**DESCRIPTIVE REPORT**

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<td>PH-6402</td>
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<tr>
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<tr>
<td>SHORELINE</td>
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**LOCALITY**

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<th>State</th>
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<tr>
<td>HAWAII</td>
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<tr>
<td>HAWAII ISLAND, WEST COAST KAILUA TO SOUTH CAPE</td>
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<table>
<thead>
<tr>
<th>Locality</th>
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<tbody>
<tr>
<td>KEALAKEKUA BAY</td>
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</table>

**1963 TO 1972**

**REGISTRY IN ARCHIVES**

**DATE**
**DESCRIPTIVE REPORT - DATA RECORD**

**PHOTOGRAMMETRIC OFFICE**
Coastal Mapping Div.
Atlantic Marine Center, Norfolk, VA

**OFFICER-IN-CHARGE**
R. Matsushige

---

**I. INSTRUCTIONS DATED**

<table>
<thead>
<tr>
<th>1. OFFICE</th>
<th>2. FIELD</th>
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<tbody>
<tr>
<td>Compilation Oct. 28, 1969</td>
<td>Control/ Field Inspection May 8, 1964</td>
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<tr>
<td>Amendment 1 Jan. 3, 1973</td>
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<tr>
<td>Memo Sept. 1, 1978</td>
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**II. DATUMS**

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<th>1. HORIZONTAL:</th>
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<tr>
<td>☑ MEAN LOW-WATER</td>
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<tr>
<td>☑ MEAN LOWER LOW-WATER</td>
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<td>☑ MEAN SEA LEVEL</td>
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**III. HISTORY OF OFFICE OPERATIONS**

<table>
<thead>
<tr>
<th>OPERATIONS</th>
<th>LANDMARKS AND AIDS BY</th>
<th>NAME</th>
<th>DATE</th>
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<tr>
<td>1. AEROTRIANGULATION</td>
<td></td>
<td>J. Perrow</td>
<td>June 1969</td>
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</tr>
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<td>PLOTTED BY</td>
<td>J. Perrow</td>
<td>June 1969</td>
</tr>
<tr>
<td>METHOD: Coradomat</td>
<td>CHECKED BY</td>
<td>J. Perrow</td>
<td>June 1969</td>
</tr>
<tr>
<td>3. STEREOSCOPIC INSTRUMENT</td>
<td>PLANIMETRY BY</td>
<td>A. Shands</td>
<td>Dec. 1969</td>
</tr>
<tr>
<td>COMPIILATION</td>
<td>CHECKED BY</td>
<td>R. Pate</td>
<td>Dec. 1969</td>
</tr>
<tr>
<td>INSTRUMENT: Wild B-8</td>
<td>CONTOURS BY</td>
<td>N.A.</td>
<td></td>
</tr>
<tr>
<td>SCALE: 1:5,000</td>
<td>CHECKED BY</td>
<td>N.A.</td>
<td></td>
</tr>
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<td>4. MANUSCRIPT DELINEATION</td>
<td>PLANIMETRY BY</td>
<td>A. Shands</td>
<td>Dec. 1969</td>
</tr>
<tr>
<td>METHOD: Smooth drafted</td>
<td>CHECKED BY</td>
<td>R. Pate</td>
<td>Mar. 1972</td>
</tr>
<tr>
<td>SCALE: 1:5,000</td>
<td>HYDRO SUPPORT DATA BY</td>
<td>N.A.</td>
<td>Mar. 1972</td>
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<tr>
<td>CHECKED BY</td>
<td></td>
<td>A. Shands</td>
<td>Dec. 1969</td>
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<td>R. Pate</td>
<td>Mar. 1972</td>
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<td></td>
<td></td>
<td>R. Minton</td>
<td>Apr. 1974</td>
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<td></td>
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<td>C. Vanderhaven</td>
<td>Apr. 1974</td>
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<td>J. Hancock</td>
<td>Apr. 1974</td>
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<td>5. OFFICE INSPECTION PRIOR TO FIELD EDIT</td>
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<td>6. APPLICATION OF FIELD EDIT DATA</td>
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<td></td>
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<td>7. COMPILATION SECTION REVIEW</td>
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<td>8. FINAL REVIEW</td>
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<td>9. DATA forwarded TO PHOTOGRAMMETRIC BRANCH</td>
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<td>10. DATA EXAMINED IN PHOTOGRAMMETRIC BRANCH</td>
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<tr>
<td>11. MAP REGISTERED - COASTAL SURVEY SECTION</td>
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</table>

---

NOAA FORM 76-36A
SUPERSEDES FORM G&GS 181 SERIES

U.S. G.P.O. 1972-769382/582 REG. #6
1. COMPILATION PHOTOGRAPHY

CAMERA: Wild RC-8 "E" & "S"
E=152.71mm, S=152.29mm

TIDE STAGE REFERENCE

- PREDICTED TIDES
- REFERENCE STATION RECORDS
- TIDE CONTROLLED PHOTOGRAPHY

<table>
<thead>
<tr>
<th>NUMBER AND TYPE</th>
<th>DATE</th>
<th>TIME</th>
<th>SCALE</th>
<th>STAGE OF TIDE</th>
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</thead>
<tbody>
<tr>
<td>63S(C) 8136-8139**</td>
<td>Sept.1,1963</td>
<td>10:24</td>
<td>1:15,000</td>
<td>1.0 Ft, above MLLW</td>
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<tr>
<td>69E(C) 9334-9336**</td>
<td>Mar.13,1969</td>
<td>09:53</td>
<td>1:15,000</td>
<td>1.1 Ft, above MLLW</td>
</tr>
<tr>
<td>63S(C) 8073-8074*</td>
<td>Sept.1,1963</td>
<td>09:13</td>
<td>1:30,000</td>
<td>0.4 Ft, above MLLW</td>
</tr>
</tbody>
</table>

REMTHS

*Bridging photographs, **Compilation/hydro support photographs

2. SOURCE OF MEAN HIGH-WATER LINE:

The mean high water line was compiled from office interpretation of the compilation photographs using stereo instrument and graphic methods.

3. SOURCE OF MEAN LOWER LOW-WATER LINE:

No mean lower low water line was compiled

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>
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<tbody>
<tr>
<td>H-9308</td>
<td>1972</td>
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<td>H-9346</td>
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5. FINAL JUNCTIONS

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<th>EAST</th>
<th>SOUTH</th>
<th>WEST</th>
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<tbody>
<tr>
<td>None</td>
<td>T-12547</td>
<td>T-12547</td>
<td>T-12546</td>
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</table>

REMARKS

This inset map is contained within portions of 1:10,000 scale maps T-12546 and T-12547.
**HISTORY OF FIELD OPERATIONS**

1. **FIELD INSPECTION 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>R. Newsom</td>
<td>Feb.-Sept. 1964</td>
</tr>
<tr>
<td>2. HORIZONTAL CONTROL</td>
<td>Cline</td>
<td>Sept. 1964</td>
</tr>
<tr>
<td>3. VERTICAL CONTROL</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>4. LANDMARKS AND AIDS TO NAVIGATION</td>
<td>E. Cline</td>
<td>Sept. 1964</td>
</tr>
</tbody>
</table>

**SOURCE DATA**

1. **HORIZONTAL CONTROL IDENTIFIED**
   - None

2. **VERTICAL CONTROL IDENTIFIED**
   - None

**PHOTO INSPECTION**

- CLARIFICATION OF DETAILS BY: E. Cline Aug/Sept 1964

**BOUNDARIES AND LIMITS**

- SURVEYED OR IDENTIFIED BY: N.A.

**PHOTO NUMBERS (Clarification of details)**

- 63(S) 8085, 8086 (1:30,000 scale matte contacts)

**LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED**

<table>
<thead>
<tr>
<th>PHOTO NUMBER</th>
<th>OBJECT NAME</th>
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<tbody>
<tr>
<td>63(S) 8085</td>
<td>Napoopoo Light</td>
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<tr>
<td></td>
<td>Cooks Monument</td>
</tr>
</tbody>
</table>

**GEOGRAPHIC NAMES:**

- REPORT: None

**BOUNDARY AND LIMITS:**

- REPORT: None

**SUPPLEMENTAL MAPS AND PLANS**

- None

**OTHER FIELD RECORDS (Sketch books, etc. DO NOT list data submitted to the Geodetic Division)**

- 1 Project field report
# HISTORY OF FIELD OPERATIONS

## I. FIELD INSPECTION OPERATION

<table>
<thead>
<tr>
<th>OPERATION</th>
<th>NAME</th>
<th>DATE</th>
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<tbody>
<tr>
<td>CHIEF OF FIELD PARTY</td>
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<td>S. Hollingshead</td>
<td>Sept. 1972</td>
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<tr>
<td>VERTICAL CONTROL</td>
<td>None</td>
<td>None</td>
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<td>S. Hollingshead</td>
<td>Sept. 1972</td>
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<td>S. Hollingshead</td>
<td>Sept. 1972</td>
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<td>BOUNDARIES AND LIMITS</td>
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## II. SOURCE DATA

1. HORIZONTAL CONTROL IDENTIFIED: None
2. VERTICAL CONTROL IDENTIFIED: None

### 3. PHOTO NUMBERS (Clarification of details)

- 63(S) 8138 (Matte ratio, 1:5,000 scale)

### 4. LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED

<table>
<thead>
<tr>
<th>PHOTO NUMBER</th>
<th>OBJECT NAME</th>
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</thead>
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<td>63(S)8138</td>
<td>Napoopoo Light</td>
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<tr>
<td></td>
<td>Cooks' Monument</td>
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</tbody>
</table>

## 5. GEOGRAPHIC NAMES:

- REPORT: None

## 6. BOUNDARY AND LIMITS:

- REPORT: None

## 7. SUPPLEMENTAL MAPS AND PLANS

None

## 8. OTHER FIELD RECORDS (Sketch books, etc. DO NOT list data submitted to the Geodesy Division)

1. Field edit paper print
2. Field edit report
3. Form 76-40
### I. MANUSCRIPT COPIES

<table>
<thead>
<tr>
<th>Compilation Stages</th>
<th>Date</th>
<th>Remarks</th>
<th>Marine Charts</th>
<th>Hydro Support</th>
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<td>Compilation complete pending field edit</td>
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<td>Class II manuscript</td>
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<td>July 1972</td>
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<tr>
<td>Field edit applied, compilation complete</td>
<td>Apr. 1974</td>
<td>Class I manuscript</td>
<td>June 1980</td>
<td>May 1974</td>
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### II. LANDMARKS AND AIDS TO NAVIGATION

1. **REPORTS TO MARINE CHART DIVISION, NAUTICAL DATA BRANCH**

<table>
<thead>
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<th>Chart Letter Number Assigned</th>
<th>Date Forwarded</th>
<th>Remarks</th>
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<tr>
<td>2</td>
<td></td>
<td>June 1980</td>
<td>Landmarks &amp; Aid. for Charts</td>
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</table>

2. **REPORT TO MARINE CHART DIVISION, COAST PILOT BRANCH. DATE FORWARDED:** June 1980

3. **REPORT TO AERONAUTICAL CHART DIVISION, AERONAUTICAL DATA SECTION. DATE FORWARDED:** None

### III. FEDERAL RECORDS CENTER DATA

1. **BRIDGING PHOTOGRAPHS:**
   - **DUPLICATE BRIDGING REPORT:**
   - **COMPUTER READOUTS:**

2. **CONTROL STATION IDENTIFICATION CARDS:**
   - **FORM NO. 507 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

(Start section shall be completed each time a new map edition is registered)

<table>
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<td>Date of Field Edit</td>
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<td>Date of Photography</td>
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<tr>
<td>Date of Photography</td>
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NOAA FORM 76-36D
JOB PH-6402
SHORELINE MAPPING
HAWAII IS. WEST COAST
KAILUA TO SOUTH CAPE
SCALE 1:10,000

OFFICIAL MILEAGE FOR COST ACCOUNTS

<table>
<thead>
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<tr>
<td>T-12548</td>
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<td>T-13312</td>
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Total 46
SUMMARY TO ACCOMPANY
DESCRIPTIVE REPORT

T-11796

This 1:5,000 scale Final Field Edited Inset Map is one of nineteen maps that comprise PH-6402, Hawaii Island, West Coast, Kailua to South Cape. The project consists of sixteen 1:10,000 scale maps (T-12546 thru T-12561) and three 1:5,000 scale inset maps (T-11796, T-11797, T-13312).

The purpose of this map was to furnish data in support of hydrographic operations and to provide current shoreline data for marine charts.

This map provides a large scale portrayal of Kealakekua Bay and vicinity. This inset map is contained within the northern segment of maps T-12546 and T-12547.

Photo coverage for the project was adequately provided in August/September 1963 using the Wild RC-8 "S" camera. Photography consisted of 1:30,000 scale panchromatic photographs used for field inspection, aerotriangulation, and compilation. Color photographs at 1:15,000 scale were obtained for compilation and hydro support. Additional color photographs at 1:15,000 scale were obtained in March 1969 with the Wild RC-8 "E" camera. These supplemental photographs were used to compile inset maps T-11796 and T-11797. The stage of tide for all project photographs was based upon predicted tide data. No infrared photographs were provided.

Field work prior to aerotriangulation consisted of the recovery and establishment of horizontal control by photoidentification methods. In addition, a field inspection was performed for the project area utilizing the 1:30,000 scale contact photographs. This activity was conducted in February thru September 1964 in conjunction with adjoining project PH-6401.

Analytic aerotriangulation for the 1963 photography was adequately provided by the Washington Science Center in June 1969. Tie points from photo strip #4 contained in adjoining project PH-6401 were included in this bridge. Results from the bridge were used indirectly to control this inset map. Since the 1969 photographs, used to compile this map, were not included in the bridge, compilation was task with determining control common to the 1963 and 1969 photography. During the compilation of the common smaller scale map T-12547, sufficient pass points were established by stereo instrument methods to adequately control the 1969 photographs. Aerotriangulation activity included ruling the base manuscript and also provided ratio prints of the 1963 and 1969 photographs for compilation and hydrographic/field edit operations.

Compilation for this inset map was performed at the Coastal Mapping Section, Atlantic Marine Center in March 1972. The primary source of compilation was the 1969 color photographs; however, the field inspected
1963 bridging photographs and the 1963 color photographs were used to supplement the photointerpretation. Copies of the initial compilation and hydrographic support data were forwarded to the hydrographer for field edit.

Field edit was conducted in conjunction with hydrographic survey H-9308 by NOAA Ship RAINIER personnel in September 1972.

Application of field edit was completed at the original compilation office in April 1974 and the manuscript was advanced to Class I. Map copies were submitted to the hydrographer for smooth sheet application.

Final review was performed at the Atlantic Marine Center in April 1987. A comparison was made with the common hydrographic surveys and nautical chart. The original base manuscript and related data along with a final Chart Maintenance Print and a Hydrographic Print were forwarded to the Washington Science Center for registration and distribution.
FIELD INSPECTION
T-11796

Field activity prior to compilation included a field inspection of the shoreline and the recovery/photoidentification of horizontal control necessary for project aerotriangulation. Field inspection consisted of an evaluation of the 1963 1:30,000 scale contact photographs. The 1969 photographs used to compile this manuscript were not field inspected.
Memorandum

TO: Chief, Photogrammetric Field Operations
THRU: Honolulu Field Officer

FROM: Lt(jg) Edward P. Cline

DATE: August 5, 1964

SUBJECT: Control Identification Project No. 21413

No problems were found in the control identification on Project 21413. The following is a list of the stations identified on the various Flight Lines:

FLIGHT STRIP NO. 5
WAIKAKUU, 4, 1951
KAPUKANAA, 1884
OEPEUUPUU, 1890

FLIGHT STRIP NO. 6
KAMOI, 1948
NA PUU a PELE, 1891
PUU KI, 1914
TANK, 1948
Supplemental Station Pricked:
KAUNA POINT LIGHT, 1949

FLIGHT STRIP NO. 7
KALAE 2, 1948
PALAHEMO 1898
KAMILE, 1898
KIPAEPAE, 1898
Supplemental Stations Pricked:
KALAE LIGHT, 1948
KALAE, 1887
MAHANA, 1898

The ratio prints provided by the Washington Office were of great assistance in the identification of the stations and they were very well placed.

Edward P. Cline
Photogrammetric Plot Report
Hawaii Island, Hawaii
PH-6402

June 10, 1969

21. Area Covered

This project extends along the southwest shore of Hawaii Island. It includes T-sheets 12546 through 12561 at 1:10,000 and T-sheets 11796, 11797 and 13332 at 1:5,000. This project joins PH-6401 which extends along the north-west shore of the island.

22. Method

Strips were bridged on the stereoplanigraph and adjusted by IBM 1620 methods. Strip #4 discussed in the report for PH-6401. Strip #10 was adjusted on five triangulation stations with tie points from Strips #4 and #11 as checks. Strip #11 was adjusted on five stations with one station and tie points as checks. The adjustment of Strip #12 met with considerable problems. These problems were due to control identification on stations KAMIL0, KIFAPAE on the northeast end of the strip. Points were dropped from Strip #11 to enable model 63-S-7964 and 7965 to be set, thus enabling T-sheet 12561 to be completed.

T-sheets 12559 and 12560 must await further field work. Difficulties were also experienced in bridging Strip #13. This problem was resolved by dropping enough points from Strips #4 and #10 to set individual models between 63-S-8080 and 8085. All points between strips were averaged. Points were drilled by using the Wild PUG.

23. Adequacy of Control

Control provided by the field was adequate. The following stations could not be held in the bridging adjustments.

1. KEEI SOUTH BASE, 1948, SS #1 and SS #2, could not be held in Strip #13, as was the case of Strip #4 in PH-6401. No reasons could be determined for the lack of adjustment with other points.
2. KAMISO, 1949 and SS #1  3. KIPAEPAE, 1948 and SS #1. Problems with these two stations could not be resolved. Re-identification of the stations is planned at the same time that work continues to the east.

4. McANDREWS, 1948 SS #1 and SS #2 although held in the bridging could be seen on only one photograph in Strip #10 due to cloud coverage.

24. Supplemental Data

Ratio prints will be provided to aid in compilation. Local USGS quads were used to provide vertical points needed for the strip adjustment program.

25. Photography

Photography was not adequate to provide coverage of the 1:5,000 scale sheets. This inadequate coverage was caused by a change in the limits of the 1:5,000 areas after bridging was nearing completion. Photography was adequate in regard to definition and overlap.

Submitted by,

John D. Perrow, Jr.

Approved by,

Henry P. Eichert
Chief, Aerotriangulation Section
The following points should be used in setting individual models along Strips #12 and #13.

(1) **63-S-7964-7965**
Points 68803, 68804, 67100, 67101, 64100, 64101, 64102 and 64103.

(2) **63-S-8080-8081**
Points 22330, 23310, 23800, 23801

(3) **63-S-8081-8082**
Points 77331, 78333, 22801, 23800, McCANDLESS SS #1 and SS #2

(4) **63-S-8082-8083**
Points 76331, 77331, 77333

(5) **63-S-8083-8084**
Points 75331 HONAUNAU ST. BENEDICT CATH. CH. SPIKE, 1948 plus points dropped from model 8082-8083.

(6) **63-S-8084-8085**
Points 75331, 75333 plus points dropped from model 8083-8084.

Plates 63-S-7821 and 7824 were not used in bridging Strip #10.

Plates 63-S-7976, 7978, 7880, 7982 and 7984 were not used in Strip #11.
Photogrammetric Plot Report
PH-6401
Hawaii Island, Hawaii
Feb. 4, 1969

21. Area Covered

The area covered by this report is along the northwest coast of Hawaii Island. T-sheets in this area are numbered 12534 thru 12541, 12542, and 12545 at 1:10,000 scale. T-sheets 12542, 12544, 12635, 13131 and 13132 at 1:5,000 scale. Sheets T-12527 thru 12533 and 13154 were covered by a previous report on Strips #1 and #2.

22. Method

All strips were bridged on the stereoplanigraph and adjusted by IBM 1620 methods. Strip #3 was adjusted on four stations with two additional stations as checks. Strip #4 was adjusted on seven stations with two additional stations as checks. Strip #6 was adjusted on two control points plus 7 tie points. Strip #7 was adjusted on one control station and three tie points. Strip #8 was adjusted on three control stations and three tie points. All tie points between strips were averaged. Points were drilled using the Wild PUG.

23. Adequacy of Control

The control provided by the field was adequate after reidentification of Anaehoomalu 1913, Lana Cone, 1913 and the identification of Hand, 1928 and Nawai 1928. The following stations could not be held in the bridging adjustments.

1. LAVA CONE, 1913, SS #A and SS #B ("NEAR"). By holding four triangulation stations and floating substitute stations "NEAR A AND B", a 1 ft. check was achieved between these substitute stations and placed LAVA CONE, 1913 80 ft. north of survey mark "NEAR" and on the high point of the immediate area. This bares out the field recovery note for station LAVA CONE 1913 that the survey mark "NEAR" and intersection station LAVA CONE, 1913 are not one and the same. Geodesy Division has been notified of our findings and the bridging information added to their files.

2. KEFI SOUTH BASE, 1948 SS #1 and SS #2 could not be held in Strip #4 by 11' and 16' respectively. It is believed these errors are due to bad identification, since seven other stations were held in the adjustment. This station falls in Strip #4 but is outside of the PH-6401 area of compilation.
24. **Supplemental Data**

Local USGS quads were used to provide vertical points needed for the strip adjustment program.

25. **Photography**

Photography was not adequate to provide coverage of the 1:5,000 scale sheets with the exception of T-12542. This inadequate coverage was caused by a change in the limits of the 1:5,000 areas after bridging was nearing completion. Photography was adequate in regard to definition and overlap.

Submitted by,

[Signature]

John D. Perrow, Jr.

Approved by,

[Signature]

Henry P. Eichert
Chief, Aerotriangulation Section

per phone call John Perrow 3/5/69
Old Hawaiian Datum
<table>
<thead>
<tr>
<th>STATION NAME</th>
<th>SOURCE OF INFORMATION (Index)</th>
<th>AEROGRID ANGULATION POINT NUMBER</th>
<th>COORDINATES IN FEET</th>
<th>GEOGRAPHIC POSITION</th>
<th>ORIGINATING ACTIVITY</th>
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</thead>
<tbody>
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<td>G.P.</td>
<td></td>
<td>x=</td>
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<td>Coastal Mapping Section, AMC</td>
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<td></td>
<td>Pg. 34</td>
<td></td>
<td>y=</td>
<td>λ 155° 56' 21.592&quot;</td>
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<tr>
<td>NAPoopoo, KAHIKOLU CHURCH, SPIRE, 1913</td>
<td>G.P.</td>
<td></td>
<td>x=</td>
<td>Φ 19° 28' 21.182&quot;</td>
<td></td>
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<tr>
<td></td>
<td>Pg. 34</td>
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<td>y=</td>
<td>λ 155° 55' 05.795&quot;</td>
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</tr>
</tbody>
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COMPUTED BY A. C. Rauck, Jr.  DATE 8-4-69
COMPUTATION CHECKED BY  DATE
LISTED BY DATE
LISTING CHECKED BY  DATE
HAND PLOTTING BY DATE
HAND PLOTTING CHECKED BY  DATE

SUPERSEDES NOAA FORM 76-41. 2-71 EDITION WHICH IS OBSOLETE.
31. **DELINEATION:**

Delineation was accomplished by stereo instrument methods using the 1969 1:15,000 scale compilation photographs. Ratio prints of the 1:15,000 scale 1963 photographs along with the 1969 photographs were used graphically to supplement the compilation of minor detail and to assist in photointerpretation. Field inspected data, annotated on the 1963 1:30,000 bridging photographs, was applied where the features could be accurately identified and transferred to the 1969 compilation photographs. Individual rocks that could not be clearly identified were not compiled.

Photo coverage and quality were adequate.

32. **CONTROL:**

Control for this sheet was established by instrument compilation methods from the common 1:10,000 scale manuscript T-12547. When map T-12547 was compiled from 1963 photographs, common points were established on the 1969 photography and the positions were plotted on this manuscript. Refer to the Office Instruction dated October 28, 1969-Item 5.08 and Photogrammetric Plot Reports dated February 4, 1969 (PH-6401) and June 10, 1969.

33. **SUPPLEMENTAL DATA:**

None.

34. **CONTOURS AND DRAINAGE:**

Contours are inapplicable. Drainage was delineated from the compilation photographs.

35. **SHORELINE AND ALONGSHORE DETAILS:**

The shoreline, coral and foul limits were delineated from office interpretation of the 1969 compilation photographs and from the annotated 1963 photographs resulting from the precompilation field inspection. Because of the small tide range, no mean lower low water line was compiled.

36. **OFFSHORE DETAILS:**

Compilation of offshore detail was performed as described in Item 31.
37. **LANDMARKS AND AIDS:**
   
   Appropriate data was prepared for field edit.

38. **CONTROL FOR FUTURE SURVEYS:**
   
   None.

39. **JUNCTIONS:**
   
   Refer to the Data Record Form 76-36B, Item 5.

40. **HORIZONTAL AND VERTICAL ACCURACY:**
   
   Refer to this report, Item 32.

46. **COMPARISON WITH EXISTING MAPS:**
   
   A comparison was made with USGS quadrangle Honaunau, Hawaii, dated 1959, scale 1:24,000.

47. **COMPARISON WITH NAUTICAL CHARTS:**
   
   A comparison was made with C. & G.S. Charts:
   4123, 2nd edition, scale 1:10,000, June 12, 1967
   4140, 3rd edition, scale 1:80,000, January 24, 1966.

**ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY:**

None.

**ITEMS TO BE CARRIED FORWARD:**

None.

Submitted by:

[Signature]

Arnold L. Shands
Cartographer
December 1969

Approved:

[Signature]

Albert C. Rauck, Jr.
Chief, Coastal Mapping Section
ADDENDUM TO THE COMPILATION REPORT

T-11796

Field edit was performed in conjunction with hydrographic surveys H-9308 and H-9346 in September 1972. Field edit did not resolve the difference between the published and photo position for Captain Cook's Monument and Napoopoo Light. The photo position for both features were submitted on the 76-40 forms. The manuscript was advanced to Class I.
GEOGRAPHIC NAMES

FINAL NAME SHEET

PH-6402 Hawaii

T-11796

Captain Cook----(Not Compiled)
Cook Point
Cocks Monument
Island of Hawaii
Kaawaloa
Kaawaloa Cove
Kealakekua Bay
Kanini Beach
Napoopoo
Napoopoo Lighthouse
Napoopoo Park
Pacific Ocean

Approved by:
A. Joseph Wright
Chief Geographer

Prepared by:
Frank W. Pickett
Cartographic Technician
FIELD EDIT REPORT
OPR-419, 1972
T-12539 through T-12550
T-12392 T-11996
Kona Coast, Hawaii

NOAA Ship RAINIER
CAPT G.E. HARADEN
Commanding
INTRODUCTION - METHODS

Field edit was accomplished between 14 September and 26 October 1972 by personnel of the NOAA Ship RAINIER. Work was performed from a 16 foot skiff. Landings were made where necessary to verify shoreline character.

The field edit started approximately 0.4 mile northeast of Puialoa Point, Hawaii and extended southward to Puaa Point (see appendix). Editing was completed on Manuscripts T-12539, T-12540, T-12541, T-12542, T-13382, T-12543, T-12544, T-12545, T-11796, T-12546, T-12548, and T-12549. Field edit was begun but not completed on Manuscript T-12550. No field edit was done on Manuscripts T-12547 and T-11797.

All additions and corrections were noted in purple on the field edit ozalids. Deletions were accented in green. Photos used in this edit were from PH-6401 and 6402. Values given for distances from MHWL and heights of rocks were estimated. All time references were made to 150° W longitude.

To aid in cross-referencing, a "Manuscript Reference Index" and a "Position Abstract" are included in the appendix. Also included in the appendix are: 1) List of detached positions, 2) A complete signal tape listing, 3) Listing of Triangulation Stations recovered, established, and re-established.
ADEQUACY OF COMPILATION

The compilation of the MHWL on the edited manuscripts was excellent and required very few corrections. In general the compilation of off-shore features was also excellent. Time and height data for rocks not identified on the manuscripts has been included on the photographs.

DISCUSSION AND RECOMMENDATIONS

T-12539 (completed) Mahilua Bay

The shoreline in this area is primarily composed of steep cliffs 20' high, interspersed with sandy beach. The northern and southern-most buildings at Mahilua Bay are the only two prominent objects in the vicinity and therefore are of landmark value. The wooden windmill located at 19° 47' 13.35" N and 156° 02' 22.50" W, is no longer standing and should be deleted from C&GS Chart 41140. Further information is furnished on NOAA Form 76-40 (see appendix).

T-12540 (completed) Makako Bay

The shoreline in this area is composed primarily of low bluffs and sandy beach with marsh surrounding fish ponds.
Keahole Point Lighthouse is of landmark value. The lighthouse was field identified from photo 63-S-7943. Further information is provided on NOAA Form 76-40 (see appendix).

T-13382 (completed) Honokohau Bay

The shoreline in this area is composed primarily of gently sloping lava flows with interspersed sandy beach and marsh surrounding Kaloko Fish Pond.

Keahuolu Point Northeast Range Marker, 1948, is of landmark value. Keahuolu Point Northwest Range Marker, 1948*, has fallen over and is no longer visible from seaward. Four new navigational lights mark the entrance to the new boat basin at Honokohau, located just south of Malu Point. Further information is provided on NOAA Form 76-40 (see appendix).

T-12541 (completed) Kailua Bay

The shoreline in this area is composed primarily of sloping lava rock with marsh surrounding small ponds and fish ponds at Honokohau Bay.

* NOTE: Keahuolu Point Northeast Range Marker, 1948, and Keahuolu Point Northwest Range Marker, 1948, are located on Manuscripts T-12541 and T-13382.
The northern-most building at Honokohau, although small, is of landmark value as a navigational aid when entering the Honokohau boat basin. Keahulu Point Northeast, Keahulu Point Southeast, and Keahulu Point Southwest Range Markers are very faded and weathered but are of landmark value. The building located at Honokohau (approximate location, latitude 19°40'25.85" N and longitude 156°01'44.83" W) and Keahulu Point Northwest Range Marker are not visible from seaward and should be deleted. Further information is provided on NOAA Form 76-40 (see appendix).

T-12542 (completed) Kailua Bay

The shoreline in this area is composed primarily of low bluffs interspersed with sandy beach.

The facade of the Kona Hilton Hotel, which is illuminated yellow at night, and Kailua Lighthouse are of landmark value; both were intersected using second order, class II methods. A crane lighted at night by a floodlight and used by fishermen as a navigational aid and the Kailua Mokuaiakaua Church spire are also of landmark value.

The cattle pens, small craft warning mast, and building on the Kailua pier have been removed and should be deleted. The tanks located at latitude 19°38'34.80" N, and longitude 156°00'03.46" W, and the Kona Airport Airway Beacon have been removed and should be deleted. The church spire, latitude 19°38'24.22" N and longitude 155°59'37.05" W, is
present as described but is obscured by vegetation. Further information is provided on NOAA Form 76-40 (see appendix).

T-12543 (completed) Keauhou Bay

This area is composed primarily of rocky shoreline interspersed with sandy beaches.

New buildings at latitude 19°35'52.50" N, longitude 155°58'31.50" W and latitude 19°34'39.60" W, longitude 155°58'12.60" W are not of landmark value. A hotel just south of Kalaau o Kalakani and a blue church building at Kahaluu Bay are of landmark value.

A spire at Kahaluu Bay is not visible and should be deleted. Further information is provided on NOAA Form 76-40 (see appendix).

T-12544 (completed) Keauhou Bay

The shoreline in this area is primarily composed of lava bluffs 30 feet high.

Keauhou Bay Light and Keauhou Bay Entrance Directional Light (both lights on the same structure) and the Kona Surf Hotel (approximate position scaled) are of landmark value. Further information is provided on NOAA Form 76-40 (see appendix).

T-12545 (completed) Keikiwaha Point

The shoreline in this area is composed of low lava bluffs approximately 10 feet high. There are no objects of landmark value.
T-12516 (completed) Keawekaha Bay

The shoreline in this area is primarily composed of lava bluffs approximately 30 feet high. There are no objects of landmark value.

T-11796 (completed) Kealakekua Bay

The shoreline in this area consists of low lava bluffs six to ten feet high with rocky beaches and a steep cliff (160 feet high) on the northeast side of the bay.

Napoopoo, Kahikolu Church Spire, 1913, Napoopoo Lighthouse, and Captain Cook's Monument are all of landmark value. Further information is provided on NOAA Form 76-40 (see appendix).

T-12547 (incomplete) Kealakekua Bay

No field edit was done on this manuscript.

T-11797 (incomplete) Honaunau Bay

No field edit was done on this manuscript.

T-12548 (completed) Kauhako Bay

The shoreline in this area is composed of bluffs approximately 40-60 feet high with interspersed sandy beach. Buildings in the area indicated on the manuscript at Kauhako Bay are of landmark value. (building locations were not determined by the field editor or located by the compiler—see manuscript).
A church steeple located near Palianhi Point no longer exists and should be deleted.

Further information is provided on NOAA Form 76-40 (see appendix).

T-12519 (completed) Kauluoa Point

The shoreline in this area is composed of cliffs from 10 to 60 feet high interspersed with gravel, sand, and rocky beaches. There are no objects of landmark value.

T-12550 (incomplete) Puoa Point

The shoreline in this area is composed of lava bluffs approximately 40-50 feet high. There are no objects of landmark value. Field edit was completed to Puoa Point.

Respectfully submitted,

Steven J. Hollinshead
LTJG, NOAA
# MANUSCRIPT REFERENCE INDEX

**OPR-419**

**FIELD EDIT**

<table>
<thead>
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<th>REFERENCE DETACHED POSITIONS</th>
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*NOTE: Photo 63-S-8063 used on T-Sheets T-12540 and T-12541*
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*NOTE: Photo 63-S-8087 used on T-Sheets T-12545 and T-12546

**NOTE: No field edit done
61. **GENERAL STATEMENT:**

Final review for this Final Field Edited Inset Map was accomplished at the Atlantic Marine Center in April 1987. For a schedule of the office and field operations, refer to the Summary included with this Descriptive Report.

62. **COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS:**

Not applicable.

63. **COMPARISON WITH MAPS OF OTHER AGENCIES:**

A comparison was made with USGS quadrangle Honuaunu, Hawaii, dated 1959, scale 1:24,000.

64. **COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS:**

This map is common to hydrographic surveys H-9308, RA-5-2-72, 1:5,000 scale and H-9346, RA-10-9-72, 1:10,000 scale. A comparison with both surveys did not reveal any significant differences.

65. **COMPARISON WITH NAUTICAL CHARTS:**

A comparison was made with NOS charts:

19332, 6th edition, scale 1:10,000, February 15, 1986
19327, 8th edition, scale 1:80,000, September 5, 1981.

66. **ADEQUACY OF RESULTS AND FUTURE SURVEYS:**

This map complies with the Project Instructions, and meets the requirements for National Standards of Map Accuracy.

Submitted by:

Jerry L. Hancock
Final Reviewer

Approved for forwarding:

Billy H. Barnes
Chief, Photogrammetric Section, AMC

Approved:

Jerry O. Robinson  A.V. Bryan
Chief, Photogrammetric Production Sec.  Chief, Photogrammetry Branch
### Charting Details

**Charting Name**: Napoopoo Light  
**Description**:  
**Datum**: Old Hawaiian  
**Position**:  
**Latitude**: 55.77°  
**Longitude**: 21.35°  
**Method and Date of Location**: L-P-5  
**Office**: Sept. 1, 1963  
**Field**: Sept. 14, 1972  
**Charts Affected**: 4102, 4115, 4123  

(19320)
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<td>Captain Cook's Monument</td>
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The following objects HAVE been inspected from seaward to determine their value as landmarks.
EXISTING STATION SHOULD BE DESTROYED UPON RECEIPT OF REVISION.
SUPERSEDES NOAA FORM 14-61-111 WHICH IS OBSOLETE AND R1991

VACUUM FIELD POSITIONS ARE DETERMINED BY FIELD OBSERVER

- FIELD OBSERVER
- LOCATION AND DATE OF FIELD WORK.
- METHOD OR METHOD OF LOCATION AND DATE OF FIELD WORK.
- LOCATION AND DATE OF FIELD WORK.
- FIELD OBSERVER
- LOCATION AND DATE OF FIELD WORK.
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## INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.

1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

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