISLAND quadrangle (see Item 46).

ALABAMA
ALLIGATOR BAYOU

BELLEFONTAINE

CEDAR POINT ROAD

DEER RIVER
DEER RIVER POINT

HAMMOCK ROAD
HOLLINGER'S ISLAND CHANNEL
HOLLINGER'S ISLAND (ISLAND)
HOLLINGER'S ISLAND (TOWN)
HOLLINGER'S ISLAND SCHOOL

ISLAND ROAD

LAURENDINE ROAD
LOUISVILLE AND NASHVILLE RAILROAD

MIDDLE FORK DEER RIVER
MOBILE BAY
MOBILE COUNTY

NORTH FORK DEER RIVER

SOUTH FORK DEER RIVER
ST. PHILIPS CHURCH
STATE 163

THEODORE ARMY TERMINAL

\[All names checked and approved\]
\[12-10-65\]

A. J. Waight
49. NOTES FOR THE HYDROGRAPHER

One topographic station was established. It is a natural object:

WATER CISTERN, 1960
PHOTOGRAMMETRIC OFFICE REVIEW OF ADVANCE MANUSCRIPT

T-10939


CONTROL STATIONS


ALONGSHORE AREAS

(Nautical Chart Data)


PHYSICAL FEATURES


CULTURAL FEATURES


BOUNDARIES


MISCELLANEOUS


40. William H. Shearouse
   Reviewer

William H. Shearouse

41. Remarks (see attached sheet)

FIELD COMPLETION ADDITIONS AND CORRECTIONS TO THE MANUSCRIPT

42. Additions and corrections furnished by the field completion survey have been applied to the manuscript. The manuscript is now complete except as noted under item 43.

William A. Rasche
   Compiler

R. R. Wagner
   Compiler

Milton M. Slavney
   Supervisor

43. Remarks:
51. Methods

The shoreline was inspected by truck, skiff, and walking along the beach. The distance to the MRL was spot checked at intervals from points of known location and found to be correct and adequate, except where noted on enclosed ozalids copies of the map manuscripts.

Ozalid copies of T-10939 and T-10941 are enclosed with this report. Corrections and additions are shown in red ink and deletions in green on the ozalid prints.

52. Adequacy of Compilation

The map compilation appears complete and adequate.

53. Map Accuracy

The shoreline of the maps is accurate, except for the changes since photography, as shown on the field edit ozalids.

54. Recommendations

There are no recommendations.

55. Examination of Proof Copy

No one was contacted to examine a proof copy of the map.

Submitted: 21 March 1961

[Signature]

Ernest E. Brown, ENS, C&GS
Photo-Hydro Support Unit 721
**TIDE COMPUTATION**

**PROJECT NO. Ph-5704 T-10939**

**Time and date of exposure:** 19 Nov. 1957

**Reference station:** Mobile, Mobile River

**Date of field inspection:** April 1969

**Subordinate station:**

<table>
<thead>
<tr>
<th>Time</th>
<th>Height</th>
<th>Height x Ratio of ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High tide</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td>Low tide</td>
<td>-0.2</td>
</tr>
</tbody>
</table>

**Range of tide:** 13 30

**Time h. m.:**

<table>
<thead>
<tr>
<th>Time</th>
<th>Ht. H.T. or L.T.</th>
<th>Tabular correction</th>
<th>Stage of tide above MLW</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-0.2</td>
<td>0.8</td>
<td>0.6</td>
</tr>
</tbody>
</table>

**Feature bares:**

**Stage of tide above MLW:**

<table>
<thead>
<tr>
<th>feet</th>
<th>Feature above MLW</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Feature above MLW</td>
</tr>
</tbody>
</table>

**Photo. No.:** 56803 56804

**Mean range:**

**Ratio of ranges:**

**Corrected time at Subordinate station:**

**Computed by:** E T

**Checked by:** J M S
NOTES TO THE WASHINGTON OFFICE REVIEWER

A large number of buildings and short roads noted by the field inspector were omitted. It is our belief that this is in accordance with current instructions. (Please refer to Photogrammetry Instructions No. 54 regarding buildings and the letter of 10 June 1960 from the Chief, Photogrammetry Division regarding short roads.) The field editor was requested to make further investigation and has verified our interpretation.

TAMPA
61. General Statement

Area - The project encompasses Mobile Bay and its approaches.

Purpose - The object of this project is to provide base maps for nautical charting and shoreline and horizontal control data for hydrographic surveys.

62. Comparison with Registered Topographic Surveys

<table>
<thead>
<tr>
<th>Survey</th>
<th>Scale</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-3712</td>
<td>1:40,000</td>
<td>1918</td>
</tr>
<tr>
<td>T-3713</td>
<td>1:40,000</td>
<td>1918</td>
</tr>
<tr>
<td>T-3716</td>
<td>1:10,000</td>
<td>1919</td>
</tr>
<tr>
<td>T-5532</td>
<td>1:20,000</td>
<td>1934</td>
</tr>
<tr>
<td>T-5533</td>
<td>1:20,000</td>
<td>1934</td>
</tr>
</tbody>
</table>

There are cultural and shoreline changes due to the differences in time interval. T-19036 thru T-10943 are to supersede the above surveys of common area.

63. Comparison with Maps of Other Agencies

<table>
<thead>
<tr>
<th>Agency</th>
<th>Scale</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theodore</td>
<td>1:24,000</td>
<td>1953</td>
</tr>
<tr>
<td>Hullinger</td>
<td>1:24,000</td>
<td>1953</td>
</tr>
<tr>
<td>Soden</td>
<td>1:24,000</td>
<td>1956</td>
</tr>
<tr>
<td>Bellefontaine</td>
<td>1:24,000</td>
<td>1956</td>
</tr>
</tbody>
</table>

See Item 46.

64. Comparison with Contemporary Hydrographic Surveys

<table>
<thead>
<tr>
<th>Survey</th>
<th>Scale</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>H-8573</td>
<td>1:10,000</td>
<td>1961</td>
</tr>
<tr>
<td>H-8575</td>
<td>1:10,000</td>
<td>1961</td>
</tr>
<tr>
<td>H-8561</td>
<td>1:10,000</td>
<td>1961</td>
</tr>
<tr>
<td>H-8587</td>
<td>1:10,000</td>
<td>1961</td>
</tr>
</tbody>
</table>

Shoreline and control of subject surveys was furnished prior to the hydrographic surveys and apparently no differences of importance exist.

65. Comparison with Nautical Charts

<table>
<thead>
<tr>
<th>Chart</th>
<th>Scale</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1266</td>
<td>1:80,000</td>
<td>1965</td>
</tr>
</tbody>
</table>
Because of the scale difference only a visual comparison was made. No notable differences exist.

66. Adequacy of Results and Future Surveys

These maps comply with the National Map Accuracy Standards and meet Bureau requirements.

Reviewed by:

[signature]

L.C. Lande

Approved by:

[signature]

Chief, Photogrammetric Branch

Chief, Nautical Chart Division

[signature]

Chief, Photogrammetry Division