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

DESCRIPTIVE REPORT

<table>
<thead>
<tr>
<th>Type of Survey</th>
<th>Coastal Zone Map</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job No.</td>
<td>PH-7113</td>
</tr>
<tr>
<td>Map No.</td>
<td>TP-00429</td>
</tr>
<tr>
<td>Classification</td>
<td>Final</td>
</tr>
<tr>
<td>Edition No.</td>
<td>1</td>
</tr>
<tr>
<td>Field Edited</td>
<td>Map</td>
</tr>
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</table>

LOCALITY

<table>
<thead>
<tr>
<th>State</th>
<th>Florida</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Locality</td>
<td>Bade County</td>
</tr>
<tr>
<td>Locality</td>
<td>Cutler Ridge to Fender Point</td>
</tr>
</tbody>
</table>

1971 TO 1975

REGISTRY IN ARCHIVES

DATE

© U.S. GOVERNMENT PRINTING OFFICE: 1974-762-901
**Descriptive Report - Data Record**

**Photogrammetric Office**
Rockville, Maryland

**Officer-in-Charge**
Cdr. James Collins

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**I. Instructions Dated**

1. **General Instructions - OFFICE-NOS Cooperative Coastal Boundary Mapping, Job PH-7000, 12/9/75**
   - Supplement 1, 11/4/74
   - Supplement III, 10/24/74

**NOTE:** Office and field edit instructions (1975) incorporate applicable prior operational instructions.

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**II. Datums**

1. **Horizontal:**
   - 1927 North American

2. **Vertical:**
   - Mean high-water
   - Mean low-water
   - Mean lower low-water
   - Mean sea level

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**III. History of Office Operations**

<table>
<thead>
<tr>
<th>Operations</th>
<th>Name</th>
<th>Date</th>
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</thead>
<tbody>
<tr>
<td>1. Aerotriangulation</td>
<td>McNeel/Raborn</td>
<td>10/73</td>
</tr>
<tr>
<td>Method: Analytic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Control and Bridge Points</td>
<td>D. Phillips</td>
<td>11/73</td>
</tr>
<tr>
<td>Method: Coradomat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Stereoscopic Instrument</td>
<td>S. Solbeck</td>
<td>9/74</td>
</tr>
<tr>
<td>Compilation</td>
<td>R. Rich</td>
<td>11/74</td>
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<tr>
<td>Instrument:</td>
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<td></td>
</tr>
<tr>
<td>Scale:</td>
<td></td>
<td></td>
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<tr>
<td>4. Manuscript Delineation</td>
<td>R. Battley, Jr.</td>
<td>12/74</td>
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<tr>
<td>Method: Graphic</td>
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<td></td>
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<tr>
<td>Scale: 1:10,000</td>
<td>J. P. Battley, Jr.</td>
<td>12/74</td>
</tr>
<tr>
<td>Landmarks and Aids</td>
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<tr>
<td>5. Office Inspection Prior to Field</td>
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<td></td>
</tr>
<tr>
<td>Edit</td>
<td>R. Rich</td>
<td>7/75</td>
</tr>
<tr>
<td>6. Application of Field Edit Data</td>
<td>P. Dempsey</td>
<td>7/75</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td>7. Compilation Section Review</td>
<td>J. P. Battley, Jr.</td>
<td>7/75</td>
</tr>
<tr>
<td>8. Final Review</td>
<td>D. Brant</td>
<td>1/76</td>
</tr>
<tr>
<td>9. Data Forwarded to Photogrammetric</td>
<td></td>
<td></td>
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<tr>
<td>Branch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Data Examined in Photogrammetric</td>
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<td></td>
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<tr>
<td>Branch</td>
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<td></td>
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<td>11. Map Registered - Coastal Survey</td>
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<td></td>
</tr>
<tr>
<td>Section</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Compilation Sources

### 1. Compilation Photography

**Camera(s):** Wild RC-6  
E&L 6" focal length

**Tide Stage Reference:**  
- [ ] Predicted Tides  
- [ ] Reference Station Records  
- [X] Tide Controlled Photography

### Types of Photography

- [C] Color
- [IR] IR
- [P] Panchromatic
- [I] Infrared
- [B&W] B&W

### Time Reference

- Eastern Standard Time
- Meridian 75th & 60th
- Daylight

### Number and Type  |  Date  |  Time  |  Scale  | Stage of Tide
---|---|---|---|---
73E(C)9026R-9029R  | 6/16/73  | 0926  | 1:40,000  | Inapplicable for the color photography.
71L8574R-8580R  | 8/7/71  | 0914  | 1:25,000  | Refer to the following page for tide information.
71L8526R-8530R  | 8/6/71  | 1526  | 1:25,000  |  

### Remarks

- *Photography used for compiling limits of shoal west of Featherbed Banks.

### 2. Source of Mean High-Water Line:

The source of the mean high water line is the tide-coordinated black-and-white infrared photography listed in item 1.

Where the shoreline is obscured by vegetation, such as mangrove, the apparent shoreline symbol was used.

### 3. Source of Mean Low-Water or Mean Lower Low-Water Line:

The source of the mean low water line is the tide-coordinated black-and-white infrared photography listed in item 1.

### 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>Inapplicable</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

### 5. Final Junctions

**North:**  
TP-00426  

**East:**  
TP-00430  

**South:**  
TP-00432  

**West:**  
No contemporary survey

### Remarks

Final junctions were made in the Coastal Mapping Section.
<table>
<thead>
<tr>
<th>LOCATION AND PHOTOGRAPHY</th>
<th>TIDE STATIONS (In operation at time of photography)</th>
<th>STAGE OF TIDE</th>
<th>MEAN RANGE</th>
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<tbody>
<tr>
<td>INTERIOR WATERS (BISCAYNE BAY)</td>
<td>Cutler, Biscayne Bay</td>
<td>+0.12 MHW</td>
<td>2.00'</td>
</tr>
<tr>
<td>71L8574R-8580R</td>
<td>Cutler, Biscayne Bay</td>
<td>+0.10 MLW</td>
<td></td>
</tr>
<tr>
<td>71L8526R-8530R</td>
<td>Cutler, Biscayne Bay</td>
<td>+0.10 MLW</td>
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</tbody>
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REMARKS:
There is no tide information available for the NASA photography.
## HISTORY OF FIELD OPERATIONS

1. **FIELD INSPECTION OPERATION** 1971  
   **FIELD EDIT OPERATION** 1975

<table>
<thead>
<tr>
<th>OPERATION</th>
<th>NAME</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. CHIEF OF FIELD PARTY</td>
<td>R.R. Wagner</td>
<td></td>
</tr>
<tr>
<td>2. HORIZONTAL CONTROL</td>
<td>RECOVERED BY</td>
<td>R.R. Wagner</td>
</tr>
<tr>
<td></td>
<td>ESTABLISHED BY</td>
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</tr>
<tr>
<td></td>
<td>PRE-MARKED OR IDENTIFIED BY</td>
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</tr>
<tr>
<td>3. VERTICAL CONTROL</td>
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<td>ESTABLISHED BY</td>
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</tr>
<tr>
<td></td>
<td>PRE-MARKED OR IDENTIFIED BY</td>
<td>R.R. Wagner</td>
</tr>
<tr>
<td>4. LANDMARKS AND AIDS TO NAVIGATION</td>
<td>RECOVERED (Triangulation Stations) BY</td>
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<tr>
<td></td>
<td>LOCATED (Field Methods) BY</td>
<td>None</td>
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<tr>
<td></td>
<td>IDENTIFIED BY</td>
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<td>5. GEOGRAPHIC NAMES INVESTIGATION</td>
<td>TYPE OF INVESTIGATION</td>
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<td>□ SPECIFIC NAMES ONLY</td>
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<td></td>
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<td>☒ NO INVESTIGATION</td>
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<tr>
<td>6. PHOTO INSPECTION</td>
<td>CLARIFICATION OF DETAILS BY</td>
<td>R.R. Wagner</td>
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<tr>
<td>7. BOUNDARIES AND LIMITS</td>
<td>SURVEYED OR IDENTIFIED BY</td>
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### II. SOURCE DATA

1. HORIZONTAL CONTROL IDENTIFIED  
   2. VERTICAL CONTROL IDENTIFIED

<table>
<thead>
<tr>
<th>PHOTO NUMBER</th>
<th>STATION NAME</th>
<th>PHOTO NUMBER</th>
<th>STATION DESIGNATION</th>
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<tbody>
<tr>
<td></td>
<td>Refer to Field Report</td>
<td>73E9029R</td>
<td>L318, V317, R710(DC)</td>
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<tr>
<td></td>
<td></td>
<td>73L9027R</td>
<td>S317, N318</td>
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3. PHOTO NUMBERS (Clarification of details)  
   73E9027R, 9029R, 71L8574R

4. LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED  
   There are no landmarks and non-floating aids on this map.

<table>
<thead>
<tr>
<th>PHOTO NUMBER</th>
<th>OBJECT NAME</th>
<th>PHOTO NUMBER</th>
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<tbody>
<tr>
<td></td>
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</table>

5. GEOGRAPHIC NAMES: □ REPORT ☒ NONE  
   6. BOUNDARY AND LIMITS: □ REPORT ☒ NONE

7. SUPPLEMENTAL MAPS AND PLANS

8. OTHER FIELD RECORDS (Sketch books, etc. DO NOT list data submitted to the Geodesy Division)  
   One page from sketchbook with cuts to wrecks.  
   *The Field Report is bound with this Descriptive Report.*
I. MANUSCRIPT COPIES:

<table>
<thead>
<tr>
<th>DATA COMPILED</th>
<th>DATE</th>
<th>REMARKS</th>
<th>MARINE CHARTS</th>
<th>HYDRO SUPPORT</th>
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<tbody>
<tr>
<td>No map copies were furnished to the Marine Chart Division prior to final review.</td>
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II. LANDMARKS AND AIDS TO NAVIGATION

1. REPORTS 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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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>There are no landmarks or non-floating aids on this map.</td>
</tr>
</tbody>
</table>

2. [ ] REPORT TO MARINE CHART DIVISION, COAST PILOT BRANCH. DATE FORWARDED: ____________

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

III. FEDERAL RECORDS CENTER DATA

1. [ ] BRIDGING PHOTOGRAPHS; [ ] DUPLICATE BRIDGING REPORT; [ ] COMPUTER READOUTS.

2. [ ] CONTROL STATION IDENTIFICATION CARDS; [ ] FORM NOS 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: ____________

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

<table>
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<th>JOB NUMBER</th>
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<tr>
<td>TP . _________ (2)</td>
<td>PH . __________</td>
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<tr>
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<td>DATE OF FIELD EDIT</td>
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<table>
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<th>JOB NUMBER</th>
<th>TYPE OF SURVEY</th>
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<tbody>
<tr>
<td>TP . _________ (3)</td>
<td>PH . __________</td>
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<td>DATE OF PHOTOGRAPHY</td>
<td>DATE OF FIELD EDIT</td>
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<th>JOB NUMBER</th>
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<tbody>
<tr>
<td>TP . _________ (4)</td>
<td>PH . __________</td>
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<tr>
<td>DATE OF PHOTOGRAPHY</td>
<td>DATE OF FIELD EDIT</td>
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<td>III.</td>
</tr>
</tbody>
</table>
SUMMARY
for
TP-00427 thru TP-00430
TP-00432 thru TP-00436

Coastal Zone Map TP-00429 is one of nine (9), 1:10,000 scale (shoreline type) maps in Job PH-7113. These maps will not be published. Interior detail is limited to a narrow zone of planimetry usually back from the shoreline to and including the first road. Other maps in Job PH-7113 will be published with an orthophoto interior.

A layout for Job PH-7113 (revised since the aerotriangulation operation) will show the location of individual maps. A copy of this layout is included in this Descriptive Report.

These maps are intended for planning purposes for the State of Florida and for the construction and maintenance of NOS nautical charts.

The area is covered by aerial photography taken in 1971, 1972, and 1973 on color and black-and-white infrared film. The black-and-white infrared film was tide coordinated.

The field operations consisted of the following:

1. Premarking of horizontal control for aerotriangulation.
2. Establishment of tidal datums.
3. Field Edit.

Horizontal control was extended by analytical aerotriangulation method using the STK stereocomparator.

The shoreline and alongshore details were compiled from tide-coordinated, black-and-white infrared photography using a B-8 stereoplotter and/or graphic methods. The rectified color photography was used as an aid in interpreting cultural features and compiling the limits of vegetation. The interior details were compiled from a stereoscopic examination of the color photography without field edit.

All line work is scribed, approved symbols are shown in the marginal data of the map.
A registration copy of each map is prepared. The registration copy shows additional offshore details such as shoal and shallow lines used by the Marine Chart Division but not required on the Coastal Zone Maps. This copy of the map is labeled "Registration Copy" in the title block.

The following items will be registered in the NOS Archives.

1. A stable base copy of the Registration Copy.

2. The Descriptive Report.

All negatives are filed in the Reproduction Division.

Field records such as field edit sheets, discrepancy prints, field edit photographs, and other field records are filed in the National Archives.
FIELD REMT

JOBS PH-7010 and PH-7113

In accordance with Instructions - FIELD - PH-7010, Aerotriangulation Control, and Instructions - FIELD - Job PH-7113; Horizontal Control for Aerotriangulation and Field Support for Aerial Photography; Coastal Boundary Mapping, Florida, the following report is submitted.

1. **HORIZONTAL CONTROL**

The two jobs are treated as one for report purposes, targets on Job PH-7010 being replaced in approximately the same positions as they were in November 1970.

Twenty-one stations were premarked for 1:30,000 scale color photography. Where feasible, Array No. 1 was used, being a 9-foot triangle with 3 runners or wing panels of 2 x 20 ft. dimensions. Several variations were used as the area is highly developed, particularly in the southern part, and space was not always available. The CSI cards are believed to be adequate to explain the variations but some discussion is in order.

From north to south the first 8 stations are Array No. 1 with varying degrees of angle between the wing panels.

POHFACTO 1928 was marked by a triangle painted on the macadam (station is in a parking area) over the station mark. Paint used was Pittsburg fluorescent TANGERINE (very close to what we call fire orange) and should show well on the color photographs. (This paint was used on two other stations and we would be interested to know how it turns out.) In addition, a white 9-ft. triangle was placed on top of a nearby flat-roofed building approximately 10 feet high, which is a substation.
HALLAND 1928 was marked by a painted target substation placed on the light brown sand of a public beach. We used a white plastic target and painted it. No room was available for wing panels at this small beach.

CAPE FLORIDA OLD TOWER FLNIAL 1883 was marked by a single white triangle. No room was available for wing panels.

CAUSEWAY 1934 was marked by a painted triangle placed on the west end of a bridge under construction. The bridge is real white and the color should show "like a light".

PAN AMERICAN 1935 was marked by 2 white triangles placed on the lower level of the 3-level, flat-topped building, one on the east side and one on the south. They are approximately 18 to 20 feet above ground. Two triangles were used "to be sure".

BLACK POINT 3 and NARROW POINT are in the water and approximately 50 feet offshore. Triangles were built over the station marks and about 3 feet above estimated mean high-water level. 8-foot squares were used as wing panels believing these would withstand more wind. The Commander of ESSA 88 reported these targets in good condition at time of bridging photography, only one wing panel being damaged.

All targets were taken up after photography except the two in the water. All were found in good condition, although we had to make repairs to a few during the period they were on the ground due to wind damage. Only station CLOISTER was vandalized and it was not bothered after it was replaced. This is rather remarkable considering some of the locations.

USGS quad maps showing approximate locations of targets have been submitted.

We were advised by the Commander of aircraft that Line 30-1, Job PH-7113, was photographed February 24 and the other lines on both Jobs on March 8.

2. **TIDE COORDINATED PHOTOGRAPHY**

As directed by telephone, the following nine tide
stations were manned.

(1) Lake Worth, Atlantic Ocean  
(2) Andrews Avenue Bridge, Fort Lauderdale  
(3) Bahia Mar Yacht Club, Fort Lauderdale  
(4) Port Everglades  
(5) Biscayne Creek, North Miami  
(6) Biscayne Bay, Miami  
(7) Biscayne Bay, Cutler  
(8) Biscayne Bay, Turkey Point  
(9) Card Sound

Photography obtained was based on the first seven gages. Lines 30-5 and 30-6 would have been based on TURKEY POINT and CARD SOUND. These lines were not photographed. Also, high-water only was obtained for line 30-4, based on CUTLER.

Recordings entered in the tide volumes, Form 277, were at 5 minute intervals near and during photography; otherwise 15 minute interval. Wet staff readings—crest, trough and mean—were recorded while photography was in progress. Tolerances of ±0.3 ft. for mean high-water and ±0.1 ft. for mean low-water were observed. Eastern Standard Time was used.

Photography was obtained on 2 days: Low-water February 24 and high-water March 2. Lines 30-1, 30-2 and 30-3 were flown at low-water. Lines 30-1, 30-2, 30-3, and 30-4 were flown at high.

Low-water photography Feb. 24. (Time furnished by Photographer.)

(1) Segment of Line 30-1 approximately 4 miles north and 4 miles south of Port Everglades inlet (or entrance) 1201 to 1210 hrs. based on PORT EVERGLADES staff reading of 1.7 ft.

(2) Line 30-1, based on LAKE WORTH PIER, photographed in its entirety from 1228 to 1241 hrs. when the tide reading was 1.4/1.3 ft.

(3) An 8 mile segment of line 30-1, based on BAHÍA MAR YACHT CLUB, was photographed at 1444 to 1449 hrs. when the tide staff read 1.7 ft.
(4) An 8 mile segment of line 30-1, based on ANDREWS AVENUE BRIDGE was photographed at 1511 to 1515 hrs., when the staff read 1.3 ft.

(5) Line 30-2, based on BISCAYNE BAY, MIAMI, and flown south to north, was photographed at 1259 to 1305 hrs., when the staff read 2.2 feet.

(6) Line 30-3, based on BISCAYNE BAY, MIAMI and BISCAYNE CREEK, NORTH MIAMI, flown south to north, was photographed at 1319 to 1324 hrs., when the BISCAYNE Bay, MIAMI staff read 2.1 and the BISCAYNE CREEK staff read 3.1, both ends of the line being with tolerance.

(7) Line 30-2 was then photographed again, based on BISCAYNE CREEK, NORTH MIAMI, and flown from north to south at 1330 to 1336 hrs when the staff reading was 3.1.

This ended the low-water photography.

High-water photography, March 2.

(1) Line 30-1, based on LAKE NORTH PIER, was photographed at 1039 to 1055 hrs., when the gage reading was 4.2 feet. However, we were advised that parts of this line were re-photographed at approximately 1144 to 1149 hrs. in the Miami Beach area and at 1242 to 1245 hrs. in the Hollywood area. Tide was within tolerance at all times.

(2) A segment of line 30-1, based on ANDREWS AVENUE BRIDGE (as well as BAHIA BAR and PORT EVERGLADES) was photographed at 1103 to 1106 hrs. with the camera end overlap setting at 80%.

(3) Line 30-2, based on BISCAYNE BAY, MIAMI and BISCAYNE CREEK, NORTH MIAMI, was photographed at 1254 to 1300 hrs. when the BISCAYNE BAY, MIAMI reading was 4.6 ft. and the BISCAYNE CREEK staff read 5.6 ft.

(4) Line 30.3, based on the same stations, was photographed at 1305 to 1311 with the staff readings unchanged from line 30-2.

(5) Line 30-4, based on BISCAYNE BAY, MIAMI and BISCAYNE BAY, CUTLER, was photographed at 1319 to 1325, when the MIAMI staff read 4.5 and CUTLER read 4.8 ft.

This ends the high-water photography.
3. FORESHORE PROFILES

Ten planetable beach profiles were run within the limits of Job PH-7113. They cover a linear distance of approximately 40 miles. The northerly one is at triangulation station POMPANO and the southernmost one is near the Cape Florida lighthouse on Key Biscayne. Mr. Phil Walbolt ran 7 of the 10 during the period of photography, basing tide stage on a nearby tide gage. The other 3 were similarly accomplished two or three days after photography, with information as to tide level being obtained from the Weather Service's remote recorder in Miami Beach via telephone, in 2 instances.

The procedure was to drive a stake to water level near shore and obtain the tide gage reading at that time by radio from a nearby gage. This elevation thus became the bench mark to determine the horizontal position of mean high- and mean low-water lines from a planetable setup. Points occupied were triangulation stations or recoverable photo-topo points. The planetable was oriented to magnetic north with azimuth to an identifiable point. One variation from this is at profile No. 7 where no distant azimuth was visible and the profile was laid out to parallel a beach groin that should be clearly visible on the low-water photographs.

No profiles were run in Job PH-7010 since the infrared photography was obtained several months ago.

In addition to sketches at some of the occupied points, USGS quad maps show the approximate locations of the profiles along with premark target locations.

Submitted 3/25/71

William H. Shearouse
William H. Shearouse
Chief, Photo Party 60

No planetable beach profiles were available at the time of compilation or review.
21. **Area Covered**

This report covers an area on the east coast of Florida immediately south of Hillsboro Inlet to the southwestern end of Plantation Key. Job PH-7113 and Job PH-7119 are combined in this one report because the southern portion of Job PH-7113 is included in the block adjustment of Job PH-7119.

Job PH-7113 consists of twenty (20) 1:10,000 scale sheets: TP-00416 through TP-00420, and TP-00422 through TP-00436.

Job PH-7119 consists of twelve (12) 1:10,000 scale sheets: TP-00444 through TP-00455.

Subsequent to the initial bridging in this area, three small areas were re-bridged using new photography. The reports are attached:

1. Port Everglades, Florida
2. Miami to Mangrove Point, Florida
3. Hollywood to Miami Beach, Florida

22. **Method**

Eleven (11) strips of photography were bridged using aerotriangulation methods. Tie points were made between strip No. 1 of PH-7113 and strip No. 2 of the Jupiter Inlet to Hillsboro Inlet, Florida report to the north of this area.

Due to the placement of control in relation to flight lines and due to large areas of water coverage, two block adjustments were made. Strip No. 2, No. 3, and No. 4 comprised one block. Strip No. 7, No. 9, No. 10, and No. 11 comprised the other block. Attached is a sketch showing the location of the strips and the blocks.

Image points were located to rectify photographs for orthophoto, nautical, and small craft charts. All points were drilled by the PUG method. Closure to control has been noted on the read-outs. A sketch is attached which shows the control used in the strip and block adjustments. All points were plotted on the Florida East Zone Plane Coordinate System using the Coradomat Plotter or the Calcomp Plotter.
Ratio points were located on twenty-eight (28) strips of infrared contact prints. Additional ratio points were located on contact prints which have a large portion of water coverage so that they could be individually enlarged to scale. A sketch showing the location of the infrared photographs is attached.

23. Adequacy of Control

The control was adequate. Horizontal control was pre-marked on strip No. 1, No. 2, No. 3, No. 4, No. 5, and No. 6. Because of the placement of flight lines in relation to control, it was necessary to extend Strip No. 5 one model past its terminal control station in order to have an area of common coverage with strip No. 6. Tie points were located in this area and tie point 544801 was used as a terminal control point for strip No. 6.

Most of the horizontal control for Strip No. 7, No. 8, No. 9, No. 10, and No. 11 was pre-marked for color photography which was flown on August 4, 1971, and August 11, 1971. This photography was not used for bridging. The positions of the pre-marked control stations were transferred, using PUG methods, to color infrared photography which was flown on March 5, 1973, and March 18, 1973.

The following control station positions were transferred from photographs 71L(C)8370 through 71L(0)8382:

- Irving 1971
- Mangrove (USE) 1930 Sub Point A
- Sands Cut RM2, 1849-1947 Sub station

The following control station positions were transferred from a roll of color photography which was not indexed (Spot No. 100-691A) LC-20:

- Rubi, 1930-1948 Reset
- Man, 1930
- Angelfish Key RM3, 1853
- Narrow Point, 1854
- Long Sound 1961
- Snipe Pt., 1934, substation
- Knowlison, 1935, substation
- Hull Key, 1852
- Rock Harbor 2, 1961
- Lower Sound Point, 1853 substation
- Sub Station, Key Largo Cable Visions Inc., Taller Mast, 1961
- Largo, 1962
- Low 2, RM2, 1934
- Planter 2, RM4
The following control station positions were transferred from photographs 72L(C)8691R thru 72L(C)8698R:

Tavernier 1935
Snake 1934 Sub. Sta.

Turkey Pt. 2, RM2 was transferred from photograph 71E(C)9595.

Cape Florida Old Tower Finial Sub Station A was transferred from photograph 71E(C)9201.

Lower Sound Point 1853 sbu. station was not used in the adjustment because the field party advised that it was questionable and should be used with caution. Sub. station Key Largo Visions, Inc., Taller Mast, 1961, could not be used because one of its azimuth stations (Key Largo Cable Visions, Inc. Shorter Mast) appears to have a bad published position. To date, this has not been resolved by the Geodesy Division. Turkey Point 2, RM2 was a very poor point to transfer, and, therefore, it was not used as control in the block adjustment in that area.

Part-way through the compilation phase of this project, it was determined that the published control positions in the area of this report were in error approximately -4 feet in X and -10 ft. in Y. Therefore, Strip No. 1, No. 2, No. 3, No. 4, No. 5, No. 6, and No. 8 are adjusted to the old published control positions. This area includes T-sheets TP-00416 through TP-00420 and TP-00422 through TP-00432.

Strip No. 7, No. 9, No. 10, and No. 11 are adjusted to new preliminary control positions which were furnished by Geodesy on May 29, 1974. Geodesy Division stated this preliminary control will be within one (1) foot of the final adjustment. They also said to base non-main scheme stations on the nearest main scheme stations. This was approved by the Coastal Mapping Division.

Since stations established in 1971 and later have positions which were determined by a different adjustment than stations which were established before 1971, it was necessary that the corrections for non-main scheme stations of 1971 and later be based on the new preliminary control of the nearest main scheme stations of 1971 and later. In like manner, pre-1971 non-main scheme stations are based on the amount of change of the nearest pre-1971 main scheme station.

The compiler was advised to make a graphic adjustment on TP-00430 so it will junction well with TP-00433. Also, TP-00432 should be graphically adjusted so it will junction well with TP-00433, TP-00434, and TP-00435.
A listing of closures to control is included on an attached sheet of control stations. The station with the largest residual is Narrow Point 1854, with 1.808 feet in X and 1.267 feet in Y.

24. **Supplemental Data**

USGS Topographic Quadrangles and NOS Nautical Charts were used to obtain vertical control for bridging.

25. **Photography**

The following RC-8 color photography was used for bridging:

**1:20,000 scale**

Strip No. 4 71E(C)9201-9215
Strip No. 8 73L(C)2871-2884R
Strip No. 9 73L(C)2893-2924R

**1:30,000 scale**

Strip No. 1 71E(C)9120-9135
Strip No. 2 71E(C)9562-9574
Strip No. 3 71E(C)9576-9586
Strip No. 5 71E(C)9536-9545
Strip No. 6 71E(C)9588-9602

**1:40,000 scale**

Strip No. 7 73L(C)2935-2945R
Strip No. 10 73L(C)2952-2968R
Strip No. 11 73L(C)2785-2797R

The quality and definition of the photography was adequate.

Respectfully submitted,

Victor McNeel

Approved and forwarded:

John D. Perrow, Jr.
Chief, Aerotriangulation Section
JOB PH-7113
AND
JOB PH-7119
HILLSBoro INLET
TO
PLANTATION KEY,
FLORIDA
CONTROL STATIONS
USED IN THE
ADJUSTMENTS
<table>
<thead>
<tr>
<th>No.</th>
<th>Code</th>
<th>Station Details</th>
<th>res. 1</th>
<th>res. 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>(027100)</td>
<td>Turtle 1929</td>
<td>-0.706</td>
<td>-0.115</td>
</tr>
<tr>
<td>2.</td>
<td>(023102)</td>
<td>Pompano, 1923, subpoint B</td>
<td>1.488</td>
<td>-0.229</td>
</tr>
<tr>
<td>3.</td>
<td>(029100)</td>
<td>South Jetty, 1938</td>
<td>-1.134</td>
<td>0.176</td>
</tr>
<tr>
<td>4.</td>
<td>(034101)</td>
<td>Halland, 1928</td>
<td>0.317</td>
<td>-0.007</td>
</tr>
<tr>
<td>5.</td>
<td>(567101)</td>
<td>Causeway, 1934</td>
<td>0.027</td>
<td>-0.012</td>
</tr>
<tr>
<td>6.</td>
<td>(562101)</td>
<td>Point View, 1934</td>
<td>0.000</td>
<td>-0.181</td>
</tr>
<tr>
<td>7.</td>
<td>(207100)</td>
<td>Base, 1934</td>
<td>0.112</td>
<td>0.142</td>
</tr>
<tr>
<td>8.</td>
<td>(204100)</td>
<td>Key Biscayne North Base, 1849</td>
<td></td>
<td>-0.158</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.033</td>
</tr>
<tr>
<td>9.</td>
<td>(201101)</td>
<td>Cape Florida Old Tower</td>
<td></td>
<td>-0.156</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Finial, subpoint A</td>
<td></td>
<td>0.002</td>
</tr>
<tr>
<td>10.</td>
<td>(538102)</td>
<td>Pan American, 1935, Target 2</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>11.</td>
<td>(534101)</td>
<td>Naco 1934, subpoint A</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>12.</td>
<td>(544801)</td>
<td>Tie point from strip #5</td>
<td></td>
<td>-0.157</td>
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<tr>
<td></td>
<td></td>
<td>used as control for strip #6</td>
<td></td>
<td>0.025</td>
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<tr>
<td>13.</td>
<td>(591100)</td>
<td>Black Point 3</td>
<td></td>
<td>0.351</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.066</td>
</tr>
<tr>
<td>14.</td>
<td>(595101)</td>
<td>Turkey Point No. 2, 1930, RM No. 2</td>
<td></td>
<td>-0.229</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.073</td>
</tr>
<tr>
<td>15.</td>
<td>(940100)</td>
<td>Narrow Point 1854</td>
<td>-1.808</td>
<td>1.267</td>
</tr>
<tr>
<td>16.</td>
<td>(602100)</td>
<td>Man 1930</td>
<td>0.222</td>
<td>-0.009</td>
</tr>
<tr>
<td>17.</td>
<td>(960100)</td>
<td>Long Sound, 1961</td>
<td>-0.168</td>
<td>-0.075</td>
</tr>
<tr>
<td>18.</td>
<td>(936101)</td>
<td>Snipe Point, 1934, substation</td>
<td>-0.215</td>
<td>-0.201</td>
</tr>
<tr>
<td>19.</td>
<td>(878101)</td>
<td>Irving, 1971, substation</td>
<td>0.687</td>
<td>-0.080</td>
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<tr>
<td>20.</td>
<td>(875102)</td>
<td>Mangrove (USE), 1930, subpoint B</td>
<td></td>
<td>-0.826</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>0.125</td>
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<tr>
<td>21.</td>
<td>(872101)</td>
<td>Sands Cut RM 2, 1849-1947 substation</td>
<td>0.296</td>
<td>-0.049</td>
</tr>
<tr>
<td>22.</td>
<td>(901100)</td>
<td>Rubi, 1930-1947, reset</td>
<td>-0.192</td>
<td>-0.134</td>
</tr>
<tr>
<td>23.</td>
<td>(905101)</td>
<td>Angelfish Key RM 3, 1853</td>
<td>-0.303</td>
<td>-0.242</td>
</tr>
<tr>
<td>24.</td>
<td>(914101)</td>
<td>Knowlson, 1935 substation</td>
<td>0.153</td>
<td>-0.155</td>
</tr>
<tr>
<td>25.</td>
<td>(919100)</td>
<td>Hull Key, 1852</td>
<td>-0.053</td>
<td>0.103</td>
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<tr>
<td>26.</td>
<td>(922100)</td>
<td>Rock Harbor 2, 1961</td>
<td>0.364</td>
<td>-0.284</td>
</tr>
<tr>
<td>27.</td>
<td>(022101)</td>
<td>Lower Sound Point, 1853 substation **</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28.</td>
<td>(923101)</td>
<td>Sub Station Key Largo Cable Visions Inc., Taller Mast, 1961 **</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29.</td>
<td>(924100)</td>
<td>Largo, 1962</td>
<td>-0.210</td>
<td>0.103</td>
</tr>
<tr>
<td></td>
<td>(967101) Low 2, RM 2, 1934</td>
<td></td>
<td>0.042</td>
<td>0.215</td>
</tr>
<tr>
<td>---</td>
<td>--------------------------</td>
<td>---</td>
<td>--------</td>
<td>--------</td>
</tr>
<tr>
<td>31</td>
<td>(692100) Tavernier, 1935</td>
<td></td>
<td>0.308</td>
<td>-1.325</td>
</tr>
<tr>
<td>32</td>
<td>(793101) Planter 2, RM 4</td>
<td></td>
<td>-1.476</td>
<td>1.087</td>
</tr>
<tr>
<td>33</td>
<td>(695101) Snake, 1934, subpoint</td>
<td></td>
<td>0.128</td>
<td>0.174</td>
</tr>
</tbody>
</table>

** means not used in adjustments
JOB PH-7113
AND
JOB PH-7119
HILLSBÖRO INLET
TO
PLANTATION KEY,
FLORIDA
INFRA-RED CONTACT
PRINTS RATIOED FOR
COMPILATION
INFRA-RED CONTACT PRINTS

1. 71K 5632R - 5660R MLW
2. 71K 5662R - 5672R MLW
3. 71K 5750R - 5766R MHW
4. 71K 5795R - 5806R MHW
5. 71K 5815R - 5829R MHW
6. 71L 8501R - 8509R MLW
7. 71L 8512R - 8520R MLW
8. 71L 8571R - 8580R MHW
9. 71L 8523R - 8530R MLW
10. 71L 8783R - 8791R MHW
11. 71L 8584R - 8593R MHW
12. 71L 8532R - 8537R MLW
13. 71L 9067R - 9080R MLW
14. 71L 8337R - 8341R MHW
15. 72K 6287R - 6298R MHW
16. 72K 6572R - 6584R MLW
17. 72K 6546R - 6563R MLW
18. 72K 6311R - 6330R MHW
19. 71L 8544R - 8559R MLW
20. 71L 8648R - 8662R MLW
21. 72K 6480R - 6499R MHW
22. 71L 8697R - 8705R MHW
23. 72K 6344R - 6350R MLW
24. 72K 6253R - 6255R MLW
25. 72K 6420R - 6423R MHW
26. 72K 6501R - 6515R MHW
27. 72K 6368R - 6382R MLW
28. 71K 5847R - 5856R MHW
<table>
<thead>
<tr>
<th>Station</th>
<th>NOS Geodetic Data Reference for Description, Positions, Coordinates and Azimuths</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLACK POINT 2 1930</td>
<td>Book 424, P.1,29; GP Fla. Vol. 1 P.386; FC Fla. E. Zone P. 101</td>
</tr>
<tr>
<td>BLACK POINT 3 1930</td>
<td>Book 424, P. 1,2,29,35; GP Fla. Vol. 1 P.389; FC Fla. E. Zone P. 101</td>
</tr>
</tbody>
</table>
31. Delineation

The tidal datum lines were delineated from tide-coordinated black-and-white infrared photography. This photography was controlled by planimetric features common to the rectified color infrared photography and map points determined by aerotriangulation. The color infrared photography was used as an aid in the interpretation and delineation of cultural shoreline.

Interior details were compiled from the rectified color infrared photography.

32. Control

Horizontal control was adequate. (See Photogrammetric Plot Report.)

33. Supplemental Data - None

34. Contours and Drainage

Contours are inapplicable. Drainage was compiled from color infrared photography.

35. Shoreline and Alongshore Detail

The tide-coordinated, black-and-white infrared photography was adequate for the delineation of the mean high water line and the mean low water line.

36. Offshore Details

Offshore details beyond the limits of photography will be located by field edit.

37. Landmarks and Aids

No landmarks or non-floating aids were located during compilation.

38. Control for Future Surveys - None
39. **Junctions**

Refer to Form 76-36B (Data Record).

40. **Horizontal and Vertical Accuracy**

This map complies with the accuracy standards as outlined by Project Instructions PH-7000 for the Florida Coastal Zone Mapping Program.

41. thru 45. Inapplicable.

46. **Comparison with Existing Maps**

A comparison was made with the following USGS quadrangle:

Perrine, Florida, 1:24,000 scale, 1956.

47. **Comparison with Nautical Charts**

A comparison was made with the following C&GS Charts:

848, 14th Edition, April 7, 1973, 1:40,000 scale;

Significant differences were noted in the built-up areas along Black Creek and cultural enlargement of the Cutler Ridge and Franjo townships.

Submitted by,

[Signature]

Approved and forwarded by:

[Signature]

J.F. Battley, Jr.
Chief, Coastal Mapping Section
Field Edit Report
Map TP-00429
Job PH-7113

51. Methods

The shoreline of Biscayne Bay was inspected from a small boat while cruising just offshore. Notes regarding apparent and fast shoreline, piers, and other shoreline features were made on the rectified photographs.

A number of uncharted wrecks were located. A wreck located approximately at latitude 25°33.3' longitude 80°17.7' was not fixed solid in the bottom of the bay and will move from its position as located on January 27, 1975.

A three-point fix was taken from the deck of a wreck located on Featherbed Banks. This fix was also used to locate wrecks on this manuscript and aids on the joining manuscripts. The data for the fix will be forwarded as part of one of the joining manuscripts. The fix was computed with a check of 0.3 ft.

There are no landmarks, aids, or tide gages on this manuscript.
Two triangulation stations were recovered.
Five geodetic bench marks were identified.

The field edit for this manuscript was completed in January 1975 except for the wrecks located by the 3-point fix on Featherbed Banks.

Field edit notes will be found on the discrepancy print, field edit sheet, and the photographs.

52. Adequacy of Compilation
Adequate after application of field edit.

53. Map Accuracy - No test required.

54. Recommendation - None

55. Examination of Proof Copy - Not required

Submitted by

[Signature]
Robert R. Wagner
Chief, Photo Party 60
May 7, 1975
Remarks: Application of Field Edit, TP-00429

The six shoal areas located in the southeast portion of this map and the junction with TP-00430 were compiled from the NASA photography listed on Form 76-36B. A wreck located on this map and the non-floating aids (Featherbed Bank) on TP-00430 were used to control this photography. The positions of the wreck and non-floating aids were determined by field methods during field edit.

Interior details were compiled after the field edit operation and are from office interpretation of the color infrared photography.
GEOGRAPHIC NAMES

FINAL NAME SHEET

Ph-7113 (Biscayne Bay, Florida)

TP-00429

Biscayne Bay
Biscayne National Monument (protected area)
Black Creek
Black Hedge
Black Point
Cutler Ridge
Fender Point
Franjo
Goulds Canal

Approved by:

Chas. E. Harrington
Staff Geographer-C51x2
Review Report
Coastal Zone Map TP-00429
May 1976

61. General

The map manuscript for Coastal Zone Map TP-00429 was inspected as a Class III map (compilation, discrepancy print, and report) and reviewed as a Class I map by the Quality Control Group. The review consisted of an examination of the map manuscript, the field edit, and its application, the reproduction negatives, and the Descriptive Report.

The proof copy of this map was edited by the Quality Control Group before making final copies. This edit comprised a thorough inspection of map details to verify the accuracy of reproduction with reference to the map manuscript and the quality of reproduction. In addition, the proof copy was examined by the following sections:

- Coastal Mapping - map details
- Staff Geographer - geographic names
- Coastal Surveys - horizontal and vertical control

62. Cartographic Comparison

Comparison was made with the following USGS quadrangle map at a scale of 1:24,000:

- Perrine, Florida, dated 1956, photorevised 1969

Comparison was made with the following Nautical Charts:


Chart 848 shows rocks awash in the shoal areas in the vicinity of Featherbed Bank (TP-00430) and areas located in the northeastern portion of the map. These areas were investigated by the field editor and no rocks awash were found.

Photography did not cover the northeast portion of this map in the vicinity of Black Ledge. The field editor reported two areas that uncover at MLW. Since no photography was available and the limits were not furnished by the field editor they are not mapped.
63. thru 65. Inapplicable.

66. Adequacy of Results and Future Surveys

Coastal Zone Map TP-00429 complies with the Instructions for NOS Cooperative Boundary Mapping, Job PH-7000, and the National Standards of Map Accuracy.

Submitted by,

[Signature]

Donald M. Brant

Approved and forwarded:

[Signature]

Chief, Photogrammetric Branch

[Signature]

Chief, Coastal Mapping Division
Discrepancy print
Field edit sheet (stable base)
Page sextant fixes

Photography:
71L8574R
72K6406
73E9027R, 9029R