NOAA FORM 76-35
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

DESCRIPTIVE REPORT

Type of Survey Shoreline Mapping
Job No. PH-6404 Map No. T-12518

LOCALITY
State Florida
General Locality Florida Keys
Locality Hawk Channel ... Pelican Shoal

1963 TO 1964

REGISTRY IN ARCHIVES
DATE ..........................................

MAP NOT INSPECTED IN QUALITY CONTROL PRIOR TO REGISTRATION
NOAA FORM 76-36A
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMIN.

DESCRIPTIVE REPORT - DATA RECORD

PHOTOGRAMMETRIC OFFICE

Rockville, Maryland

OFFICER-IN-CHARGE
Commander James Collins

TYPE OF SURVEY    SURVEY TF 12518
ORIGINAL
RESURVEY
REVISED

MAP EDITION NO. (1)
MAP CLASS III
JOB PH-6404

LAST PRECEEDING MAP EDITION

TYPE OF SURVEY
ORIGINAL
RESURVEY
REVISED

SURVEY DATES:
19___ TO 19___

1. INSTRUCTIONS DATED

1. OFFICE

Project PH-6404, Shoreline Mapping, Key West to Sugarloaf, Fla. Dated May 18, 1964

2. FIELD

Project PH-6404, Shoreline Mapping, Key West to Sugarloaf, Fla., dated 11/22/63. Amendment I, dated 2/6/54

II. DATUMS

1. HORIZONTAL: 1927 NORTH AMERICAN

OTHER (Specify)

2. VERTICAL:

MEAN HIGH-WATER
MEAN LOW-WATER
MEAN LOWER LOW-WATER
MEAN SEA LEVEL

OTHER (Specify)

3. MAP PROJECTION

Polyconic

4. GRID(S)

STATE Florida
ZONE East

STATE
ZONE

5. SCALE

1:10,000

III. HISTORY OF OFFICE OPERATIONS

<table>
<thead>
<tr>
<th>OPERATIONS</th>
<th>NAME</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. AEROTRIANGULATION METHOD: Analog</td>
<td>R. Kelly</td>
<td>7/64</td>
</tr>
<tr>
<td>LANDMARKS AND AIDS BY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. CONTROL AND BRIDGE POINTS METHOD:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PLOTTED BY</td>
<td>J. Richter</td>
<td>2/65</td>
</tr>
<tr>
<td>CHECKED BY</td>
<td>K. Maki</td>
<td>2/65</td>
</tr>
</tbody>
</table>
| 3. STEREOSCOPIC INSTRUMENT COMPILATION
| INSTRUMENT: B-8                                |         |      |
| PLANIMETRY BY                                  | J. Richter | 2/65 |
| CHECKED BY                                     | K. Maki   | 2/65 |
| CONTOURS BY                                    | Inapplicable |      |
| CHECKED BY                                     |         |      |
| 4. MANUSCRIPT DELINEATION METHOD: Graphic     |         |      |
| PLANIMETRY BY                                  | J. Richter | 2/65 |
| CHECKED BY                                     | K. Maki   | 2/65 |
| CONTOURS BY                                    | Inapplicable |      |
| CHECKED BY                                     |         |      |
| HYDRO SUPPORT DATA BY                         |         |      |
| CHECKED BY                                     | J. Richter | 2/65 |
| CHECKED BY                                     | K. Maki   | 2/65 |
| 5. OFFICE INSPECTION PRIOR TO FIELD EDIT BY    |         |      |
| CHECKED BY                                     | K. Maki   | 2/65 |
| 6. APPLICATION OF FIELD EDIT DATA BY           |         |      |
| CHECKED BY                                     | Inapplicable |      |
| 7. COMPILATION SECTION REVIEW BY               |         |      |
| CHECKED BY                                     | P. Dempsey | 8/75 |
| 8. FINAL REVIEW BY                             |         |      |
| CHECKED BY                                     |         |      |
| 9. DATA forwarded TO PHOTOGRAMMETRIC BRANCH BY |         |      |
| CHECKED BY                                     |         |      |
| 10. DATA EXAMINED IN PHOTOGRAMMETRIC BRANCH BY |         |      |
| CHECKED BY                                     |         |      |
| 11. MAP REGISTERED - COASTAL SURVEY SECTION BY |         |      |
| CHECKED BY                                     | V. Franscy | 9/24/75 |
### COMPILATION SOURCES

1. **Compilation Photography**
   - **Camera(s):** S & W Wild RC-8
   - **Tide Stage Reference:**
     - [X] Predicted Tides
     - [ ] Reference Station Records
     - [X] Tide Controlled Photography
   - **Types of Photography Legend:**
     - (C) Color
     - (P) Panchromatic
     - (I) Infrared
     - B&W
   - **Time Reference:**
     - Eastern Standard Meridian 75th

<table>
<thead>
<tr>
<th>Number and Type</th>
<th>Date</th>
<th>Time</th>
<th>Scale</th>
<th>Stage of Tide</th>
</tr>
</thead>
<tbody>
<tr>
<td>63W 1985 - 1990</td>
<td>10/12/63</td>
<td>1624</td>
<td>1:30,000</td>
<td>The stage of tide is inapplicable for the color photography.</td>
</tr>
<tr>
<td>64S581AR - 587AR</td>
<td>12/18/64</td>
<td>0857</td>
<td>1:30,000</td>
<td>0.1&quot;below MHW at Ninefoot Shoal Lighthouse tide gage.</td>
</tr>
</tbody>
</table>

**Remarks**

2. **Source of Mean High-Water Line:**
   - The source of the mean high water line is the black-and-white tide-coordinated infrared photography listed under item 1.

3. **Source of Mean Low-Water or Mean Lower Low-Water Line:**
   - The mean low water line was delineated from the interpretation of the color photography.

4. **Contemporary Hydrographic Surveys** *(List only those surveys that are sources for photogrammetric survey information.)*

<table>
<thead>
<tr>
<th>Survey Number</th>
<th>Date(s)</th>
<th>Survey Copy Used</th>
<th>Survey Number</th>
<th>Date(s)</th>
<th>Survey Copy Used</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. **Final Junctions**
   - **North:** T-12515
   - **East:** No contemporary Survey
   - **South:** No contemporary Survey
   - **West:** T-12517

**Remarks**
**HISTORY OF FIELD OPERATIONS**

1. ☑ FIELD INSPECTION OPERATION  ☐ FIELD EDIT OPERATION

<table>
<thead>
<tr>
<th>OPERATION</th>
<th>NAME</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. CHIEF OF FIELD PARTY</td>
<td>G. E. Varnadoe</td>
<td>7/64</td>
</tr>
</tbody>
</table>

2. HORIZONTAL CONTROL

   - RECOVERED BY
   - ESTABLISHED BY
   - PRE-MARKED OR IDENTIFIED BY

3. VERTICAL CONTROL

   - RECOVERED BY
   - ESTABLISHED BY
   - PRE-MARKED OR IDENTIFIED BY

4. LANDMARKS AND AIDS TO NAVIGATION

   - RECOVERED (Triangulation Stations) BY
   - LOCATED (Field Methods) BY
   - IDENTIFIED BY

   TYPE OF INVESTIGATION
   - ☐ COMPLETE
   - ☐ SPECIFIC NAMES ONLY
   - ☐ NO INVESTIGATION

   Refer to summary

5. GEOGRAPHIC NAMES INVESTIGATION

   - REPORT
   - NONE

6. PHOTO INSPECTION

   - CLARIFICATION OF DETAILS BY
   - SURVEYED OR IDENTIFIED BY

7. BOUNDARIES AND LIMITS

   - REFER TO FIELD INSPECTION

8. PHOTO NUMBERS (Clarification of details)

9. LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED

   - PHOTO NUMBER
   - OBJECT NAME

10. GEOGRAPHIC NAMES:

    - REPORT
    - NONE

11. BOUNDARY AND LIMITS:

    - REPORT
    - NONE

12. SUPPLEMENTAL MAPS AND PLANS

13. OTHER FIELD RECORDS (Sketch books, etc. DO NOT list date submitted to the Geodetic Division)
**RECORD OF SURVEY USE**

**1. MANUSCRIPT COPIES**

<table>
<thead>
<tr>
<th>DATA COMPILED</th>
<th>DATE</th>
<th>REMARKS</th>
<th>MARINE CHARTS</th>
<th>HYDRO SUPPORT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There is no record that any copies of this map were submitted to the Marine Chart Division prior to registration.

Copy of the Registered map submitted 9/75

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**II. LANDMARKS AND AIDS TO NAVIGATION**

1. REPORT TO MARINE CHART DIVISION, NAUTICAL DATA BRANCH

<table>
<thead>
<tr>
<th>NUMBER</th>
<th>CHART LETTER NUMBER ASSIGNED</th>
<th>DATE FORWARDED</th>
<th>REMARKS</th>
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<tbody>
<tr>
<td></td>
<td>No form 76-40 (Landmarks and Aids) were submitted to the Marine Chart division</td>
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2. REPORT TO MARINE CHART DIVISION, COAST PILOT BRANCH. DATE FORWARDED:

3. REPORT TO AERONAUTICAL CHART DIVISION, AERONAUTICAL DATA SECTION. DATE FORWARDED:

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**III. FEDERAL RECORDS CENTER DATA**

1. BRIDGING PHOTOGRAPHS; DUPLICATE BRIDGING REPORT; COMPUTER READOUTS.
2. CONTROL STATION IDENTIFICATION CARDS; FORM NO. 567 SUBMITTED BY FIELD PARTIES.
3. SOURCE DATA (except for Geographic Names Report) AS LISTED IN SECTION II, NOAA FORM 76-36C. ACCOUNT FOR EXCEPTIONS:

4. DATA TO FEDERAL RECORDS CENTER. DATE FORWARDED:

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**IV. SURVEY EDITIONS** (This section shall be completed each time a new map edition is registered)

<table>
<thead>
<tr>
<th>SECOND EDITION</th>
<th>SURVEY NUMBER</th>
<th>JOB NUMBER</th>
<th>TYPE OF SURVEY</th>
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<tr>
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<td>TP - (2)</td>
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<td>REVISED RESURVEY</td>
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<tr>
<td>DATE OF PHOTOGRAPHY</td>
<td>DATE OF FIELD EDIT</td>
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<table>
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<tr>
<td></td>
<td>TP - (3)</td>
<td></td>
<td>REVISED RESURVEY</td>
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<tr>
<td>DATE OF PHOTOGRAPHY</td>
<td>DATE OF FIELD EDIT</td>
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</table>

<table>
<thead>
<tr>
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<th>JOB NUMBER</th>
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<tbody>
<tr>
<td></td>
<td>TP - (4)</td>
<td></td>
<td>REVISED RESURVEY</td>
</tr>
<tr>
<td>DATE OF PHOTOGRAPHY</td>
<td>DATE OF FIELD EDIT</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

MAP CLASS

II. III. IV. V. FINAL
Summary
for
T-12514 and T-12515
T-12517 and T-12518

Project PH-6404 originally consisted of ten (10) 1:10,000 scale shoreline maps. Six of these maps are now cancelled from the project. The shoreline compilation for the remaining maps, T-12514, T-12515, T-12517, and T-12518, is incomplete and is discussed in their compilation reports. The index to adjoining maps will show the location of these maps.

These maps provided topographic information for nautical charts and hydrographic surveys.

The area is covered by aerial photography taken in 1963 and 1964 on color and infrared film. The infrared film was tide coordinated.

Field operations consisted of the photo-identification of horizontal control.

Horizontal control was extended by aerotriangulation (analog method) using the stereoplanigraph.

There was no field edit for these four maps.

The four Class III maps will be registered in the NOS Archives. The negatives for these maps are on file in the NOS Reproduction Division.

A field inspection was made for Project PH-6404 but was not available at the time of compilation. Since this area is presently being mapped by the NOS Cooperative Coastal Boundary Mapping Program and the maps were used only for hydrographic surveys, the field inspection will not be applied to the maps compiled in this project.
2. Areal Field Inspection.

The area is best described by the photography. There are no areas of particular historical or other interest.

The photography is substandard. The definition is poor. The scale is inadequate for field inspection. In areas of congested cultural features, ratio prints were furnished and field inspection notes will also be found on these.

Milky areas in water as labeled on photos 63W 1960 (T-12510) and 1975 (T-12514) is "coral silt" mixed in water. (In areas where there is little current this silt settles and is sometimes as much as 2 feet deep.) It does not indicate any change or certain depths in water.

3. Horizontal Control.

Two supplemental stations were established and identified for the plot. They are "Control Point Pelican" and "Control Point Mid Sambo." They were not permanently marked as they are located on rocks and sand bars that shift. These bars are on a reef about five miles offshore on the Atlantic side, one of which shifted about 30 feet overnight during calm weather.

The only known control in the area was established by this bureau, all of which was searched for and reported on form 526. Stations not recovered are: Beacon N, Sam, C'Hara, B 3 Battery, Perky Southwest Base, Perky Base A, Pel, Neck, North Snipe, Harvy, Midbar, Cham (USAF), Chica, and Key West Guard Signal Mast.

4. Vertical Control.

Only the recovery and identification of tidal bench marks is applicable to this project. Five sets of these bench marks are within the project limits. At least one in each set of four were recovered and identified. (ne
set, "Candy Point, Boca Chica Key, Boca Chica Channel," on triangulation station and reference mark, "Chan 1934," is lost.

5. Contours and Drainage.

Inapplicable.

6. Woodland Cover.

Practically all woodland cover is mangrove ranging from low, scattered to dense swamp, some of which are fifty to sixty feet tall. The few areas of trees have been labeled.

7. Shoreline and Alongshore Features.

The greater percentage of the shoreline is apparent along the mangrove keys and islets. The small areas of HML (fast shoreline) have been labeled or indicated by symbols.

Vast areas in the bays near the gulf are very shallow flats, which bare at HNL. Sufficient areas have been labeled "Bare at HNL" or "Shallow" to enable the compiler to map similar areas by analogy. This also applies to areas of mangrove, scattered mangrove, etc.

The foreshore along the areas of fast shoreline is sand and because of the small range of tide the HNL and HML are separated by only a few feet horizontally, which hardly could be shown at 1:10,000 scale.

There are no bluffs or cliffs.

Piers, wharves and other shoreline structures have been labeled, and sketches made where necessary.

One submarine cable exists. It is alongside the bridge between Stock Island and Boca Chica Key. The end poles were identified on the photographs. The poles of overhead cables and wires along the other bridges were identified although the shallow water beneath is not navigable.

The areas labeled "spoil" at the south end of Stock Island and the north end of Raccoon Key on ratio print
63. 1985 are dredged from the basins between these spoils. This spoil, which is principally limerock, is sold and trucked away. Consequently, these spoils vary in height from day to day.

One landing strip is in the project. It is at Perky in sheet 125b3.

The overhead cables crossing Sugarloaf Creek and Saddlebunch Harbor, between Saddlebunch Key, Bird Island and Geiger Key, as shown on Chart 854 no longer exist. Along the line of the latter are the remains of old bridge pilings.

For the overhead power cable between Stock Island and Boca Chica Key, Chart 854 shows an authorized vertical clearance of 60 feet over the main channel and 25 feet elsewhere.

It was brought to the attention of the writer that a boat struck this cable, where it crosses the westernmost channel, on the mast about 18 feet above water. A detailed investigation of the actual clearance was made by the Florida Keys Engineering Inc. A copy of their report, with chart letter, has been submitted to the Nautical Chart Division.

8. Offshore Features.

All offshore features that could not be actually landed on were inspected from a boat at very close range, at, or very near M.W., and sufficient notes and labels made for accurate mapping. Features not discernible on the photographs, such as piles, were located by sextant fixes on photo points.

9. Landmarks and Aids.

Landmarks were identified on the photographs and reported on form 567.

All aids to navigation in the project area are single piles and were located by sextant fixes and cuts from photo points.
Dry beacons 92 through 143 are pointers on wooden 2x2's that are stuck inside 2-inch iron pipes which are driven into the bottom. These aids were premarked and located by photogrammetric methods in 1956 and from appearances have not been moved since. Many have one or more short iron pipes alongside which supported the aid before rusting off.


The only boundary line in the project encompasses a golf course on Stock Island and is delineated on the photographs.

11. Other Control.

None

12. Other Interior Features.

Roads and landmark buildings were classified on the photographs.


This is the subject of a special report which was submitted on 9 April, 1964.

Respectfully submitted,

[Signature]
George E. Vernadoe
23 June, 1964
21. Area Covered

This report covers the bridging of the area in T-sheets 12514, 12515, 12516, 12517 and 12518.

22. Methods

A horizontal bridge was run on the C-8 Zeiss Stereoplanigraph, to provide pass points for compilation of shoreline. The bridging photography consisted of 63 W(c) 1982 through 1993. The adjustment on the IBM-650 utilized 8 control stations with 2 control stations used as checks.

23. Adequacy of Control

Control positions were adequate for bridge adjustment. Although it was noted that Key West Radio station WKWF and Key West Coast Guard station signal Mast 1943 didn't have substitute stations. These would have been of value in adjusting this strip. The control station listed as Key West Coast Guard Station Signal Mast 1943 was found to be Key West Naval Storehouse Flagstaff. East Martello tower, 1909 substitute station 2 didn't hold in adjustment. Probable reason for station not holding is due to very poor image point.

24. Supplemental Data

None

25. Photography

Photography was adequate as to coverage, overlap and definition.

Submitted by:

Robert B. Kelly

Approved by:

John D. Ferrow, Jr.
Florida Keys,  
Project 21417 
February 1965

Compilation Report for incomplete shoreline manuscripts  
T-12515, T-12517 and T-12518

The manuscripts were delineated by graphic method from infra-red photography.

Subsequent stereo-investigation of the color plates on the B-8 plotter revealed that an accurate delineation of the HWL would be impossible with the color photos. The area is shallow (1 ft.) and the color looks into the water making shoreline determination poor at best.

Infra-red photography was flown at 1:30,000 scale at HWL on November 13, 1964. The color was set on the B-8 plotter and points common to the color and infra-red were picked. Very few bridge points were visible on the infra-red photography.

The infra-red was ratioed and only the southern most shoreline has been delineated.

On manuscript T-12518 Pelican Shoal, Eastern Sambo and Middle Sambo were not shown as bridging was not available at this time.

The photography used was a single bridge strip of color, numbers 63 W 1965 thru 63 W 1990. Infra-red photography numbers 64 S 561 AR thru 64 S 567 AR was resected on to the manuscript and prepared for hydro support.

Geographic names were taken from Nautical Chart No. 854, 3rd edition June 22, 1964.

The buoys and day beacons were located from the 1963 color photography and should be checked.

Photo coverage was adequate.

Submitted by:
J. C. Richter

J. C. Richter
GEOGRAPHIC NAMES
Ph 6404

Boca Chica Channel
Boca Chica Key
Cow Key
Cow Key Channel
Safe Harbor

A. J. Waight
Geographic Names Section
T-12514, T-12515, T-12517, and T-12518
National Archives Data

1 Green Jacket (bridging data)
1 Green Jacket (field data)
Field photographs: