NOAA FORM 76–35
(6–80)
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

DESCRIPTIVE REPORT

<table>
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<tr>
<td>TP-00069</td>
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<table>
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<tr>
<td>FINAL, FIELD EDITED MAP</td>
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<tr>
<td>PEPEEKO POINT</td>
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| 19 76 TO 19 80 |

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*U.S. GOVERNMENT PRINTING OFFICE 1980 655-115*
**Descriptive Report - Data Record**

**Photogrammetric Office**
Coastal Mapping Division, Norfolk, VA

**Officer-In-Charge**
Roy K. Matsushige

**Instructions Dated**

<table>
<thead>
<tr>
<th>1. Office</th>
<th>2. Field</th>
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<tbody>
<tr>
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**Datums**

1. Horizontal:
   - ☑ 1927 North American
   - ☑ Mean High-Water
   - ☑ Mean Low-Water

2. Vertical:
   - ☑ Mean Lower Low-Water
   - ☑ Mean Sea Level

3. Map Projection
   - Transverse Mercator

4. Grid(s)
   - State: Hawaii
   - Zone: 1

**Scale**
1:20,000

**History of Office Operations**

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<th>Date</th>
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<td>S. Solbeck</td>
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<tr>
<td>Method: Analytic</td>
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<td></td>
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<tr>
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<td>S. Solbeck</td>
<td>Jan. 1979</td>
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<tr>
<td>2. Control and Bridge Points</td>
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<td>Jan. 1979</td>
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<tr>
<td>Method: Coradomat</td>
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<td>Jan. 1979</td>
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<tr>
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<tr>
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<tr>
<td>Contours By</td>
<td>N.A.</td>
<td>--</td>
</tr>
<tr>
<td>Checked By</td>
<td>N.A.</td>
<td>--</td>
</tr>
<tr>
<td>4. Manuscript Delination</td>
<td>L. Williams</td>
<td>Apr. 1979</td>
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<td>Planimetry By</td>
<td></td>
<td></td>
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<tr>
<td>Checked By</td>
<td>L. Williams</td>
<td>Apr. 1979</td>
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<tr>
<td>Contours By</td>
<td>L. Neterer, Jr.</td>
<td>Aug. 1979</td>
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<tr>
<td>Checked By</td>
<td>N.A.</td>
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<td>Hydro Support Data By</td>
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<td>Checked By</td>
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<tr>
<td>By</td>
<td>G. Morris</td>
<td>Aug. 1981</td>
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<td>6. Application of Field Edit Data</td>
<td>D. Butler</td>
<td>Apr. 1982</td>
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<tr>
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<td>J. Hancock</td>
<td>Sept. 1985</td>
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<td>7. Compilation Section Review</td>
<td>D. Butler</td>
<td>Apr. 1982</td>
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<td>By</td>
<td>J. Hancock</td>
<td>Sept. 1985</td>
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<tr>
<td>By</td>
<td>J. Hancock</td>
<td>Sept. 1985</td>
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<td>9. Data Forwarded to Photogrammetric Branch</td>
<td>J. Hancock</td>
<td>Sept. 1985</td>
</tr>
<tr>
<td>By</td>
<td>J. Hancock</td>
<td>Sept. 1985</td>
</tr>
<tr>
<td>10. Data Examined in Photogrammetric Branch</td>
<td>P. Demsey</td>
<td>Nov. 1985</td>
</tr>
<tr>
<td>By</td>
<td>E. Daugherty</td>
<td>Dec. 1985</td>
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<td>11. Map Registered - Coastal Survey Section</td>
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1. COMPILED PHOTOGRAPHY

CAMERA(S): F.L. = 153.21 mm
Zeiss PMK A15/23 Lens 118960

TIDE STAGE REFERENCE
X X PREDICTED TIDES
☑ REFERENCE STATION RECORDS
☑ TIDE CONTROLLED PHOTOGRAPHY

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<td>1.4 ft. above M.L.L.W.</td>
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<td>76GSAASY-227-230</td>
<td>Dec.18,1976</td>
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<td>1.2 ft. above M.L.L.W.</td>
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<td>76GSAASY-232-237</td>
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<td>13:50</td>
<td>1:30,000</td>
<td>1.2 ft. above M.L.L.W.</td>
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Mean Range = 1.6 ft.

REMARKS
Photography by American Aerial Survey, Inc. of Northern California Geodetic Survey

2. SOURCE OF MEAN HIGH-WATER LINE:

The mean high water line was compiled by instrument methods using the 1:50,000 scale photos and graphically using the 1:30,000 scale photos ratioed as follows:

227-230 x 1.49
232-237 x 1.48

3. SOURCE OF MEAN LOW-WATER OR MEAN LOWER LOW-WATER LINE:

None compiled.

4. CONTEMPORARY HYDROGRAPHIC SURVEYS (List only those surveys that are sources for photogrammetric survey information.)

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<td>H-9920</td>
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5. FINAL JUNCTIONS

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REMARKS
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<tr>
<td>CHIEF OF FIELD PARTY</td>
<td>R. Melby</td>
<td>Jan-Feb 1978</td>
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<td>HORIZONTAL CONTROL</td>
<td>R. Melby</td>
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<tr>
<td>VERTICAL CONTROL</td>
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<tr>
<td>LANDMARKS AND AIDS TO NAVIGATION</td>
<td>R. Melby</td>
<td>Jan 1978</td>
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#### II. SOURCE DATA

1. HORIZONTAL CONTROL IDENTIFIED
   - Photo identified
     - PHOTO NUMBER: 77GSAASY-386
       - STATION NAME: Honohina, 1877 (direct)
     - PHOTO NUMBER: 77GSAASY-385
       - STATION NAME: Pepeekeo Point Light, 1949 (Sub. Pt. identified)

2. VERTICAL CONTROL IDENTIFIED
   - None

3. PHOTO NUMBERS (Clarification of details)
   - None

4. LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED
   - PHOTO NUMBER: 77GSAASY-385
     - OBJECT NAME: Pepeekeo Point Light
**HISTORY OF FIELD OPERATIONS**

1. **FIELD INSPECTION OPERATION**

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<td>VERTICAL CONTROL</td>
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4. **LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED**

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<td>76GSAASY-229</td>
<td>Pepeekeo Mill Tanks</td>
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<td>76GSAASY-229</td>
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<td>76GSAASY-233</td>
<td>Wailea Bridge</td>
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<td>76GSAASY-229</td>
<td>Pepeekeo Stack, 1980</td>
<td>76GSAASY-234</td>
<td>Hakalau Bridge</td>
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**OTHER FIELD RECORDS**

1 Field Edit Ozalid, 2 Field 76-40 forms, 1 Field Edit Report
I. MANUSCRIPT COPIES

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II. LANDMARKS AND AIDS TO NAVIGATION

1. REPORTS TO MARINE CHART DIVISION, NAUTICAL DATA BRANCH

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<td>2</td>
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<td>Oct. 31, 1985</td>
<td>Landmarks and Aid for Charting</td>
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III. FEDERAL RECORDS CENTER DATA

1. **XX** BRIDGING PHOTOGRAPHS; **XX** DUPLICATE BRIDGING REPORT; **XX** COMPUTER READOUTS.
2. **XX** CONTROL STATION IDENTIFICATION CARDS; **XX** FORM NO. 4690 SUBMITTED BY FIELD PARTIES.
3. **XX** SOURCE DATA (except for Geographic Names Report) AS LISTED IN SECTION II, NOAA FORM 76-36C.
4. **DATA TO FEDERAL RECORDS CENTER. DATE FORWARDED:**

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

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SUMMARY TO ACCOMPANY
DESCRIPTIVE REPORT

TP-00069

This 1:20,000 scale final shoreline map is one of eight maps that comprise project CM-7712, Hawaii Island, North Coast, Hawaii. The eight 1:20,000 scale maps are assigned as TP-00064 through TP-00070 and TP-00822.

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 northeast coast of Hawaii Island from Lat. 19°48'45" to 19°57'00".

Photo coverage for the project was adequately provided with panchromatic photography flown by a private contractor, American Aerial Survey, Inc., with the Zeiss RMKA 15/23 camera. Aerotriangulation/compilation photographs at 1:50,000 scale and supplemental compilation/photo-hydro support photographs at 1:30,000 scale were taken at various times from Dec. 1976 to March 1977.

Field work prior to compilation consisted of the recovery, establishment, and photoidentification of horizontal control necessary for aerotriangulation. This activity was completed February 1978.

Analytic aerotriangulation was adequately provided by the Washington Science Center in January 1979. This activity also included ruling the base manuscripts and providing ratio photographs for compilation.

Compilation by office interpretation of the mapping photographs was performed at the Coastal Mapping Section, Atlantic Marine Center in August 1979. Copies of the Class III manuscript and hydrographic support data were forwarded to the hydrographer for field edit. A copy of the Class III manuscript was also submitted to the Marine Charts Section.

Field edit for this map was performed in conjunction with hydrographic survey H-9920 by NOAA Ship FAIRWEATHER personnel in October 1980.

Application of field edit data was accomplished at the Photogrammetric Section, Pacific Marine Center in April 1982 and the manuscript was advanced to Class I. A copy of the Class I manuscript was forwarded to the Hydrographic Surveys Branch.

Final review was performed at the Atlantic Marine Center in August 1985. At this time a comparison was made with a registered copy of contemporary hydrographic surveys, H-9920 and H-9921, common to this
map. Hydrographic survey H-10052 also corresponds to a portion of the shoreline map, but no comparison was made because the survey is currently unregistered. A final Chart Maintenance Print and Notes to Hydrographer Print were prepared and forwarded to Photogrammetry headquarters for distribution.

The Descriptive Report for this final field edited map contains all pertinent information used to produce this map. The original base manuscript and related data were forwarded to the Washington Science Center for final registration.
FIELD INSPECTION
TP-00069

There was no field inspection prior to compilation. Field work accomplished was limited to the recovery and photoidentification of the horizontal control necessary for the aerotriangulation of the project.
FIELD OPERATIONS REPORT
Projects CM-7712 & CM-7713
North and Southeast Coast, Island of Hawaii, Hawaii
January - February 1978

Area:

The two adjoining projects covers the southeast and northeast coast of the Island of Hawaii. The southernmost portion of the area is virtually a desert with little rainfall. The northeast coast is subjected to considerable rainfall and sugar cane fields are commonplace.

Except for a couple of small, isolated beaches, the shoreline is steep and rocky, where the lava flows reached the ocean.

Photography:

Panchromatic aerial photography was furnished the field unit for the photo-identification of the required horizontal control stations, necessary for the aerotriangulation. The photography was considered adequate for the field identification.

Horizontal Control:

All of the stations were reached by vehicle or short distance back packing.

Several sun azimuths were observed to determine the azimuth to substitute stations. Greenwich Mean Time was observed and recorded with short wave radio signals from WWVH and a digital watch. Time and observed zenith distances were recorded to permit either the time/azimuth or time/altitude method of computation.

Station HILINA USGS 1961 was photo-identified and a sun azimuth was observed. B.M. 139YY USGS was used as an intermediate azimuth point, in conjunction with the sun azimuth. The B.M. did not have a previous azimuth or position. The U.S.G.S. published data lists R.M.I. as 46°00'26". A telephone conversation with the U.S.G.S. in Menlo Park, California confirmed the number 4 and 6 were transposed and the azimuth should read 64°00'26". The reference mark was used as a check angle.

Station PUU ULAULA was photo-identified using a sun azimuth and a stack. The stack is station PAHALA, KAU SUGAR CO STACK, 1977. An N.G.S. Geodetic Field Party was working in the area and a position of the stack should be available from Geodesy in the near future. However, the sun azimuth can be used to determine the azimuth to the sub-points.
The field-photo data was submitted to the Rockville office before this report was written to permit the aerotriangulation of the flightlines at the earliest date.

Two non-floating aids to navigation and one landmark for charts were located by triangulation/traverse methods. They have been entered and submitted on form 76-40 to C-3415.

Respectfully Submitted,

[Signature]

Robert B. Melby
Chief, PMC Photo Party
CPM 133
AREA COVERED

The area covered by this report is the northern coast of the Island of Hawaii, excluding Hilo and its immediate surroundings. The area is covered by eight 1:20,000 scale manuscripts (TP-00064 through TP-00070 and TP-00822).

METHOD

Two strips of 1:50,000 scale black-and-white panchromatic photography were bridged by analytic aerotriangulation methods. Field identified control was provided.

Common points were located on the bridging photography and the 1:30,000 scale photography for ratio purposes.

Ratio prints have been ordered. The manuscripts were ruled on the Coradomat.

ADEQUACY OF CONTROL

The adjustment to ground of one strip in this project, as well as two strips on CM-7713 (the southeast coast), was not as good as expected. On strip one of CM-7713, the subpoints for Pulama, 1914 would not fit with the other control, being off by approximately 25 feet. Five stations were used to adjust this strip with a second degree curve. The largest residual error in the fit to the five stations was 3.5 feet which is considered reasonable.

On strips 2 and 4 of CM-7713 the intersection station, Honuapo, Hutchinson Sugar Co. Mill Stack, 1967, would not fit with the other control points. It was off approximately 16 feet. The fit to the other control points was good.

On strip one of this project the adjustment to ground is very poor, but no control points can be isolated as causing the poor adjustment. In the final adjustment, six control points were used to form a third degree curve. The largest residual error in the fit was six feet. Other control points were used as checks in this adjustment. The largest error of these was 16 feet and two were off by about 10 feet.

No apparent reason can be found for the discrepancies in the control for these two projects.
SUPPLEMENTAL DATA

USGS quads were used to provide vertical control for the job. Nautical charts covering this area were used to locate aids and landmarks.

PHOTOGRAPHY

The coverage, overlap, and quality of the photography proved adequate for the job.

Submitted by:

[Signature]
Stephen H. Solbeck

Approved and Forwarded:

[Signature]
Don O. Norman
Chief, Aerotriangulation Section
CM-7712 HAWAII ISLAND, north coast strip 1

6 stations 3° degree

▲ 385100 PEPEKEO POINT LT., 1948
    385101 sub point
    (-0.8  3.0 )
    (-0.8 -4.0 )

386100 HONOLINA, 1877 The image on the photo is very poor and its lack of fit has to be ignored although it does seem to be too large.

▲ 387101 PUU OHAI, 1877 sub point
    (-1.5  3.4 )

392141 PAAUILO STACK, 1948
    (+8.4 -4.6 )

▲ 392101 OPIHILALIA, 1948 sub point A
    392102 sub point B
    (+6.2  3.6 )
    (+4.6  1.4 )

394141 PAAUAHU, PAAUAHU SUGAR CO. STACK, 1913
    (+6.6  1.4 )

▲ 397101 PUU MAUU NORTH, 1938 sub point A
    397102 sub point B
    (-4.1  2.6 )
    (-10.4 -2.3 )

▲ 402100 NIULII, 1913
    (-0.7 -5.6 )

403100 KAUHOLA POINT LT., 1948
    (+1.5 -6.8 )

403141 HIND STACK, 1948
    (-11.3  0.1 )

403401 KOHALA MILL STACK, 1948
    (+2.0 -4.4 )

404141 CATHOLIC CHURCH WEST CROSS ON BELFRY, 1948
    (-4.0 +4.6 )

404101 KEALAHENA 2, 1948 sub point A
    404102 sub point B
    (+3.1 +2.3 )
    (+1.0 +3.9 )

405141 LORAN A, TOWER, 1964
    (-1.5 +10.4 )

405142 LORAN C, TOWER, 1964
    (-4.1 +8.1 )
Island of Hawaii
North Coast
CM-7712
Bridging Photography
1:50000
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<th>SOURCE OF INFORMATION (INDEX)</th>
<th>AEROTRIANGULATION POINT NUMBER</th>
<th>COORDINATES IN FEET</th>
<th>COORDINATES IN FEET</th>
<th>GEODETIC DATUM</th>
<th>GEOREGIC POSITION</th>
<th>ORIGINATING ACTIVITY</th>
<th>REMARKS</th>
<th>FRONT</th>
<th>BACK</th>
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<td>191551</td>
<td>385100</td>
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<td>y=</td>
<td>Hawaii</td>
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<td>PEPEEKEO STACK, 1980</td>
<td>Unadjusted Field Position</td>
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<td>y=</td>
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<td>HONOHINA (HGS), 1877</td>
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<td>19°54'58.197&quot;</td>
<td>-155°09'34.978&quot;</td>
<td>563.4</td>
<td>1182.4</td>
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</table>

COMPUTED BY                  | DATE                        | COMPUTATION CHECKED BY         | DATE                |
LISTED BY                    | DATE                        | LISTING CHECKED BY             | D. Butler           | DATE | April 1982
HAND PLOTTING BY             | DATE                        | HAND PLOTTING CHECKED BY       |                     | DATE |
31 - DELINEATION

Delineation was by instrument methods using the Wild B-8 stereoplotter and the 1:50,000 scale black-and-white photographs; and graphically using the 1:30,000 scale ratioed hydro-support photographs. Photograph quality and coverage were adequate for compilation.

32 - CONTROL


33 - SUPPLEMENTAL DATA

None.

34 - CONTOURS AND DRAINAGE

Contours are not applicable to the project. Drainage was delineated by the Wild B-8 stereoplotter and by office stereoscopic interpretation of the ratio photographs.

35 - SHORELINE AND ALONGSHORE DETAILS

Alongshore details were delineated by the Wild B-8 stereoplotter and by office stereoscopic interpretation of the ratioed photographs.

The mean high water line was office edited and refined by stereoscopic interpretation of the ratioed photographs.

36 - OFFSHORE DETAILS

There were no specific offshore details.

37 - LANDMARKS AND AIDS

There was one charted landmark and one charted aid within the mapping limits of the manuscript. Both of these were verified photogrammetrically.

38 - CONTROL FOR FUTURE SURVEYS

None.

39 - JUNCTIONS

Refer to the Data Record Form 76-36B, item 5.
40 - HORIZONTAL AND VERTICAL ACCURACY


46 - COMPARISON WITH EXISTING MAPS

A comparison was made with U.S.G.S. quadrangle Papaikou, HA., scale 1:24,000, dated 1966, and with Papaaloa, HA., scale 1:24,000, dated 1966.

47 - COMPARISON WITH NAUTICAL CHARTS

Comparison was made with N.O.S. Chart No. 19320, scale 1:250,000, 12th edition, dated June 17, 1978.

ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY

None.

ITEMS TO BE CARRIED FORWARD

None.

Submitted by:

[Signature]

L. Williams
Cartographic Technician
Date: April 23, 1979

Approved:

[Signature]

Billy M. Barnwell

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

TP-00069
CM-7712

FIELD EDIT

The field editor identified two bridges that he states are of landmark value. The center of each span was used to determine its geographic position. Photographs 76GSAA6Y 233, 234, and 235 were used to locate the centers.

The stage of tide of the photographs (1.2 feet above MLLW) would not permit the delineation of a mean lower low water line; therefore, the ledge areas identified by the field editor were not applied to the manuscript. All of these areas exist inside the breaker limit line, which indicates a condition that is hazardous to navigation.

A small area on photograph 76GSAA6Y 229 is said to contain a submerged rock; however, since no image is visible and a note refers it to hydrographic investigation, the rock was not delineated.

Several geographic names were submitted by the field editor. Some of them have been applied to the manuscript because they appear on the Geographic Names Sheet and were evidently overlooked during compilation. The remaining names were forwarded to Mr. Harrington, the Chief Geographer, for approval. See accompanying copy of letter.

The compiled bluffs were not addressed by the field editor. However, since the coastline is characterized by the eroding bluffs and the chart does not indicate any of landmark value, they were removed to remain consistent with the rest of this project.

Submitted by:

David Butler, Cartographer
April 27, 1982
GEORGAPHIC NAMES
FINAL NAME SHEET
CM-7712 (Island of Hawaii - North Coast)

TP-00069

Alia Point
Alia Stream
Hakalau
Hakalau Bay
Hakalau Stream
Hanapueo Stream
Honohana
Honomu
Honomu Stream
Kaahakini Stream
Kapehu Stream
Kawaihu
Kawaihu Bay
Kawaihu Stream
Kohola Point
Kolekole Stream
Lae O Puni
Lehuawehi Point
Loea Point
Makea Stream
Nahaku Point
Nanue Stream
Onomea
Onomea Bay
Pacific Ocean
Paheehee Stream
Peleau Stream
Peleuli Point
Pepeekeo
Pepeekeo Mill
Pepeekeo Point
Pohakumanu Bay
Umauma Stream
Waiaama Stream
Waiehu Point
Waikaumalo Stream
Wailea
Wailea Bay
Waimaauou Stream

Approved:

Charles E. Harrington
Chief Geographer
Nautical Charting Division
FIELD EDIT REPORT
TP-00069
HAWAII, EAST COAST
October, 1980

DESCRIPTION

The shoreline on this sheet from Onomea Bay north to Waiehu Point is characterized by steep, heavily vegetated bluffs. Wave action has eroded the coastline, resulting in detached rocks and submerged ledges, particularly around prominent points. Beaches do not occur along this stretch of coastline and there are no significant areas for small boat landings or harbors of refuge. There are no significant hazards to navigation in this area.

Pepeekeo Mill is a group of prominent structures. The tanks at approximately 19°50'42"N, 155°05'17"W are easily seen from seaward and make a good landmark, but the most prominent feature is the tall stack which is frequently emitting black smoke. This stack (Pepeekeo Stack, 1980) was located at 19°50'47.2"N, 155°05'19.4"W by third-order techniques.

There are two bridges which are of landmark value on this sheet. Wailea Bridge, at approximately 19°53'09"N, 155°07'20"W, crosses Kolekole Stream into Wailea Bay. Hakalau Bridge, at approximately 19°54'10"N, 155°07'57"W, crosses Hakalau Stream into Hakalau Bay. Both bridges are dominant concrete structures crossing deep gulches and are easily seen on the aerial photographs.

METHODS

Field edit was accomplished by visually inspecting the shoreline features and making comparisons to the manuscript and photographs from an open skiff. Little regard was paid to heights of tide due to the small range of tide and the clarity of the water. Rocks and ledges not on the manuscript were located on the paper photographs in the field using a magnifying glass and transferred to the chronopaque photos using a mirror stereoscope and light table on the ship. All items added to the manuscript are indicated on the photographs in violet ink. The appropriate photograph is referenced by number on the T-sheet. Green ink was used on the manuscript to indicate items to be deleted. Changes or additions to geographic names were indicated in red ink.

Adequacy and Completeness of Compilation

Numerous rocks and ledges were added within the "foul with rocks and submerged ledge" limits by the field editor to clarify detail of the coast. Most of the additional rocks were clearly visible on the photographs and could have been compiled from the photos.

The foul limits indicated by the compiler were changed by the field editor in some areas to include additional rocks and ledges and to correlate with in-shore sounding line limits. Since launch OIC's were instructed to break
sounding lines at the surfline, the inshore sounding line limits should be considered the "foul with surf" limits. In general the photo compiled "foul with rocks and submerged ledge" limits agree with field observations and inshore sounding line limits, except for major changes to foul limits at latitudes 19°50'30"N, 19°51'45"N and 19°55'58"N.

GEOGRAPHIC NAMES

All of the geographic names precompiled on this sheet were verified in the field as names used by the local residents. Numerous additional names have been added to this sheet in red to indicate names in local usage that were not given by the compiler. All names were verified by at least three sources before being added. See Geographic Names Report, OPR-T126-FA-80, for details.

Two significant additions were Kawaihui Bay at 19°49'25"N, 155°05'28"W, and Wailea Bay, previously designated as Wailea, at 19°53'10"N, 155°07'18"W. All other additions are names used locally for regions of land between two major streams. These names are prominent in local usage for a large area and, although most do not indicate a point, bay or other prominent geographic feature, they would assist local mariners.

MANUSCRIPT ACCURACY

No formal accuracy tests were conducted.

RECOMMENDATIONS

This manuscript will be complete, accurate and acceptable for charting purposes upon application of field edit data.

Submitted by:  
A. F. Trimble  
Ensign, NOAA

Approved by:  
W. F. Forster  
Commander, NOAA
61 - GENERAL STATEMENT

Final review for this final field edited map was accomplished at the Atlantic Marine Center in August 1985. 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 the following 1:24,000 scale U.S.G.S. quadrangles:
Papaaloa, Hawaii; dated 1966
Papaikou, Hawaii; dated 1966.

64 - COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS

Portions of contemporary hydrographic surveys H-9920, H-9921 and H-10052 are common to this final shoreline map. A comparison was made with registered copies of H-9920, FA 10-4-80, 1:10,000 scale, field surveyed Oct./Nov. 1980 and H-9921, FA-20-6-81, 1:20,000 scale, field surveyed Nov. 1980. Survey H-10052 is currently unregistered and consequently a comparison was not made.

The hydrographic surveys indicate various ledge limits along the shoreline. It appears that these limits were transferred from the field editors/hydrographers delineation on the field edit prints. However, according to the Addendum to the Compilation Report, the ledge limits were not compiled on the shoreline map.

Hydro Survey H-9920 shows a prominent bare rock at Lat. 19°50.3', Long. 155°05.1'. This rock does not appear on the photographs nor did the field editor comment about a rock in the area. The existence of this rock is questionable.

65 - COMPARISON WITH NAUTICAL CHARTS

A comparison was made with the following NOS Chart: 19320, scale 1:250,000, 13th edition, July 10, 1982.

66 - ADEQUACY OF RESULTS AND FUTURE SURVEYS

This map complies with the Project Instructions, and meets the requirements for National Standards of Map Accuracy.
TP-00069

Submitted by,

Jerry L. Hancock
Final Reviewer

Approved for forwarding,

Billy H. Barnes
Chief, Photogrammetric Section, AMC

Approved,

J. Moore
Chief, Photogrammetric Section, Rockville

Ronald K. Brewer
Chief, Photogrammetry Branch, Rockville
<table>
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<th>OPR PROJECT NO.</th>
<th>JOB NUMBER</th>
<th>SURVEY NUMBER</th>
<th>DATUM</th>
<th>CHARTING NAME</th>
<th>DESCRIPTION</th>
<th>LATITUDE</th>
<th>LONGITUDE</th>
<th>METHOD AND DATE OF LOCATION</th>
<th>CHARTS AFFECTED</th>
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<td>CM-7712</td>
<td>TP-00069</td>
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<td>RADIO</td>
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* Position indicates center of bridge span.

* DPB
**PHOTOGRAMMETRIC FIELD POSITIONS ARE DEPENDENT ON PHOTOGRAPHS.**

Field positions are determined by field observer.

Field positions are determined by field observer.

**EXAMPLE:** 8-12-75

EXCEPT: Field positions determined by field observer.

A. Field positions require entry of method of location and date of field work.

4. Association

3. Intersection

2. Traverse

1. Triangulation

V (visible)

L (located)

F (field)

p (photo-

**EXAMPLE:** 74R(VIS) 74L(LOC) 74F(FLD) 74P(PHOTO) 74A(AIR)

**EXAMPLE:** 75R(LOC) 75L(LOC) 75F(FLD) 75P(PHOTO) 75A(AIR)

EXCEPT: Field positions determined by field observer.

EXCEPT: Field positions determined by field observer.

**EXAMPLE:** 74R(VIS) 74L(LOC) 74F(FLD) 74P(PHOTO) 74A(AIR)

**EXAMPLE:** 75R(LOC) 75L(LOC) 75F(FLD) 75P(PHOTO) 75A(AIR)

**EXAMPLE:** 74R(VIS) 74L(LOC) 74F(FLD) 74P(PHOTO) 74A(AIR)

**EXAMPLE:** 75R(LOC) 75L(LOC) 75F(FLD) 75P(PHOTO) 75A(AIR)

EXCEPT: Field positions determined by field observer.

EXCEPT: Field positions determined by field observer.

EXCEPT: Field positions determined by field observer.

EXCEPT: Field positions determined by field observer.
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<th>CHARTING NAME</th>
<th>DESCRIPTION</th>
<th>LATITUDE</th>
<th>LONGITUDE</th>
<th>METHOD AND DATE OF LOCATION</th>
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<td>LIGHT</td>
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<td>19 51 32.0</td>
<td>07.509 218.5</td>
<td>77GSAASY 385, Jan.13, 1977, Triaq. Rec.</td>
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CHARTS AFFECTED: 19320
By photogrammetric methods.

**PHOTOGRAMMETRIC FIELD POSITIONS ARE DETERMINED BY FIELD OBSERVER.**

**FIELD POSITIONS ARE DETERMINED BY FIELD OBSERVER.**

8-12-75

**Example:** Y-V15
Enter Y-V15 and date.

11. Position verified visually on photograph.

8-12-75

**Example:** TR14-A, Rec.
Rec., with date of recovery.

11. Trajectory station is recovered, enter TR14-A.

When a landmark of 445 is also a TR1-

11. Trajectory station is recovered.

74, (C) 2928

8-12-75

**Example:** P-B-4:

A graph used to locate or identify the object.

Date of field work and number of the photo.

B. Photogrammetric field positions required.

C. Photogrammetric field positions required.

1. New position determined or verified.

FIELD IDENTIFIED AND LOCATED OBJECTS

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<th>Type of Action</th>
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<td>QA, (C), Worl, Cartographic Technician</td>
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</tr>
<tr>
<td>P. E. Peagan, T, Ensign, NOAA</td>
<td>Field positions determined and/or verified</td>
</tr>
<tr>
<td>A. F. Temple, Ensign, NOAA</td>
<td>Field positions determined and/or verified</td>
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</tbody>
</table>

**Instructions for entries under method and date of location.**

<table>
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<tr>
<th>Office Representative</th>
<th>Activities</th>
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<td>QA, (C), Worl, Cartographic Technician</td>
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</table>

<table>
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<tr>
<th>office Representative</th>
<th>Activities</th>
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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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<tr>
<th>CHART</th>
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<th>CARTOGRAPHER</th>
<th>REMARKS</th>
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