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Form	504
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U. S. DEPARTMENT OF COMMERCE COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey PLANIMETRIC Field No. Office No. T-10991
LOCALITY
StateALABAMA
General locality BALDWIN COUNTY
Locality BON SECOUR RIVER
1957 - 19.61
CHIEF OF PARTY Joseph K. Wilson, Chief of Field Party William R. Kachel, Tampa District Office
LIBRARY & ARCHIVES

USCOMM-DC 5087

DESCRIPTIVE REPORT - DATA RECORD

T- 10991

Project No. (II): Ph-5704

Quadrangle Name (IV):

Field Office (II): Fairhope, Ala.

Chief of Party: Joseph K. Wilson

Photogrammetric Office (III): Tampa, Fla.

Officer-in-Charge: William R. Kachel

Instructions dated (II) (III): II 23 June 1958 (Field)

Copy filed in Division of

10 Feb. 1959 (Field Suppl.1)

Photogrammetry (IV)

III 7 Apr. 1959 (Office)

9 Sept. 1959 (Stereo Bridging) 6 Oct. 1959 (Office Suppl.1)

17 Aug. 1959 (Office Suppl.1) 17 Aug. 1959 (Field Suppl.2)

10 Nov. 1959 (Field & Office Suppl.3)

Location of Aids to Navigation dated 7 Oct. 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): April 15, 1968

Date reported to Nautical Chart Branch (IV):

Applied to Chart No.

Date:

Date registered (IV):

Publication Scale (IV):

Publication date (IV):

Geographic Datum (III): N.A. 1927

Vertical Datum (III): MHW

Meanse cland except as follows:

Elevations shown as (25) refer to mean high water Elevations shown as (5) refer to sounding datum i.e., mean low water or mean lower low water

Reference Station (III): KAISER 1959

Lat.: 30°21 42.853" (1319.6 m) Long.: 87°43 47.097" (1257.7

Adivated

Unadjusted

Plane Coordinates (IV):

State:

Zone:

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.

COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT - DATA RECORD

Field Inspection by (II):

W. M. Reynolds

Matthew A. Stewart

Date: January 1960

Planetable contouring by (II):

Inapplicable

Date:

Completion Surveys by (II):

W. M. Reynolds

Date: July 1961

Mean High Water Location (III) (State date and method of location): Air Photo Compilation Date of Photography: 20 Nov. 1957

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

Date: Feb. 1960

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

Date: Feb. 1960

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

Date: Apr. 1960

Control checked by (iii): M. V. Carver

Date: Apr. 1960

Radial Plot xxx Sterens roots

Sentrokuntunsium by (III): R. R. Wagner

Stereoscopic Instrument compilation (III):

Date: Aug. 1960

Planimetry

Inapplicable

Contours

Date:

Date: ,

Manuscript delineated by (III): W. W. Dawsey Date: Oct. 1960

of compilation

Photogrammetric Office Review by (III): R. R. Wagner

Date: Oct. 1960

Elevations on Manuscript

checked by (II) (III): Inapplicable

Date:

DESCRIPTIVE REPORT - DATA RECORD

U.S. DEPARTMENT OF COMMERCE COAST AND GEODETIC SUR

Camera (kind or source) (III):

C&GS 9-lens

			P	HOTOGRAPHS (I	III)	
Number		Date		Time	Scale	Stage of Tide
57051	20 1	Novembe	r 1957	12:05	1:10,000	- 0.1
57052	- 11	**		12:06	•	
57098				12:56		Inapplicable
57099				12:57	•	•
57100				12:58		

Reference Station: MOBILE, MOBILE RIVER

Subordinate Station: BON SECOUR, BONSECOUR RIVER

Subordinate Station:

Washington Office Review by (IV); Leo F. Beugnet, Atlantic Marine Conter Date: March 1968

Final Drafting by (IV): {Scribed L.L. Graves

Date: Mar. 1962

Ratio of | Mean | Spring Ranges Range

Range

Drafting verified for reproduction by (IV):

Date:

Diurnal

Proof Edit by (IV):

Date:

Land Area (Sq. Statute Miles) (III): 15

Shoreline (More than 200 meters to opposite shore) (III): 10

Shereline (Less than 200 meters to opposite shere)-(III):

Control Leveling - Miles (II): Inapplicable

Number of Triangulation Stations searched for (II):

Recovered: 0

Identified: 1#

Number of BMs searched for (II): None

Recovered:

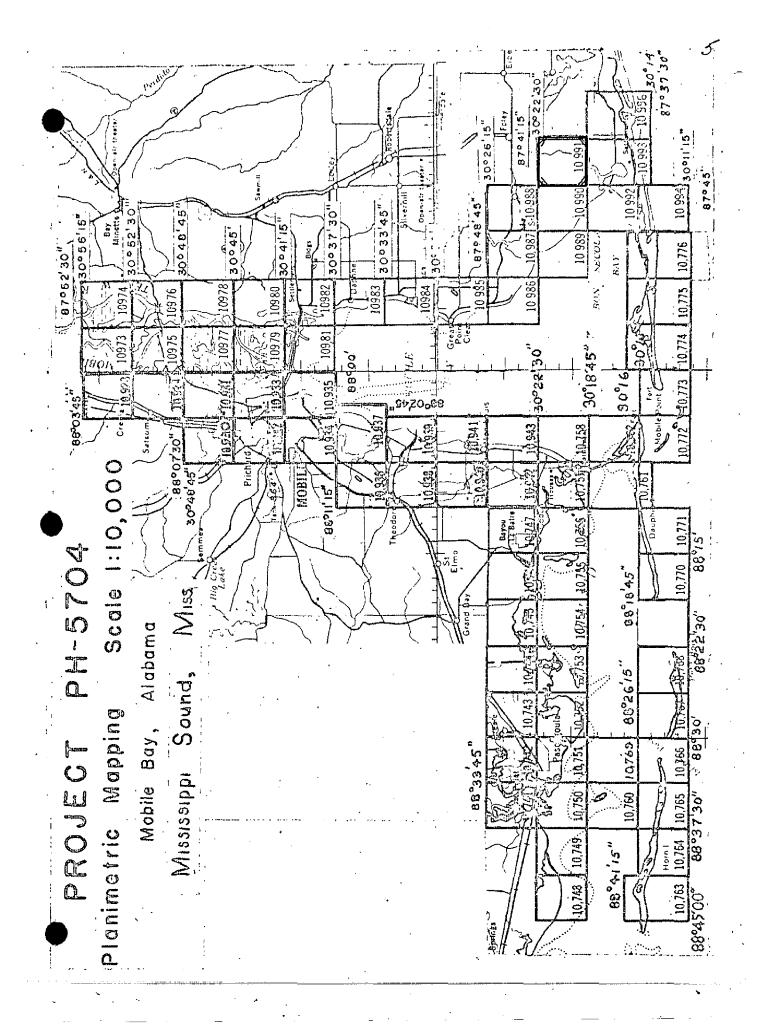
Identified:

Number of Recoverable Photo Stations established (III): None Number of Temporary Photo Hydro Stations established (III): None

Remarks: * 1 station established.

T-10991

COMPILATION RECORD	COMPLETION DATE	REMARKS
		,
Compiled	October 1960	
Field Edit	July 1961	
Final Review	March 1968	



SUMMARY TO ACCOMPANY DESCRIPTIVE REPORT T-10991

Planimetric Survey T-10991 is one of seventy-four similar surveys in Project PH-5704. It covers a part of Bon Secour River in the area of the town of Bon Secour.

Field work preceding compilation consisted of recovery and identification of horizontal control, shoreline and field inspection, Investigation of Geographic Names and Report on Boundaries.

Compilation was at 1:10,000 scale by graphic methods using the 9-lens photography of November 1957. Cronaflex copies of the manuscript along with ozalid copies and specially prepared photographs were furnished for preparation of the boat sheet, location of photo-hydro signals and field edit purposes.

The manuscript was a vinylite sheet 3 minutes 45 seconds in latitude by 3 minutes 45 seconds in longitude, which was scribed and reproduced on cronaflex. One cronaflex positive and one cronar negative are provided for record and registry.

FIELD INSPECTION REPORT Maps T-10991 and T-10992 Project Ph-5704

2. Areal Field Inspection.

These maps are located in southwestern Alabama, in Baldwin County, along the easterly side of Mobile Bay. Map T-10991 is primarily open land devoted to farming. Map T-10992 is along the shore of the bay and is only partially developed. The principal developments being summer cottages. It is also heavily wooded with both trees and swamp.

The area is adequately served with federal, state and county highways. The Intracoastal Waterway crosses T-10992 in an east to west direction.

Field inspection is believed complete and no items were deliberately left for field edit.

The photographs were of fair to poor quality. The tone changes were not consistent, especially in tree to swamp areas. This is also true in some of the marsh areas. The doubtful areas were checked closely during field inspection and the correct limits have been indicated on the photographs.

Field inspection notes have been indicated on the following nine-lens photographs; 57043, 57044, 57051, 57053, 57080, 57081, 56770, 56771 and 56772.

Horizontal Control.

All Coast and Geodetic Survey and Alabama Geodetic Survey Stations were searched for and where recovered were identified. The Alabama Geodetic Survey Stations were established by third-order traverse.

Station KAISER 1959 was established in map T-10991. This station was established from a single closed triangle with the aid of a Geodetic Party.

Four lights along the Intracoastal Waterway were established by intersection from previous triangulation. These stations are Pensacola-Mobile Lights 152, 163, 175 and 189. Field computations are enclosed.

The following stations were reported lost;

<u>T-10991</u>	<u>T-10992</u>
351 Ala. Geo. Survey 352 Ala. Geo. Survey 353 Ala. Geo. Survey 354 Ala. Geo. Survey 355 Ala. Geo. Survey 356 Ala. Geo. Survey 364 Ala. Geo. Survey	SKUNK 1935 SKUNK 2 1953 SECOURS 1935 Pensacola - Mobile Beacon no. 119 1934 Pensacola - Mobile Beacon no. 123 1934 491 Ala. Geo. Survey 493 Ala. Geo. Survey
	4,2

4. Vertical Control.

The recovery or establishment of vertical control was not required except for tidal bench marks. There was none of these within these maps.

Contours and Drainage.

Contours are inapplicable.

Drainage not self-evident has been indicated on the photographs.

6. Woodland Cover.

All woodland cover was field inspected and has been classified on the photographs.

7. Shoreline and Alongshore Features.

The mean high water line and apparent shoreline was inspected by skiff and walking along the shore. It has been indicated on the photographs.

The low water line has not been inspected.

There is little or no foreshore within these maps.

There are no prominent bluffs or cliffs.

All docks, piers, landings, etc. have been indicated on the photographs.

There are no submarine cables.

There are no other shoreline structures.

8. Offshore Features.

The only offshore features are the aids to navigation.

9. Landmarks and Aids.

Form 567 for Landmarks and Fixed Aids to Navigation was submitted to Washington on 6 November 1959.

10. Boundaries, Monuments and Lines.

The entire area is within Baldwin County and there are no incorporated towns.

11. Other Control.

One recoverable topographic station, Isle 1959, was established by three-point fix in map T-10992.

12. Other Interior Features.

Buildings and roads have been classified, on the photographs, in accordance with Photogrammetric Instructions No. 54 and 56.

There are no bridges or cables over navigable waters.

There are no airports or landing fields.

13. Geographic Names.

A systematic investigation of Geographic Names was not required. No discrepancies in names were encountered during field inspection.

14. Special Reports and Supplemental Data.

Letter of Transmittal No. 8 Submitted to Washington on 6 November 1959.

Submitted,

William M. Reynolds
Acting Chief of Party

60 00 FROM GRID OR PROJECTION LINE FORWARD (BACK) tok le 14.16.14 M SCALE FACTOR > DISTANCE FROM GKID OR PROJECTION LINE IN METERS (BACK) N.A. 1927 - DATUM Stations were DATE FORWARD 13/9.6 reportes DATUM SCALE OF MAP 1.10000 These COAST AND GEODETIC SURVEY OR PROJECTION LINE IN METERS DISTANCE FROM GRID IN FEET. CONTROL RECORD (BACK) *CHECKED BY 04090 0825.0 1519.7 855X FORWARD DESCRIPTIVE REPORT h U.S. DEPARTMENT OF COMMERCE LONGITUDE OR x-COORDINATE LATITUDE OR y-COORDINATE 77 097 123 23.940.07 32 936.58 5.31.77 PROJECT NO.5204 794 500 30 DATE SOURCE OF DATUM 10 (INDEX) れる何は Fred 36 MAP T. 1099 STATION

PHOTOGRAMMETRIC FLOT. REPORT NO. 3

21. AREA COVERED

This plot covers the area bordering the south east part of Mobile Bay and Bon Secour Bay (manuscripts T-10985 through T-10992) and along the Gulf of Mexico from Pine Beach east to Romar Beach (manuscripts T-10993, T-10994 and T-10996).

The sketch on page 10 shows the arrangement of manuscripts, the identified control, index of control, photograph centers and the adjoining manuscripts.

22. METHOD

Radial Plot:

Map Manuscripts: The projections were mylar or vinylite and are 3'45" in latitude and longitude; with the two exceptions of T-10993 and T-10996, which are 4'45" in latitude.

The plot was run on the joined manuscripts.

Photographs: The nine-lens cronapaque photographs taken on 20. November 1957 at a scale 1:10,000 were used to run the plot.

Templets: Vinylite templets were made from nine-lens photographs using master templet 53605 (1956-1957) for correction of transforming errors and distortion.

Closure and adjustment to control: The plot was run from the north to the southeast with conventional methods being used.

All control was held.

Triangulation station POINT CLEAR, GRAND HOTEL WATER TANK 1960 (T-10985) was received after completion of the plot. The triangulation position coincided with the radial plot position.

23. ADEQUACY OF CONTROL

The control was adequate and the identification was good. SEYMOUR 2, 1960 was used in lieu of SEYMOUR 1935. See accompanying letter 3 June 1960 from Chief, Photogrammetry Division.

24. SUPPLEMENTAL DATA

None.

25. PHOTOGRAPHY

The cronapaque nine-lens photographs gave adequate coverage and the quality was good.

None of the photographs were sufficiently tilted to justify special measures.

26. GENERAL

Dates of completion of the photogrammetric plot by maps are as follows:

1-10 985		25 May
T-10986		26 May
T-1 0987		27 May
. T-1 0988		26 July
T-10989		27 July
T-10990	4	9 August
T-10991	•	8 August
T-10992		10 August
1-1 0993	•	12 August
T-10994	• .	5 August
T-10996		11 August
	• • •	

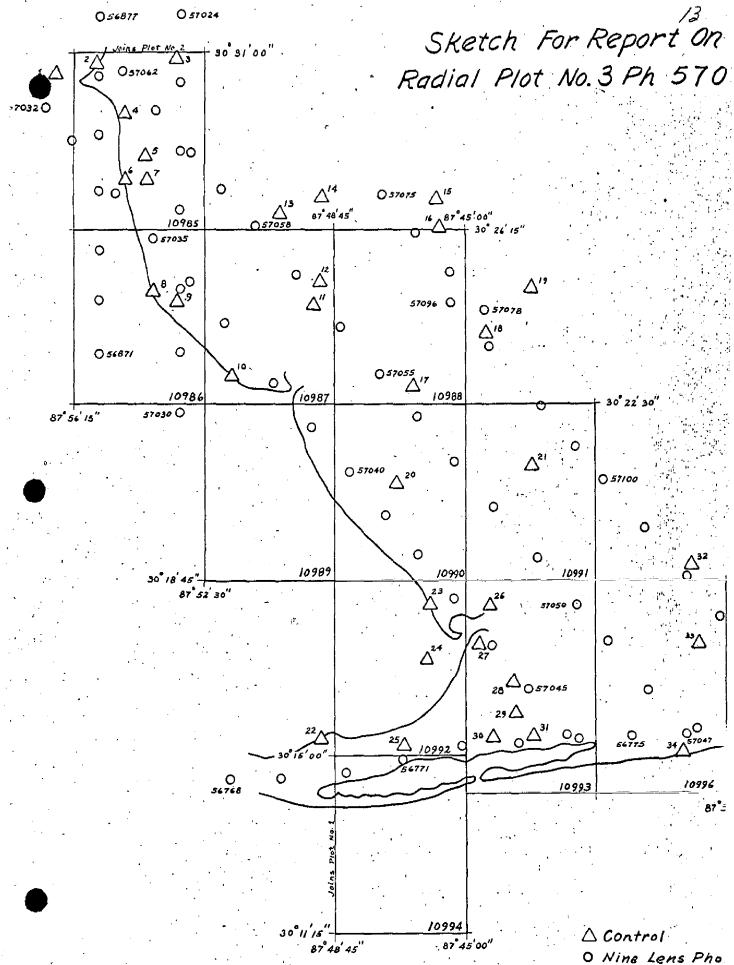
Respectfully submitted,

Robert R. Wagner (Cartographer (photo)

Approved and Forwarded:

Arthur L. Wardwell

Chief of Party



CONTROL STATIONS

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GREAT FOINT CLEAR BEACON: 1935
     SUB. STATION 87 (ALA. GEOD. SUR.)
             " - 278 (ALA. GEOD. SUR.) -
                 8h (ALA. GEOD. SUR.)
                 SMILEY AZIMUTH MARK, 1930
                 83 (ALA. GEOD. SUR.)
                , 82 (ALA. GEOD. SUR.)
                 MULLET R.M. 1, 1935
                 703 (ALA. GEOD. SUR.)
               MACH, 1934
10.
                 YUPON, 1935
12.
                 216 (ALA. GEOD. SUR.)
                 311 (ALA. GEOD. SUR.)
13.
                 310 (ALA. GEOD. SUR.)
                 707 (ALA. GEOD. SUR.) 1941
15.
16.
                 103 (ALA. GEOD. SUR.) 1941
                 546 (ALA. GEOD. SUR.) 1938
17.
                 544 (ALA. GEOD. SUR.) 1938
18.
                 FOLSY, R.M. 2, 1934
                 BENTON, 1935
20.
                 KAISER, 1959
21.
22.
                 BANK, 1918-1940
                 SKUNK 2, 1953
23.
    INTRACOASTAL WATERWAY, PENSACOLA - MOBILE LIGHT 152, 1959
214.
    SUB. STATION SETMOUR 2, 1959
25.
26.
                 VIIIT, 1934
    359 (ALA. GEOD. SUR.) 1936
27.
    PENSACOLA - MOBILE BEACON NO. 91, 1934
28.
    SUB. STATION BON, 1934
30.
              169 (ALA. GEOD. SUR.) 1939
CLEAR, 1931
HIGDON, 1934
                 MOON R.M. 2, 1934
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57/04

56777

1'00"

15 M.

COMPILATION REPORT T=10991

PHOTOGRAMMETRIC PLOT REPORT

Submitted with T-10994

31. DELINEATION

The graphic method was used. The photographs were of fairly poor scale and the clarity was average. The field inspection was adequate with the exception of the details mentioned in Item 34.

32. CONTROL

See Photogrammetric Plot Report.

33. Supplemental data

None.

34. CONTOURS AND DRAINAGE

Contours are inapplicable.

The drainage was delineated by the field inspector but when some of the inspection, particularly in swamps, was disproved by the details on other photographs all the drainage that could not be seen was doubted; see note on field photograph 57081. Only the drainage identified by thorough steroscopic examination has been shown on the manuscript. Please refer to the letter dated 10 October 1960 on DRAINAGE, PH-5704 to Chief Photogrammetry Division from Tampa District Office for more information about this.

35. SHORELINE AND ALONGSHORE DETAILS

The shoreline and alongshore details were delineated according to the field inspection which was adequate. No low-water or shoal lines were shown.

36. OFF SHORE DETAILS

None.

Tampa District Office P. O. Box 190 Tampa 1 Florida

10 October 1960

To:

Chief, Photogrammetry Division Coast and Geodetic Survey Washington, D. C.

Subject:

Drainage - PH-5704 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 P.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 ICTR, C&GS Tampa District Officer

37. LANDMARKS AND AIDS

None.

38. CONTROL FOR FUTURE SURVEYS

None.

39. JUNCTIONS

Sstisfactory junctions were made with the following: T-10993 to the south, T-10990 to the west, No contemporary survey to the north and to the east.

40. HORIZONTAL AND VERTICAL ACCURACY

No statement.

46. COMPARISON WITH EXISTING MAPS

Comparison has been made with the U.S.G.S. quadrangle FGLEY, ALA-FLA, 1:62,500, edition of 1943 and C&GS Air Fhoto Compilation T-5497, 1:10,000 from photographs flown in July 1934 and T-5528 1:20,000 from photographs flown in July 1934. The comparisons were favorable except for the changes due to the passing of time.

47. COMPARISON WITH NAUTICAL CHARTS

Comparison has been made with nautical chart No. 1266, scale 1:80,000, edition of 16 Nov. 1959. The maps listed under Item 46 were probably in part the source of the topography for this chart and the same differences exist. It is noted that a row of piling along 1300 feet of the north side of Bon Secour River is shown on the chart but was not noted by our field inspection and no evidence is visible on the photographs.

ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY

None.

ITEMS TO BE CARRIED FORWARD

None.

W. W. Dawsey Cartographer (Photo)

Approved and Forwarded:

William R. Kachel William R. Kachel Chief of Party

18 th.

48. GEOGRAPHIC NAME LIST

Nautical Chart 1266 and Geological Survey quadrangle FOLEY see Item 46 were the sources for the geographic names.

ALABAMA

BALDWIN COUNTY BON SECOUR BON SECOUR RIVER

OAK

PLEASANT VIEW CHURCH

ST. MARYS CHURCH ST. PETERS CHURCH SWIFTS SCHOOL SKUNK BAYOU

Names checked t 2 pproved 12 - 10 - 65 A-1. Wraight

COMM-DC 34529

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PHOTOGRAMMETRIC OFFICE REVIEW

OF ADVANCE COMPILATION MANUSCRIPT T-10991

	1. Projection and grids RRW 2. Title RRW 3. Manuscript numbers RRW 4. Manuscript size RRW
	4a Classification label
	CONTROL STATIONS
	5. Horizontal control stations of third-order or higher accuracy RRW 6. Recoverable horizontal stations of less
	than third-order accuracy (topographic stations) XX 7. Photo hydro stations XX 8. Bench marks XX
	9. Plotting of sextant fixes XX 10. Photogrammetric plot report MMS 11. Detail points RRW
	9. Plotting of sextant fixes10. Photogrammetric plot report 11. Detail points
	- ALONGSHORE AREAS
	(Nautical Chart Data)
	12. Shoreline RRW 13. Low-water line 14. Rocks, shoals, etc. XX 15. Bridges RRW 16. Alds
	to navigation XX 17. Landmarks XX 18. Other alongshore physical features RHW 19. Other along—
	shore cultural features RRW
	snore cultural features
	DUVOIDAL EFATUDED .
	PHYSICAL FEATURES 20. Water features RRW 21. Natural ground cover 22. Planetable contours XX 23. Stereoscopic
,	
•	instrument contours XX 24. Contours in general XX 25. Spot elevations XX 26. Other physical
	features <u>RRW</u>
	·
	CULTŪRAL FEATURES RRW XX RRW
	RRW RRW 27. Roads 28. Buildings 29. Railroads 30. Other cultural features
	BOUNDARIES
	31. Boundary lines XX 32. Public land lines XX
1	
Ź	MISCELLANEOUS
F.	33. Geographic names RRW 34. Junctions RRW 35. Legibility of the manuscript RRW 36. Discrepancy
	overlay XX 37. Descriptive Report RRW 38. Field inspection photographs RRW 39. Forms RRW
	40. KK MBaner Man. Haisur
	R.R. Wagner Reviewer Supervisor, Review Section or Maint M.M. Slavne
	41. Remarks (see attached sheet)
	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 pomplete except as noted under item 43.
,	The last to the position of the state of the
_	R.R. Wagner Compiler Supervisor J.M. M. Slavney
3	
	43. Remarks:

FIELD EDIT REFORT MAPS T-10990, T-10991, T-10992 PROJECT Ph-5704

51. METHODS

Field edit was confined to checking the delineation of the shoreline and the area immediately adjacent thereto.

The shoreline was traversed by skiff running close to shore and by walking along the beach. Several measurements were taken from identifiable points to verify the accuracy of the manuscripts.

All additions or corrections have been noted on a field sheet for each manuscript. These field edit notes have been made with a violet pencil. No photographs were used for the edit of these three sheets.

52. ADEQUACY OF COMPILATION

From visual inspection and occasional measurements, the compilation appears good.

55. MAP ACCURACY

Horizontal accuracy checks of the manuscripts were not required.

54. RECOMMENDATIONS

None are offered.

55. EXAMINATION OF PROOF COPY

Mr. Harold W. Graham, Registered Engineer, Route 2, Box 120, Fairhope, Alabama and Mr. Claude W. Arnold, Registered Engineer, Fairhope, Alabama agreed to examine procof copies of any maps located in Baldwin County. Both men are longtime residents and familiar with the area covered by these manuscripts.

The name "Seymour Bluff" in map T-10992 applies to the low bluff along Bon Secour Bay and not to the settlement. This was verified by Mr. Willie Galloway. Mr. Galloway is a retired rural mail carrier and lives at the end of the road where the name is placed on the map. The name of the community

was "Gasque" many years ago, but this name became obsolete whon the post office by the same name was discontinued. The present name is "Shell Bank Community." This name is not recommended for mapping since its limitis are general and cover an area of several miles along the highway to Fort Morgan, No other discrepancies in names were noted.

Submitted, William M. Reynolds William M. Raynolds

REVIEW REPORT T-10991 PLANIMETRIC March 1, 1968

61. GENERAL STATEMENT:

See Summary accompanying the Descriptive Report.

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS:

Comparison was made with a copy of Air Photo Compilation T-5528, 1:20,000 scale, compiled from photography of July 1934. The two surveys are in good general agreement with the exception of additional roads in the vicinity of Bon Secour and the dredging of some small boat slips in the vicinity of latitude 30° 19° 30°, longitude 87° 42° 30° along the Bon Secour River.

63. COMPARISON WITH MAPS OF OTHER AGENCIES:

Comparison was made with USGS FOLEY, ALA. - FLA., 1:62,500 scale, 15 minute quadrangle, edition of 1943. The two surveys are in good general agreement except for additional roads and the dredging of boat slips as mentioned in Item 61.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS:

Comparison was made with a copy of smooth sheet H-8634, ECFP-10-4-61. The two surveys are in good agreement.

65. COMPARISON WITH NAUTICAL CHARTS:

Comparison was made with Chart 872-SC, 3rd edition, corrected thru NM37-September 16, 1967. The two surveys are in good agreement with the exception of the fixed aids to navigation. They were established subsequent to the compilation and field edit of this survey.

66. ADEQUACY OF RESULTS AND FUTURE SURVEYS:

This survey complies with instructions and meets the National Standards of Map Accuracy.

There is no comparison print to accompany this survey.

Reviewed by:

Approved by:

J. Bull, RADM, USESSA Director, Atlantic Marine Center

Approved by:

Chief, Photogrammetric Branch 248

Chief, Nautical Chart Section