10552_{original}

Diag. Cht. No. 1257-3.

U. S. DEPARTMENT OF COMMERCE COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey SHORELINE

Field No. Ph-171 Office No. T-10552

LOCALITY

FLORIDA

General locality

HILLSBORO BAY

Locality SPARKMAN CHANNEL TO BALLAST POINT

19.58

CHIEF OF PARTY

Arthur L. Wardwell, Tampa Photo Office

LIBRARY & ARCHIVES

MAY 25 1960

сомм-вс 61300

DESCRIPTIVE REPORT - DATA RECORD

T - 10552

Project No. (ii): Ph 171

Quadrangle Name (IV):

Field Office (II): Tampa Florida

Chief of Party:

J. E. Waugh

Photogrammetric Office (III): Tampa Florida

Officer-in-Charge:

A. L. Wardwell

Instructions dated (II) (III):

8 May 1957

Copy filed in Division of

Photogrammetry (IV)

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): 0CT

Date reported to Nautical Chart Branch (IV):

Applied to Chart No.

Date:

Date registered (IV): 14 Jan 1960

Publication Scale (IV):

Publication date (IV):

Geographic Datum (III): N.A. 1927

Vertical Datum (III): M.H.W.

Moon pre level 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):

KNIGHT 1946

Lat.: 27°54"42.257" (1300.7 m)

Long.: 82°26 •56.239" (1537.9)

Adjusted

ARXIVE S

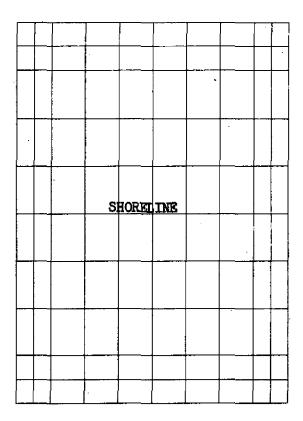
Plane Coordinates (IV):

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.



Areas contoured by various personnel (Show name within area)
(II) (III)

DESCRIPTIVE REPORT - DATA RECORD

George E. Varnadoc Field inspection by (II): W. M. Reynolds

Date: Sept. 1957

Planetable contouring by (II):

Inapplicable

Date:

Completion Surveys by (II):

Inapplicable

Date:

Mean High Water Location (III) (State date and method of location): Sept. 1957 Air Photo Compilation

Spoil areas along east side of ship channel located by planetable

May 1958.

Projection and Grids ruled by (IV): J. B. Phillips

Datel 7Apr. 1957

Projection and Grids checked by (IV): J. B. Phillips

Date: 17Apr. 1957

Control plotted by (III):

R. J. Pate

Date: 19 Many. 1957

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

Date:19 May. 1957

Radial Plot opscreament

Control extension by (III): M. M. Slavney Date: 30 June 1957

Planimetry

Inapplicable

Contours

Date:

Date:

R. J. Pate Manuscript delineated by (III):

Date: 15 Apr. 1958

Photogrammetric Office Review by (III):

Stereoscopic Instrument compilation (III):

J. A. Giles

Date: 28 Apr. 1958

Elevations on Manuscript

checked by (II) (III):

Inapplicable

Date:

DESCRIPTIVE REPORT - DATA RECORD

Camera (kind or source) (III):

C&GS Nine-lens

				PHOTOGRAPHS (III)	
Number	D	ate		Time	Scale	Stage of Tide
55897	Apr.	7 19	757	09:46	1:10,000	≠ 0.4
55898	11	Ħ	11	09:46	. #	11
55899	Ħ	Ħ	11	09:47	M	11
55919	n	Ħ	ù	10:01	19	Ħ
55920	12	11	Ħ	10:02	11	ŋ

Reference Station: Tampa Fla.

Subordinate Station: Tampa, Hillsboro Bay

Subordinate Station:

Washington Office Review by (IV

Final Drafting by (IV):

Drafting verified for reproduction by (IV):

Proof Edit by (IV):

Land Area (Sq. Statute Miles) (III): 6

Shoreline (More than 200 meters to opposite shore) (III): 14.2 miles

Control Leveling - Miles (II): Inapplicable

Number of Triangulation Stations searched for (II): 27

Number of BMs searched for (II):

Recovered: 10 Recovered: 12 Identified: 2 Identified: 3

|Ratio of | Mean | Spring

Range Range

Ranges

Date:

Date:

Date:

Number of Recoverable Photo Stations established (III): 5

Number of Temporary Photo Hydro Stations established (III): Planetable sheets TFU-A-57 TFU-C-52 TFU-D-5フ

Remarks: Eight triangulation stations were established and one was identified. Only tidal bench marks were searched for.

COMM- DC- 57842

SUMMARY TO ACCOMPANY SHORELINE MANUSCRIPTS T-10552 and T-10553

These surveys are part of shoreline Project PH-171 (27380). The project covers the Tampa Bay, Florida area and was designed to aid in hydrographic surveys for the purpose of revising existing nautical charts. Subject surveys cover the northern portion of Hillsborough Bay and the adjoining land area.

The field work -- field inspection and recovery of control -- was accomplished during 1957; the radial plot and compilation from nine-lens photography of April 1957 and scribing of reproduction copy during 1957-58 by the Tampa District Office. Advanced shoreline information and control was utilized during hydrographic surveys of 1957 and no disagreements were noted in the comparison of these surveys.

Cronar film positives at the compilation scale of 1:10,000 and the Descriptive Reports will be registered and filed in the Bureau Archives.

September 1959

FIELD INSPECTION REPORT
Submitted with T-10558

COMPILATION REPORT

T-10552

PHOTOGRAMMETRIC PLOT REPORT

Submitted with T-10558

31. DELINEATION

Compiled by graphic method. Scale of photographs was generally poor with exception of 55898 which was excellent. Therefore practically all of the northeastern portion of the sheet was delineated from it.

Field inspection was adequate.

32. CONTROL

Reference Photogrammetric Plot Report.

33. SUPPLEMENTAL DATA

About one quarter mile, shoreline at the southern tip of Hooker Point was located by planetable by the field party on TFU-A-57. Several single pile were applied to the manuscript from planetable sheet TFU-C-57.

34. CONTOURS AND DRAINAGE

None.

35. SHORELINE AND ALONGSHORE DETAILS

Shoreline inspection was good. All shoreline features were shown according to field inspection notes.

The low-water line was delineated according to field inspection. Spoil areas along the east side of ship channel were located by plane-table May 1958.

36. OFFSHORE DETAILS

All offshore detail have been shown.

37. LANDMARKS AND AIDS

All landmarks and aids to navigation have been shown. Form 567 was submitted separately on 1 May 1958.

38. CONTROL FOR FUTURE SURVEYS

Eight (8) topographic stations have been recovered and forms 524 submitted for each.

Fifty-seven (57) photo-hydro stations were established by plane-table methods on sheets TFU-A-57, TFU-C-57 and TFU-D-57.

All of the topographic stations have been listed under Item 49.

39. JUNCTIONS

Satisfactory junctions have been made as follows:

T-10546 to the north, T-10551 to the west (detail is not mapped to neatline), T-10553 to the east and T-10556 to the south.

40. HORIZONTAL AND VERTICAL ACCURACY

No statement.

46. COMPARISON WITH EXISTING MAPS

Comparison was made with a film positive of U.S.G.S. stereo-compilation TAMPA quadrangle 890709, sheet 2, scale 1:10,000, dated 7 October 1955. There were no differences worthy of note.

Comparison was made with C&GS planimetric maps T-5835 and T-5837, scale 1:10,000, edition of 1941. The comparison is generally good with the exception of the southern tip of Davis Islands where the sand fill protecting the boat basin has undergone considerable erosion and the southern end of Hooker Point has been built up with spoil from channel dredging.

Comparison was also made with the Army Map Service TAMPA FLORIDA quadrangle, scale 1:25,000, edition of 1947. Approximately the same changes as aforementioned were noted.

47. COMPARISON WITH NAUTICAL CHARTS

Comparison was made with Nautical Chart 587, scale 1:40,000 published 14 August 1943 and revised 7 January 1957.

It appears the planimetric maps listed in paragraph 46 are the source of most of the topography on the nautical chart and the same differences exist.

ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY

None.

ITEMS TO BE CARRIED FORWARD

None.

R. J. Pate

Carto Photo Aid

Approved and Forwarded:

Arthur L. Wardwell

Chief of Party

T-10552.

Geographic Names.

Ballast Point Bayshore Boulevard

Davis Island Yacht Club Davis Islands

Florida

(title)

Gulf Coast

(title)

Hillsborough Bay Hooker Point (1958 BGN decision for long form of name. Will eventually be changed on charts and Light List)

Interbay Peninsula Majorie Park Peter O. Knight Airport

Seaplane Basin
Seddon Channel
Seddon Island
Sparkman Channel

Tampa Bay (title: not Hillsboro or Hillsborough Bay)
Tampa Yacht and Country Club

Names approved 11-3-58

L. Heck

49. NOTES FOR THE HYDROGRAPHER

•

The temporary hydro stations were established by planetable on sheets TFU-A-57, TFU-C-57 and TFU-D-57. The signals were built at the time of the survey.

The following five (5) recoverable photo stations are:

ARM (1941) 1957

B. M. 5 U.S.E.D. (1935) 1957 B. M. U.S.E.D. AIRPORT (1941) 1957

SON (1941) 1957

VIS (1941) 1957

50.

PHOTOGRAMMETRIC OFFICE REVIEW

T- 10552

then third-order accuracy (topographic stations)
ALONGSHORE AREAS (Nautical Chart Data) 12. Shoreline J.G. 13. Low-water line J.G. 14. Rocks, shoals, etc. J.G. 15. Bridges J.G. 16. to navigation J.G. 17. Lendmarks J.G. 18. Other elongshore physical features J.G. 19. Other alcoshore cultural features J.G. 21. Natural ground cover J.G. 22. Planetable contours XX 23. Stereosi instrument contours XX 24. Contours in general XX 25. Spot elevations XX 26. Other phy features J.G. CULTURAL FEATURES 27. Roads J.G. 28. Buildings J.G. 29. Railroads J.G. 30. Other cultural features J.G. MISCELLANEOUS 33. Geographic names J.G. 34. Junctions J.G. 35. Legibility of the manuscript J.G. 36. Discrep overlay XX 37. Descriptive Report J.G. 38. Field inspection photographs J.G. 39. Forms J.G. J.G. J.
ALONGSHORE AREAS (Neutical Chert Data) 12. Shoreline J.G. 13. Low-water line J.G. 14. Rocks, shoals, etc. J.G. 15. Bridges J.G. 16. to navigation J.G. 17. Lendmarks J.G. 18. Other alongshore physical features J.G. 19. Other alongshore cultural features J.G. 19. Other alongshore cultural features J.G. 21. Natural ground cover J.G. 22. Planetable contours XX 23. Stereos instrument contours XX 24. Contours in general XX 25. Spot elevations XX 26. Other phy features J.G. CULTURAL FEATURES 27. Roads J.G. 28. Buildings J.G. 29. Railroads J.G. 30. Other cultural features J.G. BOUNDARIES 31. Boundary lines XX 32. Public land lines XX MISCELLANEOUS 33. Geographic names J.G. 34. Junctions J.G. 35. Legibility of the manuscript J.G. 36. Discrep overlay XX 37. Descriptive Report J.G. 38. Field inspection photographs J.G. 39. Forms J.G. 15. Base A. Giles XX 11. June A. Rasure
ALONGSHORE AREAS (Nautical Chart Data) 12. Shoreline J.G. 13. Low-water line J.G. 14. Rocks, shoals, etc. J.G. 15. Bridges J.G. 16. to navigation J.G. 17. Landmarks J.G. 18. Other alongshore physical features J.G. 19. Other alongshore cultural features J.G. 21. Natural ground cover J.G. 22. Planetable contours XX 23. Stereos instrument contours XX 24. Contours in general XX 25. Spot elevations XX 26. Other phy features J.G. CULTURAL FEATURES 27. Roads J.G. 28. Buildings J.G. 29. Railroads J.G. 30. Other cultural features J.G. BOUNDARIES 31. Boundary lines XX 32. Public land lines XX MISCELLANEOUS 33. Geographic names J.G. 34. Junctions J.G. 35. Legibility of the manuscript J.G. 36. Discrep overlay XX 37. Descriptive Report J.G. 38. Field inspection photographs J.G. 39. Forms J.G.
ALONGSHORE AREAS (Nautical Chart Data) 12. Shoreline J.G. 13. Low-water line J.G. 14. Rocks, shoals, etc. J.G. 15. Bridges J.G. 16. to navigation J.G. 17. Landmarks J.G. 18. Other alongshore physical features J.G. 19. Other sic shore cultural features J.G. 21. Natural ground cover J.G. 22. Planetable contours XX 23. Stereos instrument contours XX 24. Contours in general XX 25. Spot elevations XX 26. Other phy features J.G. 28. Buildings J.G. 29. Railroads J.G. 30. Other cultural features J.G. BOUNDARIES 31. Boundary lines XX 32. Public land lines XX MISCELLANEOUS
ALONGSHORE AREAS (Nautical Chart Data) 12. Shoreline J.G. 13. Low-water line J.G. 14. Rocks, shoals, etc. J.G. 15. Bridges J.G. 16. to navigation J.G. 17. Landmarks J.G. 18. Other alongshore physical features J.G. 19. Other alongshore cultural features J.G. 19. Other alongshore cultural features J.G. 21. Natural ground cover J.G. 22. Planetable contours XX 23. Stereos instrument contours XX 24. Contours in general XX 25. Spot elevations XX 26. Other phy features J.G. CULTURAL FEATURES 27. Roeds J.G. 28. Buildings J.G. 29. Railroads J.G. 30. Other cultural features J.G. BOUNDARIES 31. Boundary lines XX 32. Public land lines XX
ALONGSHORE AREAS (Nautical Chart Data) 12. Shoreline J.G. 13. Low-water line J.G. 14. Rocks, shoals, etc. J.G. 15. Bridges J.G. 16. to navigation J.G. 17. Landmarks J.G. 18. Other alongshore physical features J.G. 19. Other alongshore cultural features J.G. 21. Natural ground cover J.G. 22. Planetable contours XX 23. Stereosi instrument contours XX 24. Contours in general XX 25. Spot elevations XX 26. Other phy features J.G. 28. Buildings J.G. 29. Reiliroads J.G. 30. Other cultural features J.G. BOUNDARIES
ALONGSHORE AREAS (Nautical Chart Data) 12. Shoreline J.G. 13. Low-water line J.G. 14. Rocks, shoals, etc. J.G. 15. Bridges J.G. 16. to navigation J.G. 17. Landmarks J.G. 18. Other alongshore physical features J.G. 19. Other alongshore cultural features J.G. 21. Natural ground cover J.G. 22. Planetable contours XX 23. Stereosi instrument contours XX 24. Contours in general XX 25. Spot elevations XX 26. Other phy features J.G. 28. Buildings J.G. 29. Reiliroads J.G. 30. Other cultural features J.G. BOUNDARIES
9. Plotting of sextant fixes XX 10. Photogrammetric plot report J.G. 11. Detail points J.G. ALONGSHORE AREAS (Nautical Chart Data) 12. Shoreline J.G. 13. Low-water line J.G. 14. Rocks, shoals, etc. J.G. 15. Bridges J.G. 16. to navigation J.G. 17. Landmarks J.G. 18. Other alongshore physical features J.G. 19. Other alongshore cultural features J.G. PHYSICAL FEATURES 20. Water features J.G. 21. Natural ground cover J.G. 22. Planetable contours XX 23. Stereos instrument contours XX 24. Contours in general XX 25. Spot elevations XX 26. Other phy features J.G. CULTURAL FEATURES
9. Plotting of sextant fixes XX 10. Photogrammetric plot report J.G. 11. Detail points J.G. ALONGSHORE AREAS (Nautical Chart Data) 12. Shoreline J.G. 13. Low-water line J.G. 14. Rocks, shoals, etc. J.G. 15. Bridges J.G. 16. to navigation J.G. 17. Landmarks J.G. 18. Other alongshore physical features J.G. 19. Other alongshore cultural features J.G. PHYSICAL FEATURES 20. Water features J.G. 21. Natural ground cover J.G. 22. Planetable contours XX 23. Stereos instrument contours XX 24. Contours in general XX 25. Spot elevations XX 26. Other phy features J.G. CULTURAL FEATURES
9. Plotting of sextant fixes IX 10. Photogrammetric plot report J.G. 11. Detail points J.G. ALONGSHORE AREAS (Nautical Chart Data) 12. Shoreline J.G. 13. Low-water line J.G. 14. Rocks, shoals, etc. J.G. 15. Bridges J.G. 16. to navigation J.G. 17. Landmarks J.G. 18. Other alongshore physical features J.G. 19. Other alongshore cultural features J.G. PHYSICAL FEATURES 20. Water features J.G. 21. Natural ground cover J.G. 22. Planetable contours XX 23. Stereosi instrument contours XX 24. Contours in general XX 25. Spot elevations XX 26. Other phy features J.G.
9. Plotting of sextant fixes XX 10. Photogrammetric plot report J_4G+ 11. Detail points J_4G+ ALONGSHORE AREAS (Nautical Chart Data) 12. Shoreline J_4G+ 13. Low-water line J_4G+ 14. Rocks, shoals, etc. J_4G+ 15. Bridges J_4G+ 16. to navigation J_4G+ 17. Lendmarks J_4G+ 18. Other alongshore physical features J_4G+ 19. Other alongshore cultural features J_4G+ PHYSICAL FEATURES 20. Water features J_4G+ 21. Natural ground cover J_4G+ 22. Planetable contours XX 23. Stereosi instrument contours XX 24. Contours in general XX 25. Spot elevations XX 26. Other physical features XX 27. Other physical features XX 27. Other physical features XX 28. Ot
9. Plotting of sextant fixes XX 10. Photogrammetric plot report J.G. 11. Detail points J.G. ALONGSHORE AREAS (Nautical Chart Data) 12. Shoreline J.G. 13. Low-water line J.G. 14. Rocks, shoals, etc. J.G. 15. Bridges J.G. 16. to navigation J.G. 17. Landmarks J.G. 18. Other alongshore physical features J.G. 19. Other alongshore cultural features J.G. PHYSICAL FEATURES 20. Water features J.G. 21. Natural ground cover J.G. 22. Planetable contours XX 23. Stereosci
9. Plotting of sextant fixes XX 10. Photogrammetric plot report J.G. 11. Detail points J.G. ALONGSHORE AREAS (Nautical Chart Data) 12. Shoreline J.G. 13. Low-water line J.G. 14. Rocks, shoals, etc. J.G. 15. Bridges J.G. 16. to navigation J.G. 17. Landmarks J.G. 18. Other alongshore physical features J.G. 19. Other alongshore cultural features J.G.
9. Plotting of sextant fixes XX 10. Photogrammetric plot report J.G. 11. Detail points J.G. ALONGSHORE AREAS (Nautical Chart Data) 12. Shoreline J.G. 13. Low-water line J.G. 14. Rocks, shoals, etc. J.G. 15. Bridges J.G. 16. to navigation J.G. 17. Landmarks J.G. 18. Other alongshore physical features J.G. 19. Other alongshore cultural features J.G.
9. Plotting of sextant fixes XX 10. Photogrammetric plot report J.G. 11. Detail points J.G. ALONGSHORE AREAS (Nautical Chart Data) 12. Shoreline J.G. 13. Low-water line J.G. 14. Rocks, shoals, etc. J.G. 15. Bridges J.G. 16. to navigation J.G. 17. Landmarks J.G. 18. Other alongshore physical features J.G. 19. Other alongshore
9. Plotting of sextant fixes XX 10. Photogrammetric plot report J.G. 11. Detail points J.G. ALONGSHORE AREAS (Nautical Chart Data) 12. Shoreline J.G. 13. Low-water line J.G. 14. Rocks, shoals, etc. J.G. 15. Bridges J.G. 16.
9. Plotting of sextant fixes XX 10. Photogrammetric plot report J.G. 11. Detail points J.G. ALONGSHORE AREAS (Nautical Chart Data) 12. Shoreline J.G. 13. Low-water line J.G. 14. Rocks, shoals, etc. J.G. 15. Bridges J.G. 16.
9. Plotting of sextant fixes XX 10. Photogrammetric plot report J.G. 11. Detail points J.G. ALONGSHORE AREAS
9. Plotting of sextant fixes XX 10. Photogrammetric plot report J.G. 11. Detail points J.G.
on all trades a consequences of the contract o
5. Horizontal control stations of third-order or higher accuracy R.R.W. 6. Recoverable horizontal stations of
CONTROL STATIONS
4a Classification label
1. Projection and grids J.G. 2. Title J.G. 3. Manuscript numbers J.G. 4. Manuscript size J.

COMPUTATION TIDE

PROJECT NO. Ph-17/ T. 10552

Subordinate station __ TR - mr. p. w. Hillsborro _ Be. y -June ,-1957-

Date of field inspection

361

Mean range

02 Ė Time Ė ત્ Low tide at Ref. Sta. Corrected time at Subordinate station Time difference ダイ <u>ښ</u> خ Ė Time ᆮ ģ ù High tide at Ref. Sta. Corrected time at Subordinate station Time difference Height x Ratio of ranges 0.0 2.7 6. Height 1.5 feet ò Range of tide High tide Low tide 43 7 X Ė Time ج خ J Duration of rise or fall High tide Low tide

	h. B.		feet		feet	Photo. No.
Time 描述 or L. T. Required time Interval	7 47	のス: Ht. 新記. or L. T. 4フ~ Tabular correction な ター~ Stage of tide above MLW	0,0 8,7,9	Feature bares Stage of tide above MLW Feature above MLW		66855
Time H. T. or L. T. Required time Interval		Ht. H, T. or L. T. Tabular correction Stage of tide above MLW		Feature bares Stage of tide above MLW Feature above MLW		
Time H. T. or L. T. Required time Interval		Ht. H, T. or L. T. Tabular correction		Feature bares Stage of tide above MLW Feature above MLW		
Time H. T. or L. T. Required time Interval	·	Ht. H. T. or L. T. Tabular correction Stage of tide above MLW		Feature bares Stage of tide above MLW Feature above MLW		
Time H. T. or L. T. Required time Interval		Ht. H. T. or L. T. Tabular correction Stage of tide above MLW		Feature bares Stage of tide above MLW Feature above MLW		
Time H. T. or L. T. Required time Interval		Ht. H. T. or L. T. Tabular correction Stage of tide above MLW		Feature bares Stage of tide above MLW Feature above MLW		

M-2617-12

13

REVIEW REPORT OF SHORELINE MANUSCRIPTS T-10552 and T-10553

September 1959

62. Comparison with Registered Topographic Surveys

T-1411a T-1411b	1:20,000 1:20,000	1876 1875
T-4201	1:10,000 an	
	1:20,000	1926
T-4202	1:20,000	1926
т-5835	1:10,000	1939
т-5837	1:10,000	1939
т-5838	1:10,000	1939
т-8382	1:20,000	1942

This area has been subjected to continuous changes since the first survey of 1875. Since 1942 further changes --some extensive-- have made these surveys obsolete for nautical charting purposes. Subject surveys supersede above-listed surveys for these charting purposes of common area and detailing.

63. Comparison with Maps of Other Agencies

TAMPA, FLA., 1:24,000, 1956, U.S. Geological Survey. There are considerable disagreements in the eastern portion of Hillsborough Bay. The southern tip of Hooker Point has changed noticeably and there is now a chain of islands in a generally southern direction from said Hooker Point. They consist of spoil and are directly east of Hillsborough Channel, apparently the result of dredging operations of said channel. Further disagreements exist at Port Sutton (Black Point) and along the shoreline directly south of this.

64. Comparison with Contemporary Hydrographic Surveys

н-8379	1:10,000	1957
н-8379 н-8380	1:10,000	1957

Shoreline and control was furnished for these hydrographic surveys from subject project and there is complete agreement.

65. Comparison with Nautical Charts

587, 1:40,000, Edition of 1958, Revised to 7/6/59 (with inset of Davis Islands and Vicinity at 1:10,000)

1257, 1:80,000, Edition of 1943, Revised to 3/2/59 Disagreements listed under Item #63 were found in this x comparison also. It is suggested that these changes (made available by hydrographic surveys 8379 and 8380) be applied to effected charts.

66. Adequacy of Results and Future Surveys

Subject surveys comply with project instructions. They were found to be within the requirements for adequacy and accuracy for this type of survey.

Approved

Chief, Review Section Photogrammetry Division

Chief, Nautical Chart Branch

Chart Division

Photogrammetry Division Chief Coastal Surveys Division

1) may les