

TP-00378

TP 00378

NOAA FORM 76-35 (6-80)	
U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SURVEY	
DESCRIPTIVE REPORT	
Map No. TP-00378	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 NALIIKAKANI POINT	
1977 TO 1980	
REGISTERED IN ARCHIVES	
DATE	

TYPE OF SURVEY

☒ ORIGINAL☐ RESURVEY☐ REVISED

SURVEY TP. 00378

MAP EDITION NO. (1)

MAP CLASS Final

JOB ~~PH~~ CM-7713

DESCRIPTIVE REPORT - DATA RECORD

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 June 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	BY	R. Fisher	May 1978
METHOD: Analytic	LANDMARKS AND AIDS BY		
2. CONTROL AND BRIDGE POINTS	PLOTTED BY	S. Solbeck	May 1978
METHOD: Coradomat 21	CHECKED BY	S. Solbeck	May 1978
3. STEREOSCOPIC INSTRUMENT	PLANIMETRY BY	R. Kravitz	Feb 1979
COMPILATION	CHECKED BY	L. Neterer	Feb 1979
INSTRUMENT: Wild B-8	CONTOURS BY	N.A.	
SCALE: 1:20,000	CHECKED BY	N.A.	
4. MANUSCRIPT DELINEATION	PLANIMETRY BY	L. Williams	Feb 1979
	CHECKED BY	R. Kravitz	Mar 1979
METHOD: Smooth drafted	CONTOURS BY	N.A.	
	CHECKED BY	N.A.	
SCALE: 1:20,000	HYDRO SUPPORT DATA BY	L. Williams	Feb 1979
	CHECKED BY	R. Kravitz	Mar 1979
5. OFFICE INSPECTION PRIOR TO FIELD EDIT	BY	R. Kravitz	Mar 1979
6. APPLICATION OF FIELD EDIT DATA	BY	G. A. Morris	Jul 1981
	CHECKED BY	J. R. Minton	Aug 1981
7. COMPILATION SECTION REVIEW	BY	D. Butler	Dec 1981
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	May 1986
11. MAP REGISTERED - COASTAL SURVEY SECTION	BY	E. DAUBERTY	MAY 86

NOAA FORM 76-36B (3-72)		TP-00378				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 A15/23, Lens 118960			TYPES OF PHOTOGRAPHY LEGEND (C) COLOR (P) PANCHROMATIC (I) INFRARED		TIME REFERENCE		
TIDE STAGE REFERENCE <input checked="" type="checkbox"/> PREDICTED TIDES <input type="checkbox"/> REFERENCE STATION RECORDS <input type="checkbox"/> TIDE CONTROLLED PHOTOGRAPHY					ZONE Hawaii MERIDIAN 150th		<input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> DAYLIGHT
NUMBER AND TYPE	DATE	TIME	SCALE	STAGE OF TIDE			
77GSAASY-601-605 77	Mar. 26, 1977	12:30	1:50,000	0.4 ft. above MLLW			
76GSAASY 086-091	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 <i>(List only those surveys that are sources for photogrammetric survey information.)</i>							
SURVEY NUMBER	DATE(S)	SURVEY COPY USED	SURVEY NUMBER	DATE(S)	SURVEY COPY USED		
5. FINAL JUNCTIONS							
NORTH	EAST	SOUTH	WEST				
No survey	TP-00377	No survey	TP-00379				
REMARKS							

TP-00378

HISTORY OF FIELD OPERATIONS

I. ☒ FIELD INSPECTION OPERATION
(photo identification) ☐ FIELD EDIT OPERATION

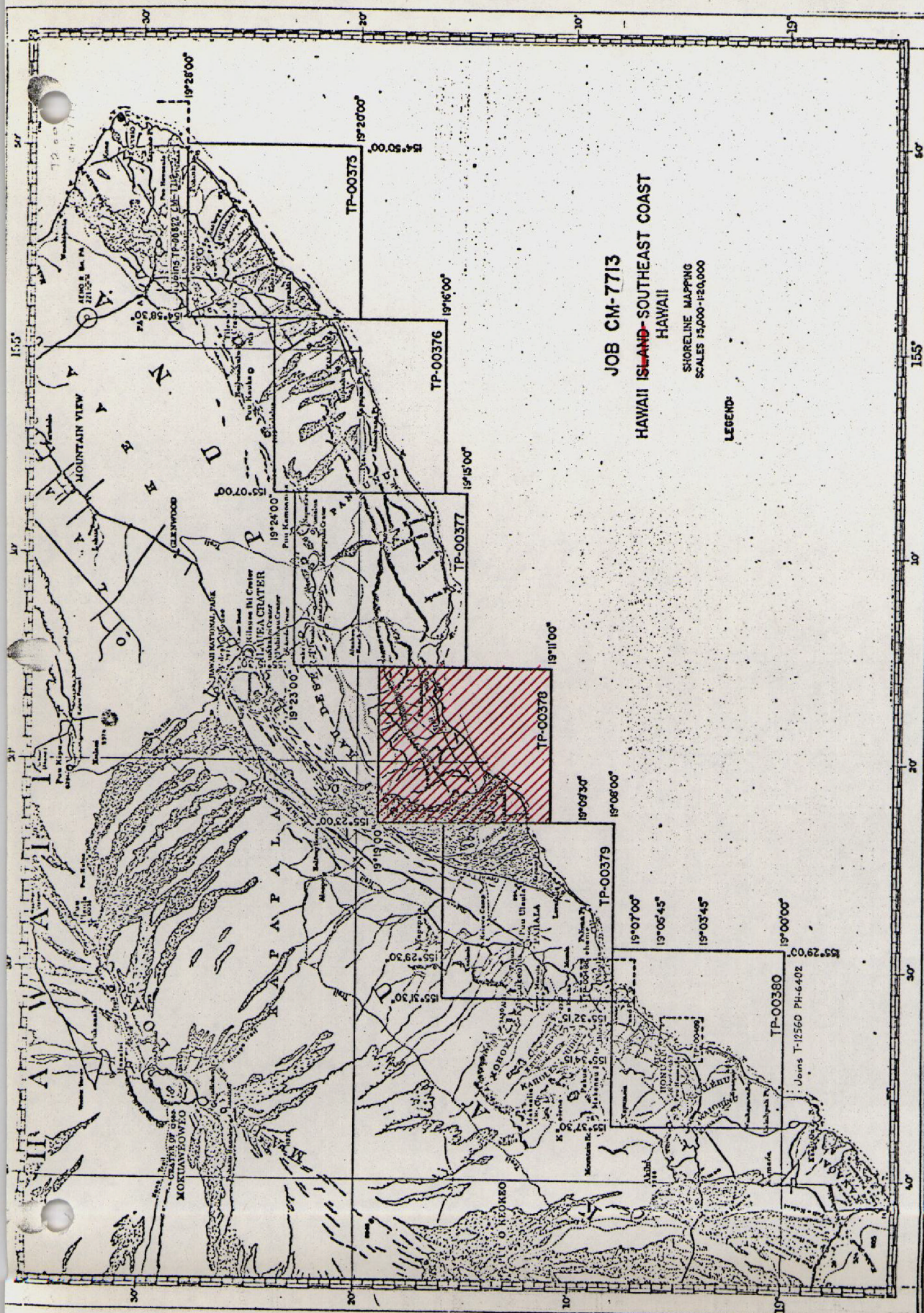
OPERATION	NAME	DATE
1. CHIEF OF FIELD PARTY	R. Melby	Jan 1978
2. HORIZONTAL CONTROL	RECOVERED BY R. Melby	Jan 1978
	ESTABLISHED BY R. Melby	Jan 1978
	PRE-MARKED OR IDENTIFIED BY R. Melby	Jan 1978
3. VERTICAL CONTROL	RECOVERED BY N.A.	
	ESTABLISHED BY N.A.	
	PRE-MARKED OR IDENTIFIED BY N.A.	
4. LANDMARKS 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
77GSAASY603	Hilina (U.S.G.S.), 1961 (Sub. pts. A & B 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: <input type="checkbox"/> REPORT <input checked="" type="checkbox"/> NONE		6. BOUNDARY AND LIMITS: <input type="checkbox"/> REPORT <input checked="" type="checkbox"/> NONE	
7. SUPPLEMENTAL MAPS AND PLANS None			
8. OTHER FIELD RECORDS (Sketch books, etc. DO NOT list data submitted to the Geodesy Division) 1-form 76-53 1-form 266 1-Field report			

NOAA FORM 76-36C (3-72)		TP-00378		U. S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SURVEY	
HISTORY OF FIELD OPERATIONS					
I. <input type="checkbox"/> FIELD INSPECTION OPERATION <input checked="" type="checkbox"/> FIELD EDIT OPERATION					
OPERATION		NAME		DATE	
1. CHIEF OF FIELD PARTY		W. Mobley		Oct 1980	
2. HORIZONTAL CONTROL		RECOVERED BY M. McCluskey		Oct 1980	
		ESTABLISHED BY None			
		PRE-MARKED OR IDENTIFIED BY None			
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 D. Kruth		Oct 1980	
5. GEOGRAPHIC NAMES INVESTIGATION		TYPE OF INVESTIGATION			
		<input type="checkbox"/> COMPLETE BY			
		<input type="checkbox"/> SPECIFIC NAMES ONLY			
		<input checked="" type="checkbox"/> NO INVESTIGATION			
6. PHOTO INSPECTION		CLARIFICATION OF DETAILS BY D. Kruth		Oct 1980	
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 086-091 (Cronapaque Ratios)					
4. LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED					
PHOTO NUMBER	OBJECT NAME	PHOTO NUMBER	OBJECT NAME		
76GSAASY089	SHELTER				
5. GEOGRAPHIC NAMES: <input type="checkbox"/> REPORT <input checked="" type="checkbox"/> NONE			6. BOUNDARY AND LIMITS: <input type="checkbox"/> REPORT <input checked="" type="checkbox"/> 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 Form					

NOAA FORM 76-36D (3-72)		U. S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION TP-00378 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.	March 1979	Class III Manuscript	April 1979	April 1979
Field edit applied. Compilation complete pending final review.	Dec. 1981	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 recommended for charting	
2. <input type="checkbox"/> REPORT TO MARINE CHART DIVISION, COAST PILOT BRANCH. DATE FORWARDED: _____ 3. <input type="checkbox"/> REPORT TO AERONAUTICAL CHART DIVISION, AERONAUTICAL DATA SECTION. DATE FORWARDED: _____				
III. FEDERAL RECORDS CENTER DATA				
1. <input checked="" type="checkbox"/> BRIDGING PHOTOGRAPHS; <input checked="" type="checkbox"/> DUPLICATE BRIDGING REPORT; <input checked="" type="checkbox"/> COMPUTER READOUTS. 2. <input checked="" type="checkbox"/> CONTROL STATION IDENTIFICATION CARDS; <input checked="" type="checkbox"/> FORM NOS 76-40 387 SUBMITTED BY FIELD PARTIES. 3. <input checked="" type="checkbox"/> SOURCE DATA (except for Geographic Names Report) AS LISTED IN SECTION II, NOAA FORM 76-36C. ACCOUNT FOR EXCEPTIONS: _____ 4. <input type="checkbox"/> 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		



SUMMARY TO ACCOMPANY
DESCRIPTIVE REPORT

TP-00378

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 a portion of shoreline along the southeastern coast of Hawaii Island from Long. $155^{\circ}15.5'$ to Long. $155^{\circ}23.0'$.

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 in conjunction with hydrographic survey H-9916 by NOAA Ship RAINIER personnel in October 1980.

Application of field edit data was accomplished at the Photogrammetric Section, Pacific Marine Center in December 1981 and the manuscript was advanced to Class I. A copy of the Class I manuscript was forwarded to the Hydrographic Surveys Branch.

TP-00378

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.

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FIELD INSPECTION

TP-00378

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 $46^{\circ}00'26''$. 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.

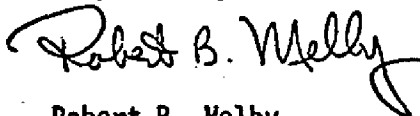
Station PUU ULAULA was photo-identified using a sun azimuth and a stack. the stack is station PAHALA, KAU SUGAR CO STACK, 1977. An N.G.S. Geodetic Field Party was working in the area and a position of the stack should be available from Geodesy in the near future. However, the sun azimuth can be used 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 the first name "Robert" and last name "Melby" clearly distinguishable.

Robert B. Melby
Chief, PMC Photo Party
CPM 133

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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 aerotriangulation 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

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)

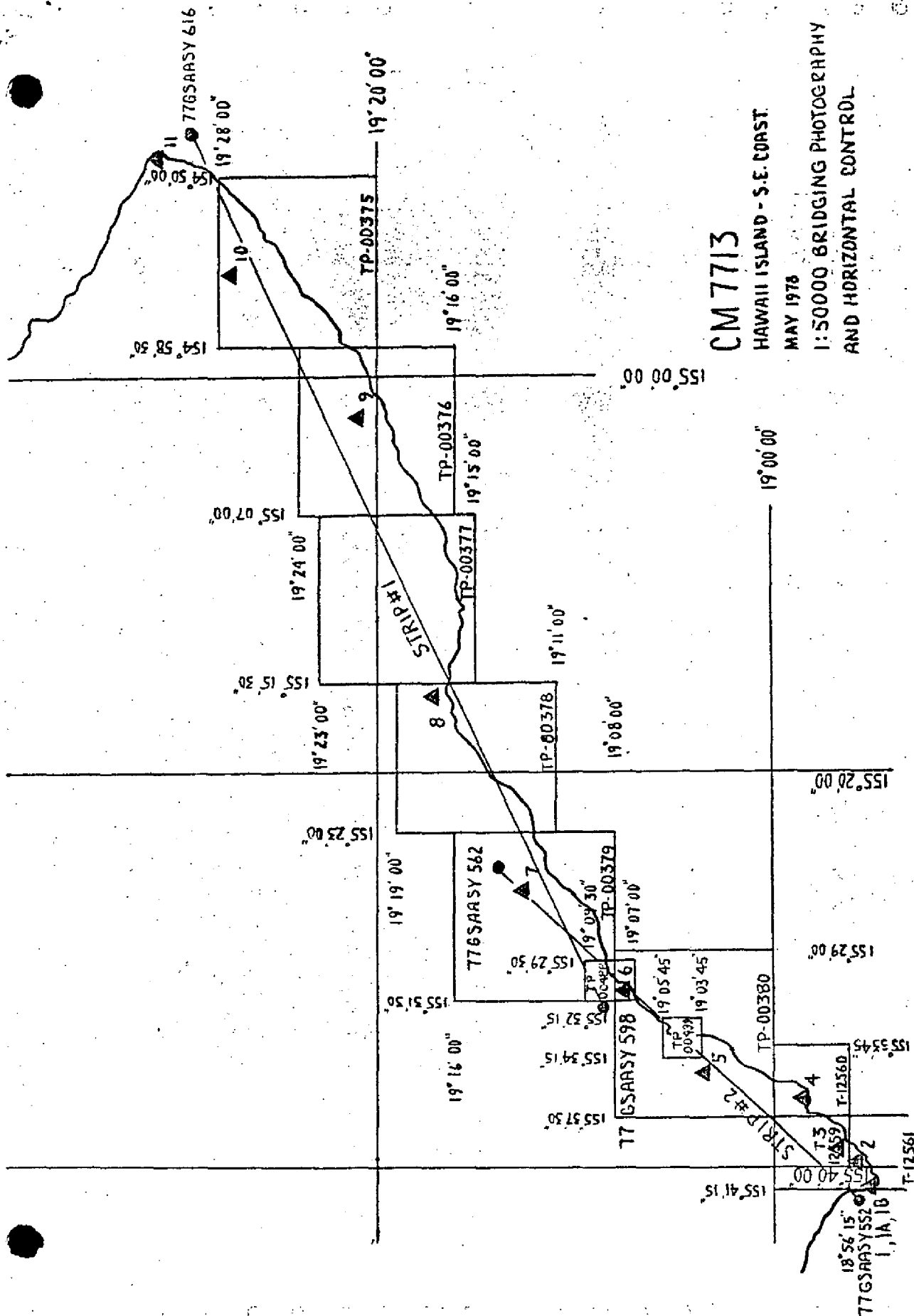
STRIP #4 (1:30,000)

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)

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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)



19° 15' 00"

TP-00378

76GS AASY063

STRIP#4

TP-00379

76GS AASY634

TP 00488

STRIP#5

TP 00489

76GS AASY654

76GS AASY054

63S7958

TP-00380

19° 00' 00"

CM 7713

HAWAII IS - S.E. COAST

MAY 1978

1:30000 BRIDGING PHOTOGRAPHY

1:15000 COMPILATION PHOTOGRAPHY ONLY (STRIP#5)

155° 40' 00"

155° 20' 00"

T-12559

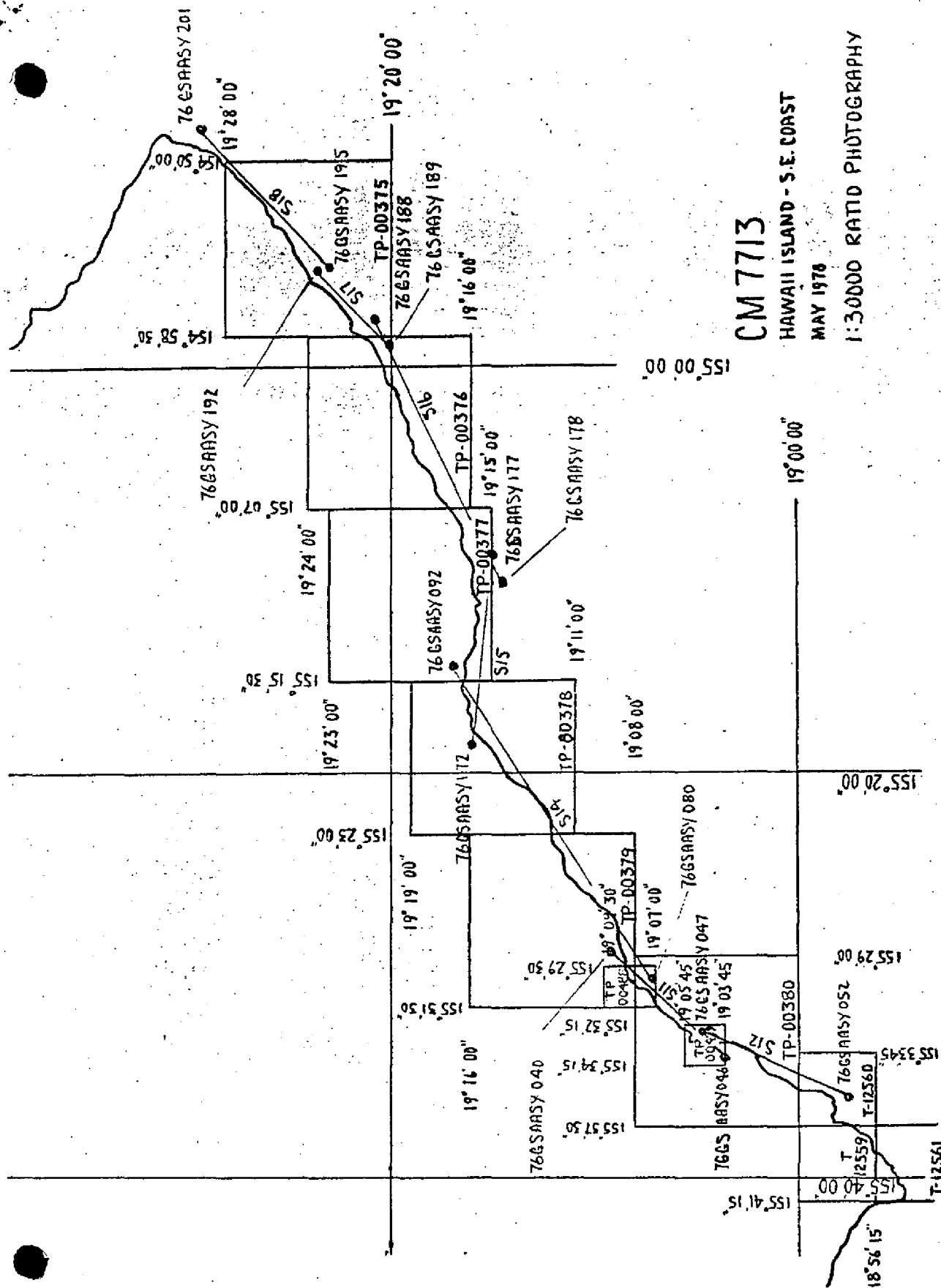
T-12560

STRIP#12

(PH 6402)

63S7965

T-12561



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 J. Norman

DESCRIPTIVE REPORT CONTROL RECORD

MAP NO.		JOB NO.		GEODETTIC DATUM		ORIGINATING ACTIVITY		REMARKS	
TP-00378		CM-7713		Old Hawaiian		Coastal Mapping Div., AMC		Front Back	
STATION NAME	SOURCE OF INFORMATION (Index)	AEROTRIANGULATION POINT NUMBER	COORDINATES IN FEET STATE ZONE		GEOGRAPHIC POSITION ϕ LATITUDE λ LONGITUDE				
HILINA USGS, 1961	Xeroxed form from G.S. page 13	603100	X= 565,476.0	/	ϕ				
			Y= 168,613.0	/	λ				
PUU KAPUKAPU, 1914	Quad 191552	--	X= 581,956.06	/	ϕ	19°16'43.35512"	/	1333.04	(511.78)
	Sta. 1051		Y= 161,787.20	/	λ	155°15'44.46103"	/	1298.22	(453.78)
			X=		ϕ				
			Y=		λ				
			X=		ϕ				
			Y=		λ				
			X=		ϕ				
			Y=		λ				
			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	A. Rauck	DATE	COMPUTATION CHECKED BY		R. Kravitz		DATE		Mar. 17, 1979
LISTED BY	A. Rauck	DATE	LISTING CHECKED BY		R. Kravitz		DATE		Mar. 17, 1979
HAND PLOTTING BY	D. Butler	DATE	HAND PLOTTING CHECKED BY		G. Morris		DATE		Feb. 4, 1982

COMPILATION REPORT
CM-7713
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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 were no charted landmarks or 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.

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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 U.S. Geological Survey Quadrangles:
Naliikakani Point, HA, 1:24,000 scale, dated 1963.
Kau Desert, HA, 1:24,000 scale, dated 1963.

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:

George L. Hancock

for Langley Williams
Cartographic Technician
February 26, 1979

Approved:

Albert C. Rauck, Jr.

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

ADDENDUM TO THE COMPILATION REPORT

TP-00378

FIELD EDIT


The bluff lines and breaker limit line, although compiled in pencil on the Class III manuscript, were delineated in red ink because these features were verified during field edit operations. None of the bluff along the shoreline was shown because it is a feature that is characteristic of the area, and not of landmark value.

The field editor was unable to investigate all ledge and foul areas due to the surf and swell conditions which are characteristic of the entire shoreline. He recommends 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, sporadic and inconsistent use of the ledge symbol would not be appropriate.

There were a couple of rocks submitted by the field editor that, at this scale, could not be symbolized properly because their positions are so close to the MHW line. These exist inside the breaker limit and pose no hazard to navigation.

An area described as "foul with trees" by the field editor at 19°16'25" latitude, 155°15'30" longitude was not compiled due to the fact that it was inside the breaker limit and would probably not exist in five years. See the Field Edit Report.

Submitted by:



for David P. Butler
Cartographic Technician
Date: Nov. 1981

Geographic Names

Final Name Sheet

CM-7713(Island of Hawaii-Southeast Coast)

TP-00378

Halape

Kaaha

Kakiwai

Kalae

Naliikakani Point

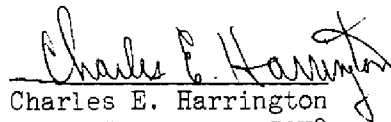
Na Pwo na Elemakule

Opihinehe

Pacific Ocean

Papalehau Point

Approved by:


Charles E. Harrington
Chief Geographer-C3X8

Field Edit Report

OPR-T126-RA-80
CM-7713
TP-00378

Hawaii Island
Southeast Coast Hawaii

6 October 1980

METHODS

Field operations on TP-00378 were began and finished on October 6, 1980 (JD 280). Greenwich Mean Time (GMT), also known as Zulu Time (Z) was used to reference shoreline features. Shoreline features can easily 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 edit ozalid were made using violet meaning verification or addition of features, and green meaning the deletion of the feature.

Due to the rugged terrain and restricted access to the area all field edit was performed using a slow, low flying helicopter. The procedures used for the additions 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 at the same time. The feature was then photo pricked on the chronopaque photograph and labeled. Later it was transferred to the master film field edit ozalid.

The black and white photographs 086-091, master film field edit ozalid, and the discrepancy print were used to record and present the data.

This field edit survey complies with the project instructions and with Chapter 11, Manual of Coastal Mapping Field Procedures.

ADEQUACY AND COMPILATION

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

Direct comparison of shoreline features with the discrepancy print and photos was the method of determining accuracy. Agreement was excellent except where noted.

RECOMMENDATIONS AND MISCELLANEOUS COMMENTS

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 ledges" 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 those 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 farther 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 as "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.

The bluffs noted by the compiler are of landmark value. The heights were verified by comparing them with the Geological Survey topography map of the Kau Desert, Hawaii (SE/4 Kilauea 15' quadrangle N1915-W15515/7.5).

This corrected manuscript should supersede all previous 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-00378

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 quadrangles:
Naliikakani Point, Hawaii, dated 1967, 1:24,000 scale
Kau Desert, Hawaii, dated 1963, 1:24,000 scale.

64 - COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS

Hydrographic surveys H-9914 and H-9916 are common to this final shoreline map; however, a comparison was not made since both hydro surveys were unregistered when a copy was requested in August 1985.

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-00378

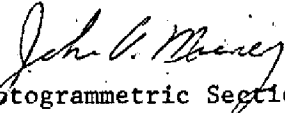
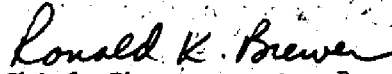
Submitted by:

Jerry L. Hancock
Final Reviewer

Approved for forwarding:

Billy H. Barnes
Chief, Photogrammetric Section, AMC

Approved:

John A. Money
Chief, Photogrammetric Section,
RockvilleRonald K. Brewer
Chief, Photogrammetry Branch,
Rockville

[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.	

