

TP-00379

TP-00379

| | |
|---|------------------|
| NOAA FORM 76-35 (6-80) | |
| U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SURVEY | |
| DESCRIPTIVE REPORT | |
| Map No. TP-00379 | Edition No. 1 |
| Job No. CM-7713 | |
| Map Classification FINAL, FIELD EDITED MAP | |
| Type of Survey SHORELINE | |
| LOCALITY | |
| State HAWAII | |
| General Locality HAWAII - SOUTHEAST COAST | |
| Locality PALIMA POINT | |
| 19 ₇₇ TO 19 ₈₀ | |
| REGISTERED IN ARCHIVES | |
| DATE | |

DESCRIPTIVE REPORT - DATA RECORD

TYPE OF SURVEY

- ☒ ORIGINAL
☐ RESURVEY
☐ REVISED

SURVEY TP. 00379

MAP EDITION NO. (1)

MAP CLASS Final

JOB PH. CM-7713

PHOTOGRAMMETRIC OFFICE

Coastal Mapping Division, AMC, Norfolk, VA

OFFICER-IN-CHARGE

Roy K. Matsushige, CDR

LAST PRECEDING MAP EDITION

TYPE OF SURVEY

- ☐ ORIGINAL
☐ RESURVEY
☐ REVISED

JOB PH. _____

MAP CLASS _____

SURVEY DATES:

19__ TO 19__

I. INSTRUCTIONS DATED

1. OFFICE

Aerotriangulation Feb. 13, 1978
Compilation Jun. 23, 1978

2. FIELD

Control Nov. 2, 1977

II. DATUMS

1. HORIZONTAL:

☐ 1927 NORTH AMERICAN

OTHER (Specify)

Old Hawaiian Datum

2. VERTICAL:

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

OTHER (Specify)

3. MAP PROJECTION

Transverse Mercator

4. GRID(S)

STATE

Hawaii

ZONE

1

5. SCALE

1:20,000

STATE

ZONE

III. HISTORY OF OFFICE OPERATIONS

| OPERATIONS | | NAME | DATE |
|--|---|--|--|
| 1. AEROTRIANGULATION METHOD: Analytic | BY LANDMARKS AND AIDS BY | R. Fisher | May 1978 |
| 2. CONTROL AND BRIDGE POINTS METHOD: Coradomat 21 | PLOTTED BY CHECKED BY | S. Solbeck S. Solbeck | May 1978 May 1978 |
| 3. STEREOSCOPIC INSTRUMENT COMPILATION INSTRUMENT: Wild B-8 SCALE: 1:20,000 | PLANIMETRY BY CHECKED BY CONTOURS BY CHECKED BY | R. Kravitz F. Mauldin N.A. N.A. | Feb 1979 Feb 1979 |
| 4. MANUSCRIPT DELINEATION METHOD: Smooth drafted SCALE: 1:20,000 | PLANIMETRY BY CHECKED BY CONTOURS BY CHECKED BY HYDRO SUPPORT DATA BY CHECKED BY | L. Williams R. Kravitz N.A. N.A. L. Williams R. Kravitz | Feb 1979 Mar 1979 Feb 1979 Mar 1979 |
| 5. OFFICE INSPECTION PRIOR TO FIELD EDIT | BY | R. Kravitz | Mar 1979 |
| 6. APPLICATION OF FIELD EDIT DATA | BY CHECKED BY | G. Morris J. Minton | Jul 1981 Aug 1981 |
| 7. COMPILATION SECTION REVIEW | BY | D. Butler | Jan 1982 |
| 8. FINAL REVIEW | BY | J. Hancock | Jan 1986 |
| 9. DATA FORWARDED TO PHOTOGRAMMETRIC BRANCH | BY | J. Hancock | Feb 1986 |
| 10. DATA EXAMINED IN PHOTOGRAMMETRIC BRANCH | BY | P. Dempsey E. DAUGHTERY | May 1986 May 86 |
| 11. MAP REGISTERED - COASTAL SURVEY SECTION | BY | | |

NOAA FORM 76-36B
(3-72)

TP-00379

U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

COMPILATION SOURCES

1. COMPILATION PHOTOGRAPHY

| | | | | | |
|---|---------------|---|----------|----------------------|---|
| CAMERA(S) F. L. = 153.21 mm Zeiss RMK A 15/23, Lens 118960 | | TYPES OF PHOTOGRAPHY LEGEND | | TIME REFERENCE | |
| TIDE STAGE REFERENCE | | (C) COLOR (P) PANCHROMATIC (I) INFRARED | | ZONE | <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> DAYLIGHT |
| <input checked="" type="checkbox"/> PREDICTED TIDES <input type="checkbox"/> REFERENCE STATION RECORDS <input type="checkbox"/> TIDE CONTROLLED PHOTOGRAPHY | | | | MERIDIAN | |
| | | | | 150th | |
| NUMBER AND TYPE | DATE | TIME | SCALE | STAGE OF TIDE | |
| 77GSAASY 598-601 | Mar. 26, 1977 | 12:30 | 1:50,000 | 0.4 ft. above MLLW | |
| 76GSAASY 081-086 | Dec. 15, 1976 | 12:05 | 1:30,000 | 1.5 ft. above MLLW | |
| | | | | Mean Range = 1.7 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 ratio prints of the 1:30,000
scale photographs.

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

None.

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

| SURVEY NUMBER | DATE(S) | SURVEY COPY USED | SURVEY NUMBER | DATE(S) | SURVEY COPY USED |
|---------------|---------|------------------|---------------|---------|------------------|
| | | | | | |

5. FINAL JUNCTIONS

| NORTH | EAST | SOUTH | WEST |
|-----------|----------|-----------|-----------|
| No Survey | TP-00378 | TP-00380* | No Survey |

REMARKS 1:5,000 scale TP-00488 lies partly within the southwest corner of this
manuscript, and the northeast corner of TP-00380.

TP-00379

HISTORY OF FIELD OPERATIONS

I. ☒ FIELD INSPECTION OPERATION (photoidentification) ☐ FIELD EDIT OPERATION

| OPERATION | NAME | DATE |
|-------------------------------------|--|----------------------------------|
| 1. CHIEF OF FIELD PARTY | R. Melby | Jan 1978 |
| 2. HORIZONTAL CONTROL | RECOVERED BY R. Melby ESTABLISHED BY R. Melby PRE-MARKED OR IDENTIFIED BY R. Melby | Jan 1978 Jan 1978 Jan 1978 |
| 3. VERTICAL CONTROL | RECOVERED BY N.A. ESTABLISHED BY N.A. PRE-MARKED OR IDENTIFIED BY N.A. | |
| 4. LANDMARKS AND AIDS TO NAVIGATION | RECOVERED (Triangulation Stations) BY None LOCATED (Field Methods) BY None IDENTIFIED BY None | |
| 5. GEOGRAPHIC NAMES INVESTIGATION | TYPE OF INVESTIGATION <input type="checkbox"/> COMPLETE <input type="checkbox"/> SPECIFIC NAMES ONLY <input checked="" type="checkbox"/> NO INVESTIGATION | |
| 6. PHOTO INSPECTION | CLARIFICATION OF DETAILS BY None | |
| 7. BOUNDARIES AND LIMITS | SURVEYED OR IDENTIFIED BY N.A. | |

II. SOURCE DATA

| 1. HORIZONTAL CONTROL IDENTIFIED | | 2. VERTICAL CONTROL IDENTIFIED | |
|----------------------------------|---|--------------------------------|---------------------|
| PHOTO NUMBER | STATION NAME | PHOTO NUMBER | STATION DESIGNATION |
| 77GSAASY 600 | Puu Ulaula, 1914 (Direct & 2 Sub Pts. identified) | | |

3. PHOTO NUMBERS (Clarification of details)
None

4. LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED
None

| PHOTO NUMBER | OBJECT NAME | PHOTO NUMBER | OBJECT NAME |
|--------------|-------------|--------------|-------------|
| | | | |

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 76-53
1-sun azimuth observation, 1-form 269C
1-Field Report

NOAA FORM 76-36C
(3-72)U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

TP-00379

HISTORY OF FIELD OPERATIONS

I. ☐ FIELD INSPECTION OPERATION☒ FIELD EDIT OPERATION

| OPERATION | NAME | DATE |
|-------------------------------------|--|------------------------------|
| 1. CHIEF OF FIELD PARTY | W. Mobley | Dec79/Oct80 |
| 2. HORIZONTAL CONTROL | RECOVERED BY ESTABLISHED BY PRE-MARKED OR IDENTIFIED BY | W. McCluskey None None |
| 3. VERTICAL CONTROL | RECOVERED BY ESTABLISHED BY PRE-MARKED OR IDENTIFIED BY | None None None |
| 4. LANDMARKS AND AIDS TO NAVIGATION | RECOVERED (Triangulation Stations) BY LOCATED (Field Methods) BY IDENTIFIED BY | M. McCluskey None None |
| 5. GEOGRAPHIC NAMES INVESTIGATION | TYPE OF INVESTIGATION <input type="checkbox"/> COMPLETE <input type="checkbox"/> SPECIFIC NAMES ONLY <input checked="" type="checkbox"/> NO INVESTIGATION | |
| 6. PHOTO INSPECTION | CLARIFICATION OF DETAILS BY | D. Kruth |
| 7. BOUNDARIES AND LIMITS | SURVEYED OR IDENTIFIED BY | N.A. |

II. SOURCE DATA

| 1. HORIZONTAL CONTROL IDENTIFIED | | 2. VERTICAL CONTROL IDENTIFIED | |
|----------------------------------|--------------|--------------------------------|---------------------|
| None | | N.A. | |
| PHOTO NUMBER | STATION NAME | PHOTO NUMBER | STATION DESIGNATION |
| | | | |

3. PHOTO NUMBERS (Clarification of details)

76 GSAASY 081-085 (Cronapaque Ratios)

4. LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED

None

| PHOTO NUMBER | OBJECT NAME | PHOTO NUMBER | OBJECT NAME |
|--------------|-------------|--------------|-------------|
| | | | |

5. GEOGRAPHIC NAMES: ☐ REPORT ☒ NONE6. 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 Report
 1-Field Edit Film Print
 1-Field 76-40 Forms

RECORD OF SURVEY USE

I. MANUSCRIPT COPIES

| COMPILATION STAGES | | | DATE MANUSCRIPT FORWARDED | |
|--|----------|----------------------|---------------------------|---------------|
| DATA COMPILED | DATE | REMARKS | MARINE CHARTS | HYDRO SUPPORT |
| Compilation complete pending field edit. | Mar 1979 | Class III Manuscript | April 1979 | April 1979 |
| Field edit applied. Compilation complete pending final review. | Jan 1982 | Class I Manuscript | None | Feb 1982 |
| Final Review | Jan 1986 | Final Map | Mar 1986 | Mar 1986 |
| | | | | |

II. LANDMARKS AND AIDS TO NAVIGATION

1. REPORTS TO MARINE CHART DIVISION, NAUTICAL DATA BRANCH

| (NUMBER) PAGES | CHART LETTER NUMBER ASSIGNED | DATE FORWARDED | REMARKS |
|-------------------|---------------------------------|-------------------|-------------------------|
| 1 | | Mar 1986 | 1 Landmark for Charting |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

2. ☐ REPORT TO MARINE CHART DIVISION, COAST PILOT BRANCH. DATE FORWARDED: _____3. ☐ REPORT TO AERONAUTICAL CHART DIVISION, AERONAUTICAL DATA SECTION. DATE FORWARDED: _____

III. FEDERAL RECORDS CENTER DATA

1. ☒ BRIDGING PHOTOGRAPHS; ☒ DUPLICATE BRIDGING REPORT; ☒ COMPUTER READOUTS.
2. ☒ CONTROL STATION IDENTIFICATION CARDS; ☒ FORM NOS 76-40 SUBMITTED BY FIELD PARTIES.
3. ☒ SOURCE DATA (except for Geographic Names Report) AS LISTED IN SECTION II, NOAA FORM 76-36C.
ACCOUNT FOR EXCEPTIONS:

4. ☐ DATA TO FEDERAL RECORDS CENTER. DATE FORWARDED: _____

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

| | | | |
|-------------------|---------------------------------|--------------------------|---|
| SECOND EDITION | SURVEY NUMBER TP - _____ (2) | JOB NUMBER PH - _____ | TYPE OF SURVEY <input type="checkbox"/> REVISED <input type="checkbox"/> RESURVEY MAP CLASS <input type="checkbox"/> II. <input type="checkbox"/> III. <input type="checkbox"/> IV. <input type="checkbox"/> V. <input type="checkbox"/> FINAL |
| | DATE OF PHOTOGRAPHY | DATE OF FIELD EDIT | |
| THIRD EDITION | SURVEY NUMBER TP - _____ (3) | JOB NUMBER PH - _____ | TYPE OF SURVEY <input type="checkbox"/> REVISED <input type="checkbox"/> RESURVEY MAP CLASS <input type="checkbox"/> II. <input type="checkbox"/> III. <input type="checkbox"/> IV. <input type="checkbox"/> V. <input type="checkbox"/> FINAL |
| | DATE OF PHOTOGRAPHY | DATE OF FIELD EDIT | |
| FOURTH EDITION | SURVEY NUMBER TP - _____ (4) | JOB NUMBER PH - _____ | TYPE OF SURVEY <input type="checkbox"/> REVISED <input type="checkbox"/> RESURVEY MAP CLASS <input type="checkbox"/> II. <input type="checkbox"/> III. <input type="checkbox"/> IV. <input type="checkbox"/> V. <input type="checkbox"/> FINAL |
| | DATE OF PHOTOGRAPHY | DATE OF FIELD EDIT | |

Addendum
Photogrammetric Plot Report
Hawaii ~~Island~~ - SE Coast
CM-7713
November 28, 1978

The intersection station, Honuapo, Hutchinson Sugar Co., Mill Stack, 1967 would not fit the control points used for strip adjustment. This stack lies between Stein 2 (HTS), 1949 and LUU, 1930. Both Stein 2 and LUU are identified direct.

In Strip 4 (1:30,000 scale) the stack is a poor image. When the three control points for the strip are held, the stack is out about 10 feet in X and 16 feet in Y. However, the quality of a strip adjustment with only three control points can not always be evaluated.

In Strip 2 (1:50,000 scale) the image of the stack is also questionable, but its approximate position can be measured. In this strip, there are five field identified control points to adjust the strip and the adjustment with these five points is good. The stack is out 3 x 12 feet in this strip. (I believe the discrepancy between the two strips is due chiefly to the image quality of the stack).

The written description of the stack appears to agree with the image on the 1:15,000 scale photography. The image is good on this photography. The stack was cut in from three stations by Geodesy. No other information appears to be available.

On the basis of the adjustment of Strip 2 with the five control stations, I can only surmise that the discrepancy is with the position on the stack and that the strips covering this area and the control used to adjust these strips are adequate.

Don O. Norma

SUMMARY TO ACCOMPANY
DESCRIPTIVE REPORT

TP-00379

This 1:20,000 scale final shoreline map is one of eight maps that comprise project CM-7713, Hawaii Island, Southeast Coast, Hawaii. The eight maps are assigned as TP-00375 through TP-00380 at 1:20,000 scale and TP-00488 and TP-00489 at 1:5,000 scale.

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 shoreline along the southeastern coast of Hawaii Island from Long. 155°23.0' to Long. 155°31.5'. A portion of inset map TP-00488 lies within the southwest limit of the manuscript.

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 and 1:30,000 scales and supplemental compilation/photo-hydro support photographs at 1:30,000 and 1:15,000 scales were taken at various times from December 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 provided by the Washington Science Center in May 1978. This activity included ruling the base manuscripts and providing ratio photographs for compilation. In addition to this project, control was established in order to complete the compilation of three maps for adjoining project PH-6402. During the compilation process of CM-7713, modifications to the original control were made by the aerotriangulation section and subsequent control accompanied with an Addendum to the Photo Plot Report were provided in November 1978.

Compilation by office interpretation of the mapping photographs was performed at the Coastal Mapping Section, Atlantic Marine Center in March 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 by NOAA Ship RAINIER personnel in conjunction with hydrographic survey H-9857, December 1979 and H-9914 October 1980.

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

TP-00379

Final review was performed at the Atlantic Marine Center in January 1986. 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-00379

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 WNVH 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 $46^{\circ}00'26''$. 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 $64^{\circ}00'26''$. The reference mark was used as a check angle.

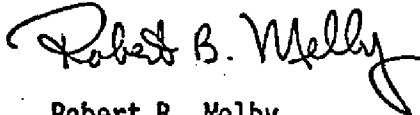
Station PUU ULAULA was photo-identified using a sun azimuth and a stack. the stack is station PAHALA, KAU SUGAR CO STACK, 1977. An N.G.S. Geodetic Field Party was working in the area and a position of the stack should be available from Geodesy in the near future. However, the sun azimuth can be used to determine the azimuth to the sub-points.

Page 2

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,

A handwritten signature in dark ink, appearing to read "Robert B. Melby". The signature is fluid and cursive, with a large, sweeping initial "R".

Robert B. Melby
Chief, PMC Photo Party
CPM 133

8

PHOTOGRAMMETRIC PLOT REPORT
HAWAII ISLAND-SOUTHEAST COAST
CM-7713

May 10, 1978

Area Covered

This project covers most of the southeast coast of Hawaii Island, Hawaii. The following T-sheets are involved:

TP-00375 thru TP-00380 (1:20,000)

TP-00488 and TP-00489 (1:5,000)

In addition to the above T-sheets, T-12559 thru T-12561 at 1:10,000 scale from PH-6402 are also covered.

Method

Two strips of 1:50,000 (strips 1 and 2) and one strip of 1:30,000 (strip 4) panchromatic photography were bridged by analytic aero-triangulation methods.

Strip 4 was bridged solely to provide compilation points for 1:15,000 compilation photography covering TP-00488 and TP-00489.

Ties were made with strip 2 of CM-7712 on the north coast and strip 12 of PH-6402 located near the southern end of the island.

Ratio points for the offshore 1:30,000 scale strips 11 thru 18 were read on the 1:50,000 strips.

Strip 12, 1:30,000, of PH-6402 which would not adjust satisfactorily in 1969 for unknown reasons was rebridged using old horizontal control along with 1977 identified horizontal control and ties from the 1:50,000 strip 2 of the CM-7713 project.

Strips 2 and 4 of CM-7713 and strip 12 of PH-6402 adjusted satisfactorily. The 1964 subpoint for KAMILO (HTS) 1898 is believed to be in error and was disregarded.

Strip 1 of CM-7713 could not be adjusted to meet bridging accuracy standards for all stations. A problem is suspected with PULAMA 1914 but could not be resolved. The final adjustment to this strip was made letting PULAMA 1914 float and disregarding the error in y of about -25 feet at this station.

Ratio points for an offshore 1:15,000 color strip were read on Strip 12. (PH-6402)

T-sheets TP-00375 through TP-00380, TP-00488, TP-00489, and T-12559 through T-12561 were plotted and sent to AMC at Norfolk, Virginia.

Adequacy of Control

With the exception of a horizontal control problem in strip 1 the horizontal control was adequate.

Vertical control was obtained from shoreline points and USGS quadrangle elevations and was satisfactory.

Photography

The quality and location of the photography was satisfactory.

This photography was flown by American Aerial Survey, Inc., with a Zeiss RMK A 15/23 camera, lens serial number 118960.

Submitted by:

Robert E. Fisher

Robert E. Fisher

Approved and Forwarded:

Don O. Norman

Don O. Norman
Acting Chief
Aerotriangulation Section

HORIZONTAL CONTROL FOR CM-7713

- 1 KALAE LIGHT 1948
- 1A KALAE 2, 1948
- 1B KALAE 1887
- 2 PALAHEMO 1898
- 3 MAHANA 1898
- 4 KAMILO (HTS) 1898
- 5 STEIN 2 (HTS) 1949
- 6 LUU 1930
- 7 PUU ULAULA 1914
- 8 HILINA USGS 1961
- 9 PULAMA 1914
- 10 KALIU 1949
- 11 CAPE KUMUKAHI LIGHTHOUSE 1949

02

HORIZONTAL FIT TO CONTROL (FEET)

STRIP #1 (1:50,000)

| | | |
|-----|------------------|-----------------|
| 6. | LUU 1930 | (1.90, 0.26) |
| | SUB PT. | (1.45, -1.00) |
| 7. | PUU ULAULA 1914 | (-3.55, -0.98) |
| 8. | HILINA USGS 1961 | |
| | SUB PT. A | (5.34, -1.60) |
| | SUB PT. B | (1.67, 1.16) |
| 9. | PULAMA 1914 | |
| | SUB PT. A | (4.59, -23.68) |
| | SUB PT. B | (11.88, -28.72) |
| 10. | KALIU 1949 | (-2.05, -8.61) |
| | SUB PT. | (0.03, -2.17) |

STRIP #2 (1:50,000)

| | | |
|----|--------------------|----------------|
| 1A | KALAE 2, 1948 | |
| | SUB PT. A | (-0.96, 0.23) |
| | SUB PT. B | (1.19, 0.95) |
| 4. | KAMILO (HTS) 1898 | (2.06, 0.58) |
| | SUB PT. | (0.33, -0.11) |
| 5. | STEIN 2 (HTS) 1949 | (-1.26, -1.59) |
| | SUB PT. | (2.42, 1.99) |
| 6. | LUU 1930 | (-0.07, 1.16) |
| | SUB PT. | (-0.24, -0.47) |
| 7. | PUU ULAULA 1914 | (0.23, -0.36) |

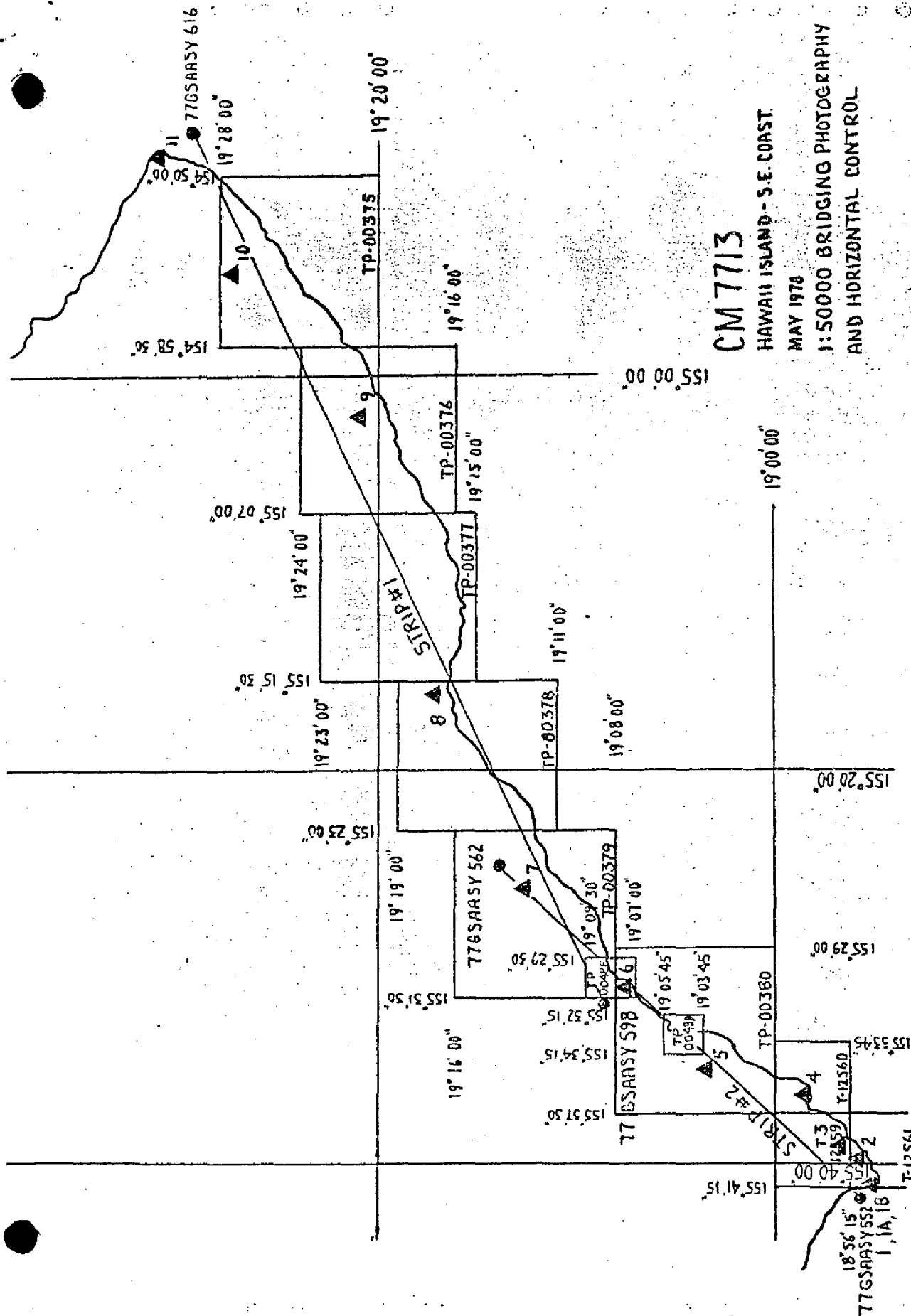
STRIP #4 (1:30,000)

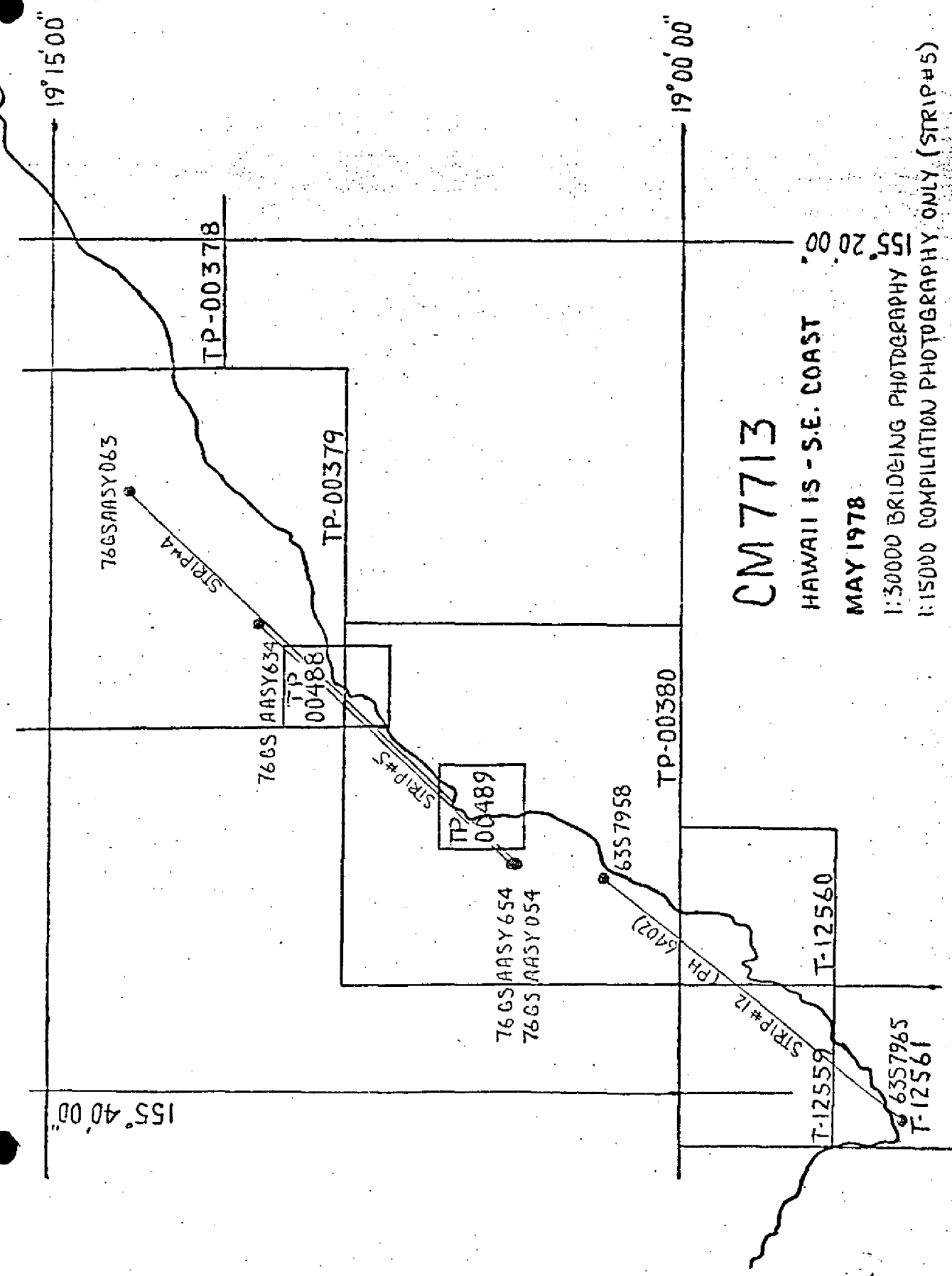
| | | |
|----|--------------------|----------------|
| 5. | STEIN 2 (HTS) 1949 | (-0.01, -0.04) |
| | SUB PT. | (0.11, 4.03) |
| 6. | LUU 1930 | (0.00, 0.00) |
| 7. | PUU ULAULA 1914 | (0.01, 0.01) |

60

STRIP #12 (1:30,000)

| | |
|------------------------------|----------------|
| 4. KAMILO (HTS) 1898 | (4.01, -0.39) |
| 3. MAHANA 1898 | (1.48, 0.46) |
| 2. PALAHEMO 1898 | (2.64, -1.31) |
| 1B. KALAE 1887 | (0.36, -0.37) |
| 1A. KALAE 2, 1948 SUB PT. | (2.30, 1.46) |
| 1. KALAE LIGHT 1948 | (-0.16, -0.27) |





CM 7713

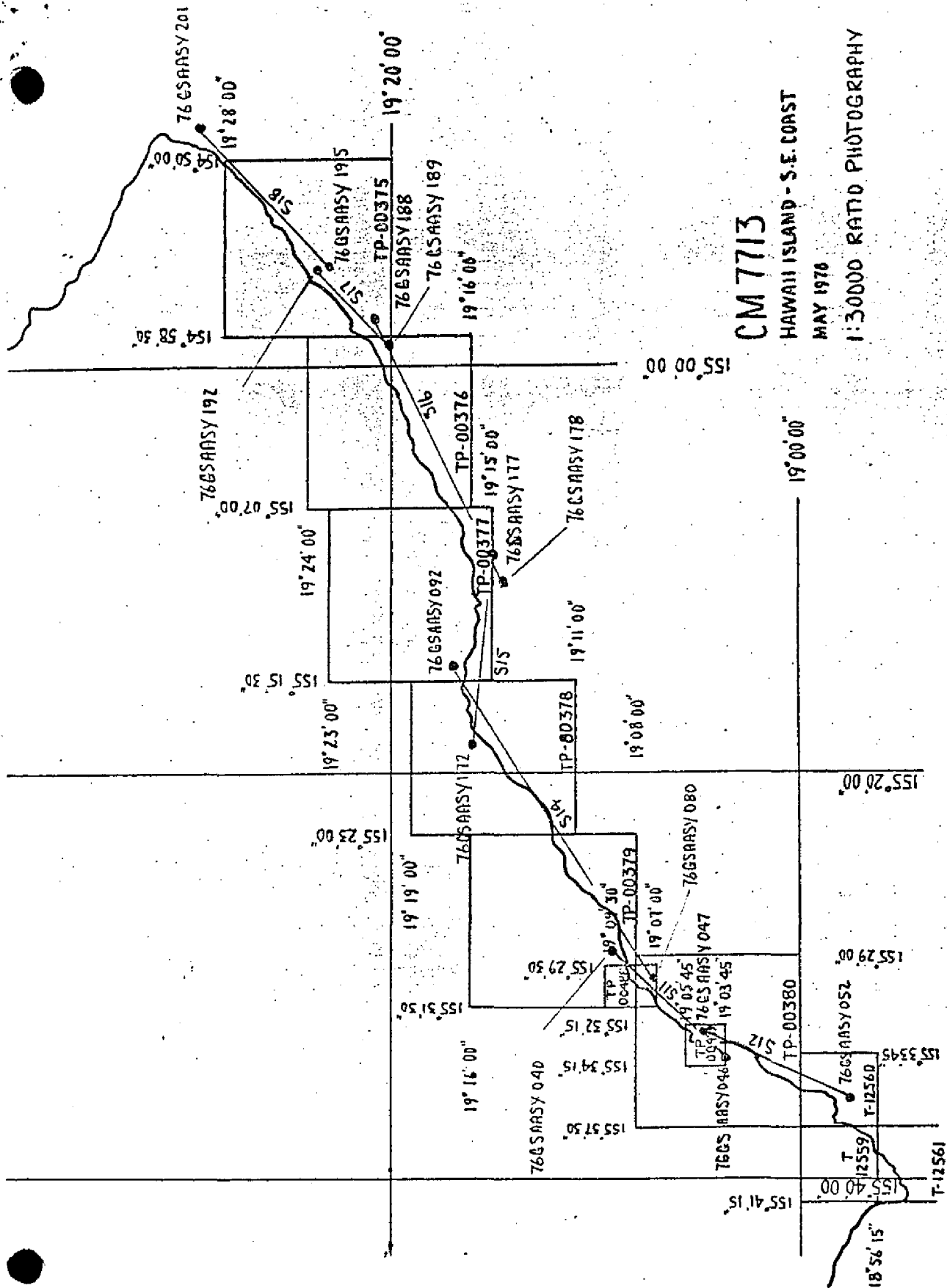
HAWAII IS - S.E. COAST

MAY 1978

1:50000 BRIDGING PHOTOGRAPHY

1:15000 COMPILATION PHOTOGRAPHY ONLY (STRIP#5)

155° 20' 00"



CM 7713

HAWAII ISLAND - S.E. COAST

MAY 1976

1:30000 RADII PHOTOGRAPHY

Addendum
Photogrammetric Plot Report
Hawaii ~~Island~~ - SE Coast
CM-7713
November 28, 1978

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On the basis of the adjustment of Strip 2 with the five control stations, I can only surmise that the discrepancy is with the position on the stack and that the strips covering this area and the control used to adjust these strips are adequate.

Gon O. Norman

DESCRIPTIVE REPORT CONTROL RECORD

| MAP NO. | JOB NO. | STATION NAME | SOURCE OF INFORMATION (Index) | AEROTRIANGULATION POINT NUMBER | GEODETTIC DATUM | | ORIGINATING ACTIVITY | |
|----------------------------------|-----------|------------------------------|-------------------------------|--------------------------------|--------------------------|-----------------------------|----------------------|--|
| | | | | | Old Hawaiian | Photogrammetric Branch, PMC | | |
| TP-00379 | CM-7713 | | | | COORDINATES IN FEET | GEOGRAPHIC POSITION | REMARKS | |
| | | | | | STATE | ϕ LATITUDE | Front | |
| | | | | | ZONE | λ LONGITUDE | Back | |
| PUU ULAULA (HTS), 1914 | | Quad 191552 Sta. 1053 | | 7 | X= 522,957.36 | ϕ 19°12'24.452" | | |
| | | | | 600100 | Y= 135,619.27 | λ 155°26'00.452" | | |
| PAHALA KAU SUGAR CO. STACK, 1978 | | Field Edit Report Form 76-40 | | | X= | ϕ 19°12'00.4959" | 15.25 (1829.56) | |
| | | | | | Y= | λ 155°28'44.2719" | 1293.31 (459.48) | |
| PUN, 1930 | | Quad 191552 Sta. 1049 | | 20 | X= | ϕ 19°08'26.595" | | |
| | | | | | Y= | λ 155°29'21.880" | | |
| KAMEHAME NEW (HTS), 1949 | | Quad 191552 Sta. 1023 | | 21 | X= 510,771.11 | ϕ 19°08'52.349" | | |
| | | | | | Y= 114,220.64 | λ 155°28'07.649" | | |
| | | | | | X= | ϕ | | |
| | | | | | Y= | λ | | |
| | | | | | X= | ϕ | | |
| | | | | | Y= | λ | | |
| | | | | | X= | ϕ | | |
| | | | | | Y= | λ | | |
| | | | | | X= | ϕ | | |
| | | | | | Y= | λ | | |
| | | | | | X= | ϕ | | |
| | | | | | Y= | λ | | |
| | | | | | X= | ϕ | | |
| | | | | | Y= | λ | | |
| COMPUTED BY | J. Massey | | | DATE | COMPUTATION CHECKED BY | G. Morris | DATE | |
| LISTED BY | J. Massey | | | Aug. 20, 1981 | LISTING CHECKED BY | G. Morris | Aug. 20, 1981 | |
| HAND PLOTTING BY | | | | Aug. 20, 1981 | HAND PLOTTING CHECKED BY | | Aug. 20, 1981 | |

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COMPILATION REPORT

CM-7713

TP-00379

31 - DELINEATION

Delineation was by instrument methods using the Wild B-8 stereoplotter and 1:50,000 scale photography. Points common to the 1:30,000 scale photographs were selected on the ratio photographs in order to assist in graphic compilation of the mean high water line. Photo coverage and quality were adequate.

32 - CONTROL

See the Photogrammetric Plot Report dated May 10, 1978.

33 - SUPPLEMENTAL DATA

None.

34 - CONTOURS AND DRAINAGE

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

35 - SHORELINE AND ALONGSHORE DETAIL

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

The mean high water line was office edited and refined from the ratioed photographs.

36 - OFFSHORE DETAILS

There were no significant offshore details.

37 - LANDMARKS AND AIDS

There was one charted landmarks and no charted aids within the mapping area of this manuscript.

38 - CONTROL FOR FUTURE SURVEYS

None.

39 - JUNCTIONS

See the Form 76-36B, item 5 of the Descriptive Report concerning junctions.

TP-00379

40 - HORIZONTAL AND VERTICAL ACCURACY

Refer to the Photogrammetric Plot Report dated May 10, 1978.

46 - COMPARISON WITH EXISTING MAPS

A comparison was made with the following U.S. Geological Survey
Quadrangle:
Pahala, HA, scale 1:24,000, 1967.

47 - COMPARISON WITH NAUTICAL CHARTS

A comparison was made with National Ocean Survey Chart 19320, scale
1:250,000, 12th edition, dated June 17, 1978. The scale of this chart
would not permit suitable comparison.

ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY

None.

ITEMS TO BE CARRIED FORWARD

None.

Submitted by:

James S. Hancock

for Langley Williams
Cartographic Technician
February 22, 1979

Approved:

James S. Byrd, Jr.

Albert C. Rauck, Jr.
Chief, Coastal Mapping Section

ADDENDUM TO THE COMPILATION REPORT

TP-00379

FIELD EDIT

The field editor recommended a trail and snow fence, marking the western boundary of Hawaii Volcano National Park, as a landmark and submitted an approximate position on the 76-40. Since linear features cannot be shown effectively with a single 2.5mm, it was delineated only as a map feature.

A rock originally compiled at 19°09'05.4" (166m. latitude), 155°27'13.9" (407m. longitude) was deleted in order to delineate one located by the field editor which was more seaward.

Station PAHALA KAU SUGAR CO. STACK, 1978 was determined to be of landmark value by the field editor. The position listed on the form 76-40 was obtained from the NGS Terminal at P.M.C. since no horizontal control data was available or submitted by the field editor.

Several rocks located by the field editor have not been shown because they were either too close to each other or too close to the MHW line to symbolize correctly, and/or posed no hazard to navigation.

The field editor was unable to investigate all foul and submerged ledge areas due to the surf and swell conditions which are characteristic of the entire shoreline. He recommends that those areas he was able to classify be delineated; however, since these are few and small, exist inside the breaker line, and he states that "the prudent mariner would never venture beyond the breaker limit", we decided not to show them on the manuscript. Also, since no MLLW line was compiled on the project, sporadic and inconsistent use of the ledge symbol would not be appropriate.

Two rocks compiled at the Class III stage were removed from the manuscript because they were too close to the MHW line to symbolize correctly. (In one instance the MHW line had been broken for the awash symbol.) These rocks were located at:

| | |
|--------------|----------------------|
| 19°08'32.8" | 1010 meters latitude |
| 155°29'05.0" | 145 meters longitude |
| 19°08'25.4" | 780 meters latitude |
| 155°29'28.0" | 818 meters longitude |

Submitted by:

for *David P. Butler*
David P. Butler
Cartographic Technician
Date: Jan. 1982

Geographic Names

Final Name Sheet

Cm-7713(Island of Hawaii-Southeast Coast)

TP-00379

Kamehame Hill

Punahaha

~~Kaneieie-Heiau~~ (Shown on inset map TP-00488) *JH*~~Punaluu~~ (On map TP-00488) *JH*

Kapao Point

~~Punaluu-Harbor~~ (On map TP-00488) *JH*

Kauhuula

Puu Moo

Kuee

Puu Pili

Laahana

Ulekuwale Pueo

Mahuka Bay

Waiapele Bay

~~Nahalahua-Point~~ (Shown on inset map TP-00488) *JH*

Waiola Spring

~~Ninele~~ (Shown on inset map TP-00488) *JH*

Waiwelawela Point

Palima Point

Approved by:

Charles E. Harrington
Charles E. Harrington
Chief Geographer- C3X8

Field Edit Report

OPR-T126-RA-80

CM-7713

TP-00379

Hawaii Island
Southeast Coast Hawaii

30 November - 1 December 1979
6 October 1980

METHODS

Field edit operations on TP-00379 were conducted on November 30, 1979 thru December 1, 1979 (JD 334-335) and completed on October 6, 1980 (JD 280). Greenwich Mean Time (GMT) was used to reference shoreline features. Shoreline features can be cross referenced by comparing the time when observed between the field discrepancy print, the photographs and the master film field edit ozalid. Notes on the master film field edit ozalid were made using violet meaning verification or addition of features and green meaning the deletion of the feature.

Field edit was performed from shore by foot during the 1979 season. This area is indicated on the master film field edit ozalid. Starting where the 1979 season finished, the rest of the sheet was field edited in a slow, low flying helicopter. This was due to extreme isolation, roughness of terrain and poor access to it.

The procedure used for the addition of rocks and other features was to first circle and label it on the matte ratio photograph, also noting it on the field discrepancy print. The feature was then photo pricked on the chronopaque photograph and labeled. It was then transferred to the master film field edit ozalid.

The black and white photos 082-086, master film field edit ozalid and the discrepancy print were used to record and present the data.

The field edit survey compiled with project instructions and with Chapter 11 Manual of Coastal Mapping Field Procedures, the Provisional Hydro Manual and the PMC OORDER.

ADEQUACY AND COMPLETENESS

The manuscript as amended by the field edit survey is adequate and complete. The entire manuscript was field edited.

GEOGRAPHIC NAMES

There was no investigation of geographic names.

MANUSCRIPT ACCURACY

Visual comparison of shoreline features with the discrepancy print and photos was the method of determining accuracy. Agreement was excellent.

RECOMMENDATIONS AND MISCELLANEOUS COMMENTS

1. A note from the compiler to the field editor stated;

"The entire shoreline is enclosed by a dashed line indicating an area foul with rocks and ledge. The heavy surf at the shoreline is indicative of the nature of the shoreline. The compilation office could do little to define this area."

The field editor also had a difficult time verifying or disproving the "foul with rocks and submerged ledge" limits. It was virtually impossible to disprove the dashed "foul with submerged ledge" limit line enclosing the shoreline. The surf, swell and distance from shore made it impossible to see if submerged ledges really existed. The survey launches approached as close as safety from the surf allowed from the offshore side of these foul limits in order to better define them. It would have to be a perfectly calm day (very rare for this coastline), for a boat to even have a chance to enter this dashed "foul with rocks and submerged Ledge" line enclosing the shoreline without being tossed against the cliffs by a wave. A prudent mariner would probably never go closer than these foul limits.

The field editor has shown on the master film field edit ozalid areas where it was positively determined to be "foul with rocks and submerged ledges". In some areas this foul limit was moved even further offshore for safety.

It is recommended that present "foul with rocks and submerged ledges" limits with changes shown on the master film field edit ozalid be changed to "foul with breakers" and areas positively identified as "foul with rocks and submerged ledges" by the field editor be mapped as such. This would eliminate the possibility of an area positively identified "foul with rocks" to be also enclosed by the offshore "foul with rocks and submerged ledge" limits. It would also give the most accurate and safest description of the shoreline.

2. "Pahala Kau Sugar Co. Stack 1978" located at $19^{\circ}12'0.49588N$ $155^{\circ}28'44.27919W$ was inspected from seaward and was determined to be of landmark value. It should be charted at this new position. The old stack was destroyed.

The fence and trail located at approximately $19^{\circ}11'36"N$, $155^{\circ}24'0"W$ and running to the Northwest is of excellent landmark value since it can be seen a great distance from seaward. It's entire length should be charted as seen in the photographs.

This corrected manuscript should supersede all previous shoreline compilations.

Respectfully submitted,

David J. Kruth
David J. Kruth
LTJG, NOAA

Approved and Forwarded,

Wayne L. Mobley
Wayne L. Mobley
Captain, NOAA
Commanding

REVIEW REPORT
TP-00379

SHORELINE

61 - GENERAL STATEMENT

Final review for this final field edited map was accomplished at the Atlantic Marine Center in January 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 the following USGS quadrangle: Pahala, Hawaii, dated 1967, 1:24,000 scale.

64 - COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS

Hydrographic surveys H-9857 and H-9914 are common to this final shoreline map. A comparison was made with a registered copy of H-9857, RA-20-4-79, 1:20,000 scale, field surveyed Oct.-Dec. 1979. Survey H-9914 was unregistered as of August 1985 and consequently a comparison was not made.

65 - COMPARISON WITH NAUTICAL CHARTS

A comparison was made with NOS chart 19320, 1:250,000 scale, 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-00379

Submitted by:

Jerry L. Hancock
Jerry L. Hancock
Final Reviewer

Approved for forwarding:

Billy H. Barnes

Billy H. Barnes
Chief, Photogrammetric Section, AMC

Approved:

John G. McCreary
Chief, Photogrammetric Section,
Rockville

Ronald K. Brewer
Chief, Photogrammetry Branch,
Rockville

Replaces C&GS Form 567.

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
LANDMARKS FOR CHARTS

[illegible]

| RESPONSIBLE PERSONNEL | |
|--|---|
| TYPE OF ACTION | NAME |
| OBJECTS INSPECTED FROM SEAWARD | D.J.Kruth, LTJG, NOAA |
| POSITIONS DETERMINED AND/OR VERIFIED | D.J.Kruth, LTJG, NOAA |
| FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES | G.A.Morris, Carto. Tech. |
| INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION' | |
| (Consult Photogrammetric Instructions No. 64.) | |
| OFFICE I. 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: 75E(C)6042 8-12-75 | FIELD (Cont'd) B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object. EXAMPLE: P-8-V 8-12-75 74L(C)2982 |
| FIELD I. 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 Vis - Visually 5 - Field identified 6 - Theodolite 7 - Planetable 8 - Sextant A. Field positions* require entry of method of location and date of field work. EXAMPLE: F-2-6-L 8-12-75 | III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH Enter 'V-Vis.' and date. EXAMPLE: V-Vis. 8-12-75 **PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods. |
| *FIELD POSITIONS are determined by field observations based entirely upon ground survey methods. | |

