**DESCRIPTIVE REPORT**

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>T-12539</td>
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<table>
<thead>
<tr>
<th>Job No.</th>
<th>Map Classification</th>
<th>Type of Survey</th>
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<tbody>
<tr>
<td>PH-6401</td>
<td>FINAL, FIELD EDITED MAP</td>
<td>SHORELINE</td>
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**LOCALITY**

<table>
<thead>
<tr>
<th>State</th>
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<tr>
<td>HAWAII</td>
<td>HAWAII ISLAND, WEST COAST, UPOLU POINT TO KATUA</td>
<td>MAHATULIA BAY</td>
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1963 TO 1972

REGISTERED IN ARCHIVES

DATE
## Descriptive Report - Data Record

### Photogrammetric Office
Coastal Mapping Unit, Atlantic Marine Center
Norfolk, VA

**Officer-in-Charge**
Richard Houlder

### Last Preceding Map Edition

<table>
<thead>
<tr>
<th>Type of Survey</th>
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<tbody>
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<td></td>
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<tr>
<td>Revised</td>
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**Survey TP. T-12539**

**Map Edition No.** (1)

**Map Class** Final

**Survey Dates:**

### Instructions Dated

1. **Office**
   - Compilation Sept 12, 1968
   - Supplement No. 1 Feb 11, 1969
   - Compilation March 11, 1969
   - Supplement No. 2 Dec. 11, 1969

2. **Field**
   - Control/Field Inspection April 29, 1964

### Datums

1. **Horizontal:**
   - 1927 North American
   - Old Hawaiian Datum

2. **Vertical:**
   - Mean High-Water
   - Mean Low-Water
   - Mean Lower Low-Water
   - Mean Sea Level

### Map Projection
- Polyconic

### Scale
- 1:10,000

### History of Office Operations

<table>
<thead>
<tr>
<th>Operations</th>
<th>Name</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Aerotriangulation</td>
<td>A. Perrow</td>
<td>Feb 1969</td>
</tr>
<tr>
<td>Method: stereoplaniograph</td>
<td>H. Eichart</td>
<td>Feb 1969</td>
</tr>
<tr>
<td>Landmarks and aids</td>
<td>J. Darrow</td>
<td>Feb 1969</td>
</tr>
<tr>
<td>2. Control and Bridge Points</td>
<td>J. Darrow</td>
<td>Feb 1969</td>
</tr>
<tr>
<td>Method: coradomat</td>
<td>H. Eichart</td>
<td>Feb 1969</td>
</tr>
<tr>
<td>Plotted by</td>
<td>J. Darrow</td>
<td>Feb 1969</td>
</tr>
<tr>
<td>Checked by</td>
<td>H. Eichart</td>
<td>Feb 1969</td>
</tr>
<tr>
<td>Instrument: Wild B-8</td>
<td>A. Shands</td>
<td>Sep 1969</td>
</tr>
<tr>
<td>Planimetry by</td>
<td>N.A.</td>
<td></td>
</tr>
<tr>
<td>Checked by</td>
<td>N.A.</td>
<td></td>
</tr>
<tr>
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<td></td>
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<tr>
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<td>N.A.</td>
<td></td>
</tr>
<tr>
<td>Scale: 1:10,000</td>
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<tr>
<td>Method: smooth drafted</td>
<td>R. Smith</td>
<td>Dec 1969</td>
</tr>
<tr>
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<td></td>
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<tr>
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</tr>
<tr>
<td>Checked by</td>
<td>N.A.</td>
<td></td>
</tr>
<tr>
<td>Scale: 1:10,000</td>
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<td></td>
</tr>
<tr>
<td>Hydro Support Data by</td>
<td>C. Blood</td>
<td>Oct 1969</td>
</tr>
<tr>
<td>Checked by</td>
<td>R. Smith</td>
<td>Dec 1969</td>
</tr>
<tr>
<td>5. Office Inspection Prior to Field Edit</td>
<td>R. Smith</td>
<td>Dec 1969</td>
</tr>
<tr>
<td>by</td>
<td>C. Blood</td>
<td>Feb 1973</td>
</tr>
<tr>
<td>6. Application of Field Edit Data</td>
<td>C. Parker</td>
<td>June 1974</td>
</tr>
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<td>Checked by</td>
<td>C. Parker</td>
<td>June 1974</td>
</tr>
<tr>
<td>7. Compilation Section Review</td>
<td>C. Parker</td>
<td>June 1974</td>
</tr>
<tr>
<td>by</td>
<td>C. Parker</td>
<td>June 1974</td>
</tr>
<tr>
<td>9. Data Forwarded to Photogrammetric Branch</td>
<td>J. Hancock</td>
<td>Dec 1986</td>
</tr>
<tr>
<td>by</td>
<td>J. Hancock</td>
<td>Mar. 1987</td>
</tr>
<tr>
<td>10. Data Examined in Photogrammetric Branch</td>
<td>P. Dempsey</td>
<td>May 1987</td>
</tr>
<tr>
<td>by</td>
<td>E.L. Daugherty</td>
<td>May 1987</td>
</tr>
<tr>
<td>11. Map Registered - Coastal Survey Section</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

*U.S. G.P.O. 1972-769382/582 REG. #6*
1. Compilation Photography

Camera(s):
Wild RC-8"S"  S = 152.29 mm

Tide Stage Reference:
- Predicted Tides
- Reference Station Records
- Tide Controlled Photography

Types of Photography Legend:
(C) Color
(P) Panchromatic
(I) Infrared

Time Reference:
Zone: Yukon
Meridian: 135th

<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(P) 7943 - 7949 *</td>
<td>Aug 31, 63</td>
<td>09:06</td>
<td>1:30,000</td>
<td>0.6 ft above MLLW</td>
</tr>
<tr>
<td>63S(P) 8059 - 8060 *</td>
<td>Sep 1, 63</td>
<td>09:07</td>
<td>1:30,000</td>
<td>0.4 ft</td>
</tr>
<tr>
<td>63S(C) 8043 - 8049 **</td>
<td>Aug 31, 63</td>
<td>10:37</td>
<td>1:15,000</td>
<td>1.4 ft above MLLW</td>
</tr>
</tbody>
</table>

Remarks:
* Bridging Photographs, ** Compilation Photographs

Mean Tide Range = 1.4 ft

2. Source of Mean High-Water Line:
The mean high water line was compiled from the office interpretation of the compilation photographs using stereo instrument methods.

3. Source of Mean Low-Water or 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>
<th>Survey Copy Used</th>
</tr>
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</table>

5. Final Junctions

North:
T-12537

East:
No survey

South:
T-12540

West:
No survey

Remarks:
## 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>June 1964</td>
</tr>
<tr>
<td>2. HORIZONTAL CONTROL</td>
<td>E. Cline</td>
<td>June 1964</td>
</tr>
<tr>
<td>3. VERTICAL CONTROL</td>
<td>None</td>
<td>June 1964</td>
</tr>
<tr>
<td>4. LANDMARKS AND AIDS TO NAVIGATION</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>5. GEOGRAPHIC NAMES INVESTIGATION TYPE OF INVESTIGATION</td>
<td>E. Cline</td>
<td>June 1964</td>
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</table>

### II. SOURCE DATA

#### 1. HORIZONTAL CONTROL IDENTIFIED

<table>
<thead>
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<th>STATION NAME</th>
<th>PHOTO NUMBER</th>
<th>STATION DESIGNATION</th>
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<tbody>
<tr>
<td>63(S) 7931*</td>
<td>LAVA CONE, 1913 (Sub Pts 1 &amp; 2 identified)</td>
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</table>

*Section of ratio photos submitted

#### 2. VERTICAL CONTROL IDENTIFIED

None

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

63(S) 7944, 7946, 7947, 7948, 7950. (Matte Contacts)

#### 4. LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED

None

#### 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)

2 forms 152 (CSI)

(l Form 152, reidentification in Nov. 1968 for station Lava Cone, 1913).
## HISTORY OF FIELD OPERATIONS

### 1. 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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<tr>
<td></td>
<td>G. Haraden</td>
<td></td>
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<td>HORIZONTAL CONTROL</td>
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<td></td>
<td>PRE-MARKED OR IDENTIFIED BY</td>
<td></td>
</tr>
<tr>
<td></td>
<td>S. Hollinshead</td>
<td>Sept 1972</td>
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<td>None</td>
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<tr>
<td>VERTICAL CONTROL</td>
<td>RECOVERED</td>
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<td>LANDMARKS AND AIDS TO NAVIGATION</td>
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<td>(Triangulation Stations)</td>
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<td>LOCATED (Field Methods)</td>
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<td>Sept 1972</td>
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### 2. FIELD EDIT OPERATION

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### 6. PHOTO INSPECTION

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### 7. BOUNDARIES AND LIMITS

| Surveyed or Identified By | None |       |

### II. SOURCE DATA

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

63(S) 7948, 8060 (Matte Ratios, 1:10,000 scale)

### 4. LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED

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<td>Building</td>
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### 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)

- Field Edit Report
- Field Edit Paper Print
- Form 76-40
## I. Manuscript Copies

<table>
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<td>Field edit applied compilation complete</td>
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<td>Class I manuscript</td>
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## II. Landmarks and Aids to Navigation

1. **Reports to Marine Chart Division, Nautical Data Branch**

<table>
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<tr>
<td>1</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: ________________

## III. Federal Records Center Data

1. Bridging Photographs:  
2. Duplicate Bridging Report:  
3. Report on Geographic Names Report:  
4. Computer Readouts:  
5. Control Station Identification Cards:  
6. NOS-447 submitted by Field Parties:  

## IV. Survey Editions

<table>
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</table>
JOB PH-6401
SHORELINE MAPPING
HAWAII IS. WEST COAST
UPOLO POINT TO KAILUA
SCALE 1:5,000 & 1:10,000
SUMMARY TO ACCOMPANY
DESCRIPTIVE REPORT

T-12539

This 1:10,000 scale final shoreline map is one of twenty-three maps that comprise PH-6401, Hawaii Island, Hawaii, West Coast, Upolo Point to Kailua. The project consists of seventeen 1:10,000 scale maps (T-12527 thru T-12541, T-12543, T-12545) and six 1:5,000 scale inset maps (T-12542, T-12544, T-12635, T-13131, T-13132, T-13382).

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 portrays a portion of shoreline along the northwest coast of Hawaii Island from Lat. 19° 45' 00" to Lat. 19° 48' 45".

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 and aerotriangulation. The 1:20,000 and 1:15,000 scale color photographs were used for compilation and hydro support. The 1:20,000 scale photo coverage was obtained for the 1:10,000 scale maps and the 1:15,000 scale photographs provided coverage of the 1:5,000 scale inset maps. Additional color photographs at 1:15,000 scale were obtained in February 1969 with the Wild RC-8"E" camera. These photographs were bridged and a supplemental plot report was prepared in order to compile three 1:5,000 scale inset maps (T-13131, T-13132 and T-12635). 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 photographs. This activity was conducted in May/June 1964.

Analytic aerotriangulation was adequately provided by the Washington Science Center in three phases. Initial bridging activity was accomplished for seven of the northern project maps in June 1966. The second phase was conducted for the remaining project maps in February 1969. A final bridge was provided in October 1971 for the 1969 photo coverage of three 1:5,000 scale inset maps. Aerotriangulation activity included ruling the base manuscripts and also provided ratio photographs for the compilation and hydrographic/field edit operations.

Compilation for this map was performed at the Coastal Mapping Section, Atlantic Marine Center in December 1969. Copies of the manuscript and hydrographic support data were forwarded to the hydrographer for field edit. A copy of the manuscript was also submitted to the Marine Charts Section.
Field edit was performed September 1972 by NOAA Ship RAINIER personnel in conjunction with hydrographic survey H-9334 which lies just south of this map. Hydrographic survey H-9237 is the common area survey; however, the shoreline edit was not accomplished during the 1971 hydrographic operations.

Application of field edit was accomplished at the Atlantic Marine Center in June 1974 and the manuscript was advanced to Class I. Copies of the Class I manuscript were forwarded to the Hydrographic Surveys Branch.

Final review was performed at the Atlantic Marine Center in December 1986. 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-12539

Field activity prior to compilation included a field inspection of the shoreline and the recovery/photoidentification of horizontal control necessary for project aerotriangulation. Results of the 1964 field inspection were submitted on the 1:30,000 scale contact photographs.
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, 12543, 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. KEEI 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,

John D. Perrow, Jr.

Approved by,

Henry F. Eichert
Chief, Aerotriangulation Section
JOB PH-6401
SHORELINE MAPPING
HAWAII IS. WEST COAST
UPOLO POINT TO KAILUA
SCALE 1:5,000 & 1:10,000
## Descriptive Report Control Record

**Map No.:** T-12539  
**Job No.:** PH-6410  
**Geodetic Datum:** N.A. 1927  
**Originating Activity:** Coastal Mapping Div., AMC

### Station Name: Kuili (HGS) 1882  
**Source of Information (Index):** GP pg 14  
**Coordinates in Feet:**  
- $x = 19^\circ 48' 11.674"$  
- $y = 156^\circ 00' 44.802"$  

### Geographic Position

<table>
<thead>
<tr>
<th>State</th>
<th>Latitude</th>
<th>Longitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hawaii</td>
<td>$\phi$</td>
<td>$\lambda$</td>
</tr>
</tbody>
</table>

### DataRow Details

**Computed by:** A.C. Rauck, Jr.  
**Date:** 2/14/69  
**Computation Checked by:** C. Blood  
**Date:** 2/14/69  
**Listed by:**  
**Date:**  
**Listing Checked by:**  
**Date:**  
**Hand Plotting by:**  
**Date:**  

---

**Supercedes NOAA Form 78-41, 2-71 Edition Which Is Obsolete.**
31 - **DELINEATION**

Delineation was by instrument methods using the Wild B-8 stereoplotter and 1:15,000 scale color photographs. The 1:30,000 scale panchromatic field inspection photographs were used during compilation; however, several of the field identified rocks were not discernible when viewing the 1:15,000 scale color compilation photographs. Rocks that were not clearly identifiable were not compiled.

Compilation ratio photographs were processed for hydro support and were used graphically to assist in delineation of minor details. Photo coverage and quality were adequate.

32 - **CONTROL**

Refer to the Photogrammetric Plot Report, dated February 4, 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 was delineated from office interpretation of the mapping photographs and from the annotated photographs resulting from the precompilation field inspection. Because of the small tide range, no mean lower low water line was compiled.

36 - **OFFSHORE DETAILS**

There were no significant offshore details.

37 - **LANDMARKS AND AIDS**

There were no landmarks or navigational aids within the limits of this map.

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 the Photogrammetric Plot Report dated February 4, 1969.

46 - COMPARISON WITH EXISTING MAPS

A comparison was made with U.S.G.S Quadrangle Makalawena, Hawaii, dated 1959, scale 1:24,000.

47 - COMPARISON WITH NAUTICAL CHARTS

A comparison was made with USC&GS Chart 4140, scale 1:80,000, 3rd edition, dated Jan. 24, 1966.

ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY

None.

ITEMS TO BE CARRIED FORWARD

None.

Submitted by

[Signature]

Charles Blood
Cartographic Technician
October 1969

Approved

[Signature]

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

T-12539

Field edit was performed September 1972 with the hydrographic survey (H-9334) which lies just south of this map. Hydrographic survey H-9237 is common to this map; however, the shoreline edit was not accomplished at the time (1971) of hydrography. Adequate information was furnished from the 1972 field edit in order to advance the manuscript to Class I.
GEOGRAPHIC NAMES

FINAL NAME SHEET

PH-6401 (Hawaii, West Coast I. of Hawaii)

T-12539

Awakee Bay
Kahoiawa Bay
Kahooiawa Point
Kawikohale Point
Kawili Point
Mahaiula
Mahaiula Bay
Makalawena
Makolea Point
Pacific Ocean
Puialoa Point
Puu Alii Bay
Puukala Point
Unualoha Point

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-13331  T-11796
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 Puoa 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) Mahailua 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 Mahailua 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 4140. 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, 1946*, 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 Malii 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. Keahului Point Northeast, Keahului Point Southeast, and Keahului 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°01'44.63" W) and Keahului 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 Mokuauikaua 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-12513 (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-12546 (completed) Keaweksheka 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-12549 (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 40-60 feet high. There are no objects of landmark value. Field edit was completed to Puoa Point.

Respectfully submitted,

Steven J. Hollinshead
Steven J. Hollinshead
LTJG, NOAA
MANUSCRIPT REFERENCE INDEX

OPR-419

FIELD EDIT

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<tr>
<th>MANUSCRIPT NUMBER</th>
<th>REFERENCE PHOTO NUMBERS</th>
<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 map was accomplished at the Atlantic Marine Center in December 1986. 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 U.S.G.S Quadrangle Makalawena, Hawaii, dated 1959, scale 1:24,000.

64 - COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS

This map is common to hydrographic survey H-9237, FA 10-18-71. However, a copy of the survey was not available at the time of final review. The field edit for this map was performed in conjunction with hydrographic survey H-9334 which junctions to the south of H-9237.

65 - COMPARISON WITH NAUTICAL CHARTS

A comparison was made with NOS chart 19327, scale 1:80,000, 8th edition, 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

Chief, Photogrammetric Production Sec.  Chief, Photogrammetry Branch
INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'

(Consult Photogrammetric Instructions No. 64)

O.F.F.I.C.E

1. OFFICE IDENTIFIED AND LOCATED OBJECTS
   Enter the number and date (including month, day, and year) of the photograph used to
   identify and locate the object.
   EXAMPLE: 5E(C)6042
             8-12-75

F.I.E.L.D

1. NEW POSITION DETERMINED OR VERIFIED
   Enter the applicable data by symbols as follows:
   F - Field
   L - Located
   V - Verified
   1 - Triangulation
   2 - Traverse
   3 - Intersection
   4 - Resection
   P - Photogrammetric
   V1s - Visually
   V6 - Theodolite
   V7 - Planetable
   V8 - Sextant

   A. Field positions* require entry of method of
      location and date of field work.
      EXAMPLE: F-2-6-L
               8-12-75

   *FIELD POSITIONS are determined by field obser-
   vations based entirely upon ground survey methods.

   B. Photogrammetric field positions** require
      entry of method of location or verification,
      date of field work and number of the photo-
      graph used to locate or identify the object.
      EXAMPLE: P-8-V
                8-12-75
                74L(C)2982

II. TRIANGULATION STATION RECOVERED
   When a landmark or aid which is also a tri-
   angluation station is recovered, enter 'Triang. Rec.' with date of recovery.
   EXAMPLE: Triang. Rec.
             8-12-75

III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH
   Enter 'V-V1s.' and date.
   EXAMPLE: V-V1s.
             8-12-75

**PHOTOMGRAMMETRIC FIELD POSITIONS are dependent
entirely, or in part, upon control established
by photogrammetric methods.
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<td>L-P-S 19327</td>
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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 Revie

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