TP-00380

TP-00380

NOAA FORM 76-35
(6-80)

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

DESCRIPTIVE REPORT

Map No.	*Edition No.*
TP-00380	1

Job No.
CM-7713

Map Classification
FINAL, FIELD EDITED MAP

Type of Survey
SHORELINE

LOCALITY

State
HAWAII

General Locality
HAWAII, SOUTHEAST COAST

Locality
KIMO POINT

19 77 TO 19 79

REGISTERED IN ARCHIVES

DATE

* U.S. GOVERNMENT PRINTING OFFICE: 1980-665-115

NOAA FORM 76-36A (3-72) — U. S. DEPARTMENT OF COMMERCE, NATIONAL OCEANIC AND ATMOSPHERIC ADMIN.

DESCRIPTIVE REPORT - DATA RECORD

TYPE OF SURVEY
- [x] ORIGINAL
- [ ] RESURVEY
- [ ] REVISED

SURVEY TP- 00380
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 PRECEEDING MAP EDITION
TYPE OF SURVEY
- [ ] ORIGINAL
- [ ] RESURVEY
- [ ] REVISED

JOB PH-
MAP CLASS
SURVEY DATES:
19__ TO 19__

I. INSTRUCTIONS DATED

1. OFFICE		2. FIELD	
Aerotriangulation	Feb. 13, 1978	Control	Nov. 2, 1977
Compilation	June 23, 1978		

II. DATUMS

1. HORIZONTAL: [ ] 1927 NORTH AMERICAN
OTHER (Specify): Old Hawaiian Datum

2. VERTICAL:
- [x] MEAN HIGH-WATER
- [ ] MEAN LOW-WATER
- [ ] MEAN LOWER LOW-WATER
- [ ] MEAN SEA LEVEL

OTHER (Specify):

3. MAP PROJECTION: Transverse Mercator

4. GRID(S)

STATE	ZONE
Hawaii	1

5. SCALE: 1:20,000

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 COMPILATION	PLANIMETRY BY	I. Perkinson	Oct 1978
	CHECKED BY	R. Kravitz	Oct. 1978
INSTRUMENT: Wild B-8	CONTOURS BY	N.A.	
SCALE: 1:20,000	CHECKED BY	N.A.	
4. MANUSCRIPT DELINEATION	PLANIMETRY BY	I. Perkinson	Oct 1978
	CHECKED BY	F. Margiotta	Feb 1979
METHOD: Smooth drafted	CONTOURS BY	N.A.	
	CHECKED BY	N.A.	
SCALE: 1:20,000	HYDRO SUPPORT DATA BY	I. Perkinson	Oct 1978
	CHECKED BY	F. Margiotta	Feb 1979
5. OFFICE INSPECTION PRIOR TO FIELD EDIT	BY	F. Margiotta	Feb 1979
6. APPLICATION OF FIELD EDIT DATA	BY	F. Mauldin	Jul 1980
	CHECKED BY	D. Butler	Jul 1980
7. COMPILATION SECTION REVIEW	BY	J. Massey	Jul 1980
8. FINAL REVIEW	BY	J. Hancock	Feb 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 DAUGHERTY	MAY 1986

NOAA FORM 76-36A — SUPERSEDES FORM C&GS 181 SERIES

*U.S. GOVERNMENT PRINTING OFFICE-1977-765-092

NOAA FORM 76-36B
(3-72)

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

TP-00380

COMPILATION SOURCES

1. COMPILATION PHOTOGRAPHY

CAMERA(S) F. L. =153.21 mm
Zeiss RMK A 15/23 lens 118960

TIDE STAGE REFERENCE
- [X] PREDICTED TIDES
- [ ] REFERENCE STATION RECORDS
- [ ] TIDE CONTROLLED PHOTOGRAPHY

TYPES OF PHOTOGRAPHY LEGEND
(C) COLOR
(P) PANCHROMATIC
(I) INFRARED

TIME REFERENCE
ZONE: Hawaii — [X] STANDARD
MERIDIAN: 150th — [ ] DAYLIGHT

NUMBER AND TYPE	DATE	TIME	SCALE	STAGE OF TIDE
77GSAASY555-559	Mar.25,1977	14:30	1:50,000	0.6 ft. above MLLW
76GSAASY042-044	Dec.15,1976	11:23	1:30,000	1.7 ft. above MLLW
76GSAASY047-051	Dec.15,1976	11:30	1:30,000	1.6 ft. above MLLW
				Mean range 1.7 ft.

REMARKS
Photography by American Aerial Survey, Inc., of Northern California for the National 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 photographs 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
H-9857	Oct/Dec. 79	Registered			

5. FINAL JUNCTIONS

NORTH	EAST	SOUTH PH-6402	WEST
TP-00379	No survey	T-12560	No survey

REMARKS *TP-00488, 1:5,000 scale lies partly within the northeast corner of this manuscript and in the southwest corner of TP-00379. TP-00489, also at 1:5,000 scale, lies within the central area of this manuscript.

NOAA FORM 76-36B
(3-72)

*U.S. GOVERNMENT PRINTING OFFICE:1977-765-092

NOAA FORM 76-36C
(3-72)

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

TP-00380

HISTORY OF FIELD OPERATIONS

I. [XX] 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. Mebly	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 [ ] COMPLETE [ ] SPECIFIC NAMES ONLY [XX] NO INVESTIGATION — BY		
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
N.A.

PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION
77GSAASY-556	Stein 2, (H.T.S.), 1949 (Direct and Sub. pt. 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 [X] NONE

6. BOUNDARY AND LIMITS: [ ] REPORT [XX] 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 76-61A, 1-form 266, 1-form 269C, 1-form Reduction to Sea Level
1-field report

☆ U.S. GPO: 1977-765-092/1105 Region 6

NOAA FORM 76-36C
(3-72)

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

TP-00380

HISTORY OF FIELD OPERATIONS

I. ☐ FIELD INSPECTION OPERATION ☒ FIELD EDIT OPERATION

OPERATION		NAME	DATE
1. CHIEF OF FIELD PARTY		W. Mobley	Dec 1979
2. HORIZONTAL CONTROL	RECOVERED BY	T. Clark	Dec 1979
	ESTABLISHED BY	None	
	PRE-MARKED OR IDENTIFIED BY	None	
3. VERTICAL CONTROL	RECOVERED BY	None	
	ESTABLISHED BY	None	
	PRE-MARKED OR IDENTIFIED BY	None	
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 ☐ COMPLETE ☐ SPECIFIC NAMES ONLY ☒ NO INVESTIGATION — BY		
6. PHOTO INSPECTION	CLARIFICATION OF DETAILS BY	T. Clark	Dec 1979
7. BOUNDARIES AND LIMITS	SURVEYED OR IDENTIFIED BY	N.A.	

II. SOURCE DATA

1. HORIZONTAL CONTROL IDENTIFIED

None

2. VERTICAL CONTROL IDENTIFIED

N.A.

PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION

3. PHOTO NUMBERS *(Clarification of details)*

Cronapaque Ratios

76GSAASY42-44, 48-50 (1:20,000 scale) 77GSAASY642 (1:5,000 scale)

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)*

1-field edit report
1-field edit film print
1-field edit paper print

☆ U.S. GPO: 1977-765-092/1105 Region 6

NOAA FORM 76-36D
(3-72)

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

TP-00380

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.	Feb. 1979	Class III Manuscript	Mar. 1979	Mar. 1979
Field edit applied. Compilation complete pending final review.	Jul. 1980	Class I Manuscript	Jul. 1980	Jul. 1980 & Feb. 1982
Final Review	Feb. 1986	Final Map	Mar 1986	Mar 1986

II. LANDMARKS AND AIDS TO NAVIGATION None

1. REPORTS TO MARINE CHART DIVISION, NAUTICAL DATA BRANCH

NUMBER	CHART LETTER NUMBER ASSIGNED	DATE FORWARDED	REMARKS

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

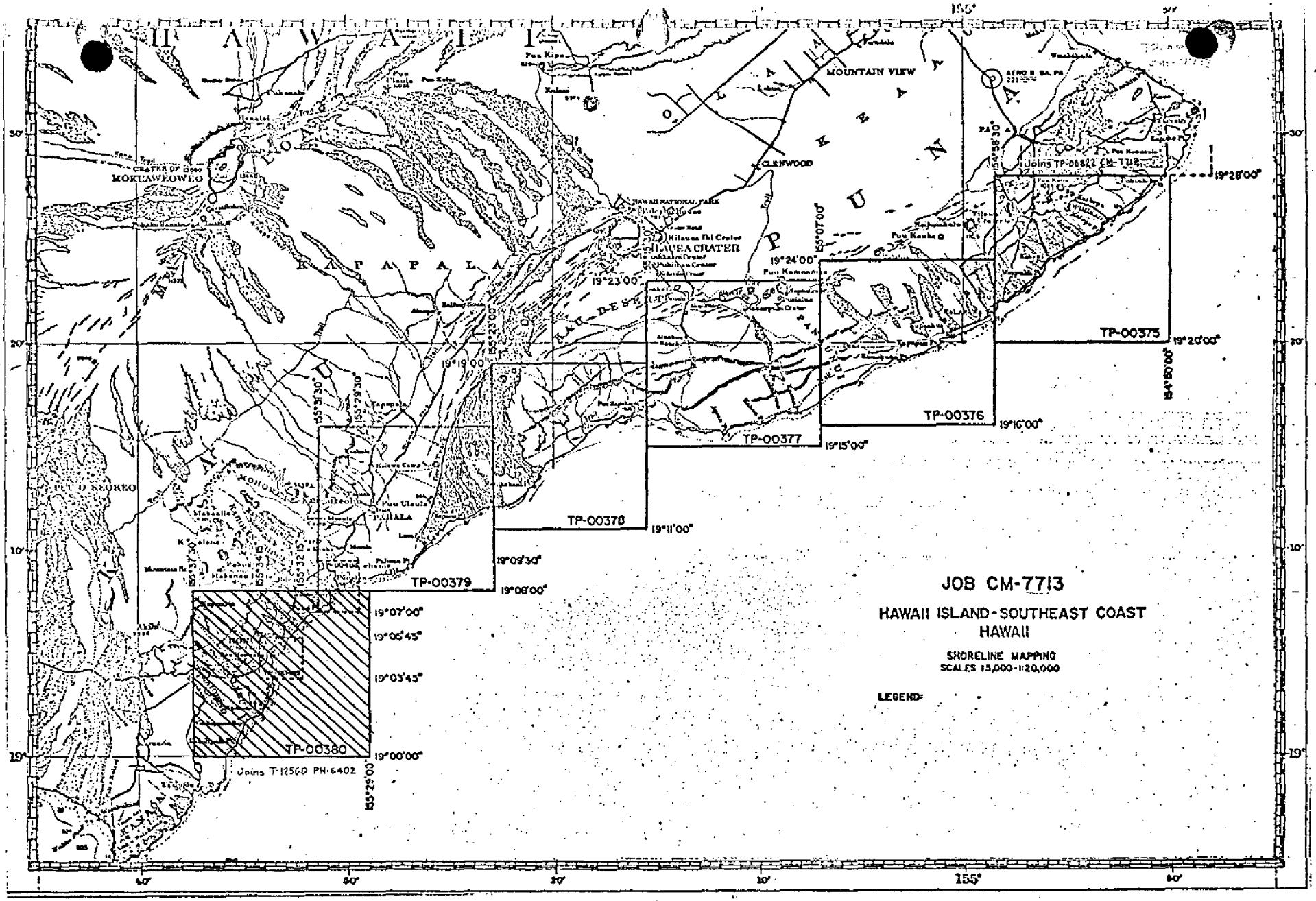
III. FEDERAL RECORDS CENTER DATA

1. ☒ BRIDGING PHOTOGRAPHS; ☒ DUPLICATE BRIDGING REPORT; ☒ COMPUTER READOUTS.
2. ☒ CONTROL STATION IDENTIFICATION CARDS; ☐ FORM NOS 567 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)*

	SURVEY NUMBER	JOB NUMBER	TYPE OF SURVEY
SECOND EDITION	TP - _____ (2)	PH - _____	☐ REVISED ☐ RESURVEY
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	MAP CLASS ☐ II. ☐ III. ☐ IV. ☐ V. ☐ FINAL
THIRD EDITION	SURVEY NUMBER	JOB NUMBER	TYPE OF SURVEY
	TP - _____ (3)	PH- _____	☐ REVISED ☐ RESURVEY
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	MAP CLASS ☐ II. ☐ III. ☐ IV. ☐ V. ☐ FINAL
FOURTH EDITION	SURVEY NUMBER	JOB NUMBER	TYPE OF SURVEY
	TP - _____ (4)	PH - _____	☐ REVISED ☐ RESURVEY
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	MAP CLASS ☐ II. ☐ III. ☐ IV. ☐ V. ☐ FINAL

☆ U.S. GPO: 1977=765-092/1106 Region 6


HAWAII
MAUNA LOA
KAPAPALA
MAUNA KEA
KILAUEA CRATER
MOKUAWEOWEO
MOUNTAIN VIEW
GLENWOOD
PUU O KEOKEO
PAHALA
TP-00375
TP-00376
TP-00377
TP-00378
TP-00379
TP-00380
Joins T-1256D PH-6402
155°
19°24'00"
19°23'00"
19°19'00"
19°16'00"
19°11'00"
19°09'30"
19°08'00"
19°07'00"
19°06'45"
19°03'45"
19°00'00"
JOB CM-7713
HAWAII ISLAND - SOUTHEAST COAST
HAWAII
SHORELINE MAPPING
SCALES 1:5,000 - 1:20,000
LEGEND:

SUMMARY TO ACCOMPANY
DESCRIPTIVE REPORT

TP-00380

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 Lat. 19°00.1' to Lat. 19°08.0'. A portion of inset map TP-00488 and all of inset map TP-00489 are contained within the limits of the manuscript. This map defines the southwest limit of the project and junctions with shoreline project PH-6702.

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 February 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, field surveyed in Oct.-Dec. 1979.

Application of field edit data was accomplished at the Photogrammetric Section, Atlantic Marine Center in July 1980 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 February 1986. During this review, several previously compiled "rocks" were removed from the manuscript. The removal of these "rocks" will affect the common chart (19320) and the contemporary hydro survey (H-9857), as it appears that many of the "rocks" were transferred from previous copies of the manuscript. An annotated final Chart Maintenance Print and Notes to Hydrographer Print were prepared to identify all revisions and were 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-00380

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,

Robert B. Melby

Robert B. Melby
Chief, PMC Photo Party
CPM 133

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)

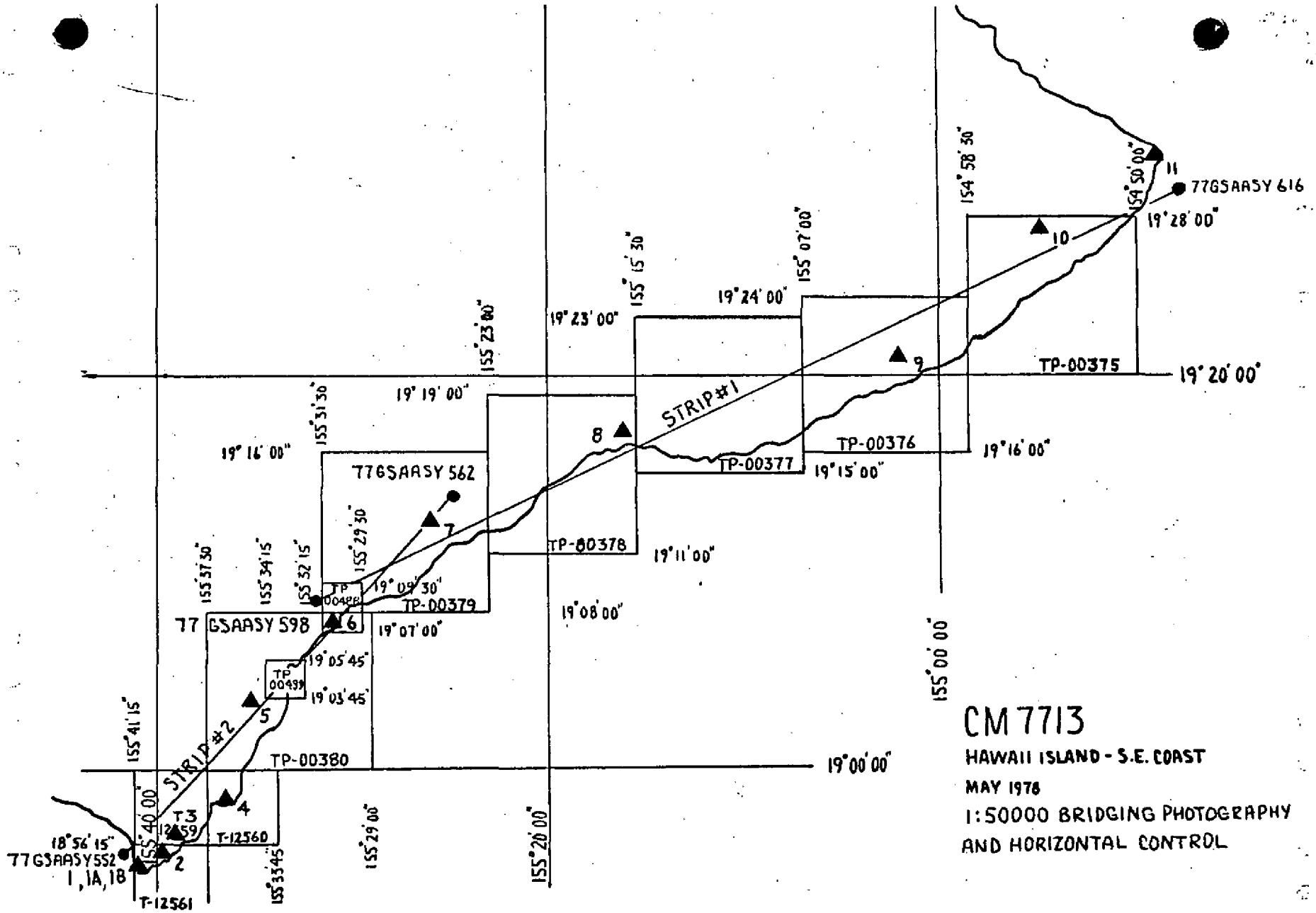
1A	KALAE 2, 1948	
	SUB PT. A	(-0.96, 0.23)
	SUB PT. B	(1.19, 0.95)
4.	KAMILO (HTS) 1898	(2.06, 0.58)
	SUB PT.	(0.33, -0.11)
5.	STEIN 2 (HTS) 1949	(-1.26, -1.59)
	SUB PT.	(2.42, 1.99)
6.	LUU 1930	(-0.07, 1.16)
	SUB PT.	(-0.24, -0.47)
7.	PUU ULAULA 1914	(0.23, -0.36)

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)

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)

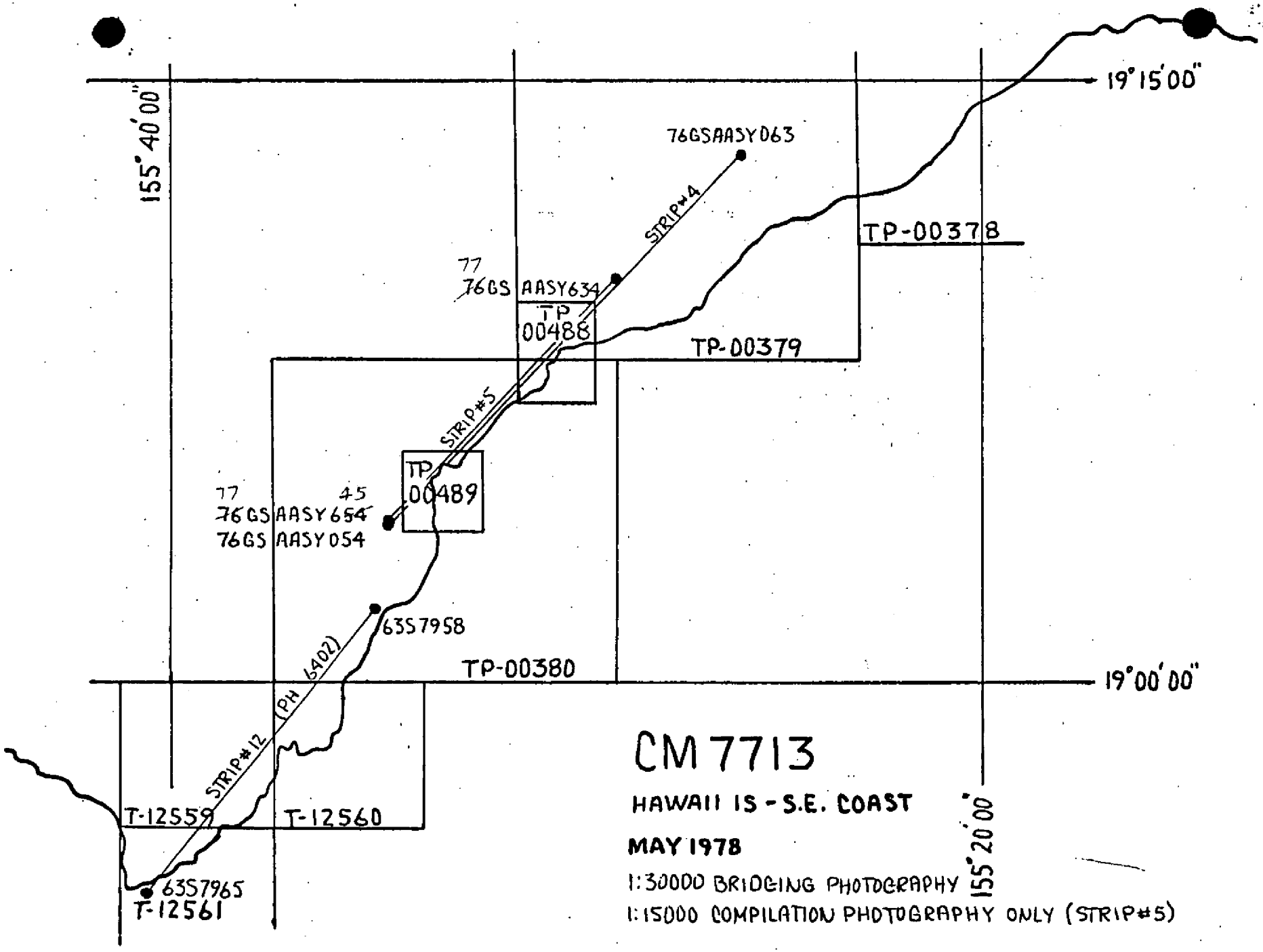


CM 7713

HAWAII ISLAND - S.E. COAST

MAY 1978

1:50000 BRIDGING PHOTOGRAPHY AND HORIZONTAL CONTROL



CM 7713

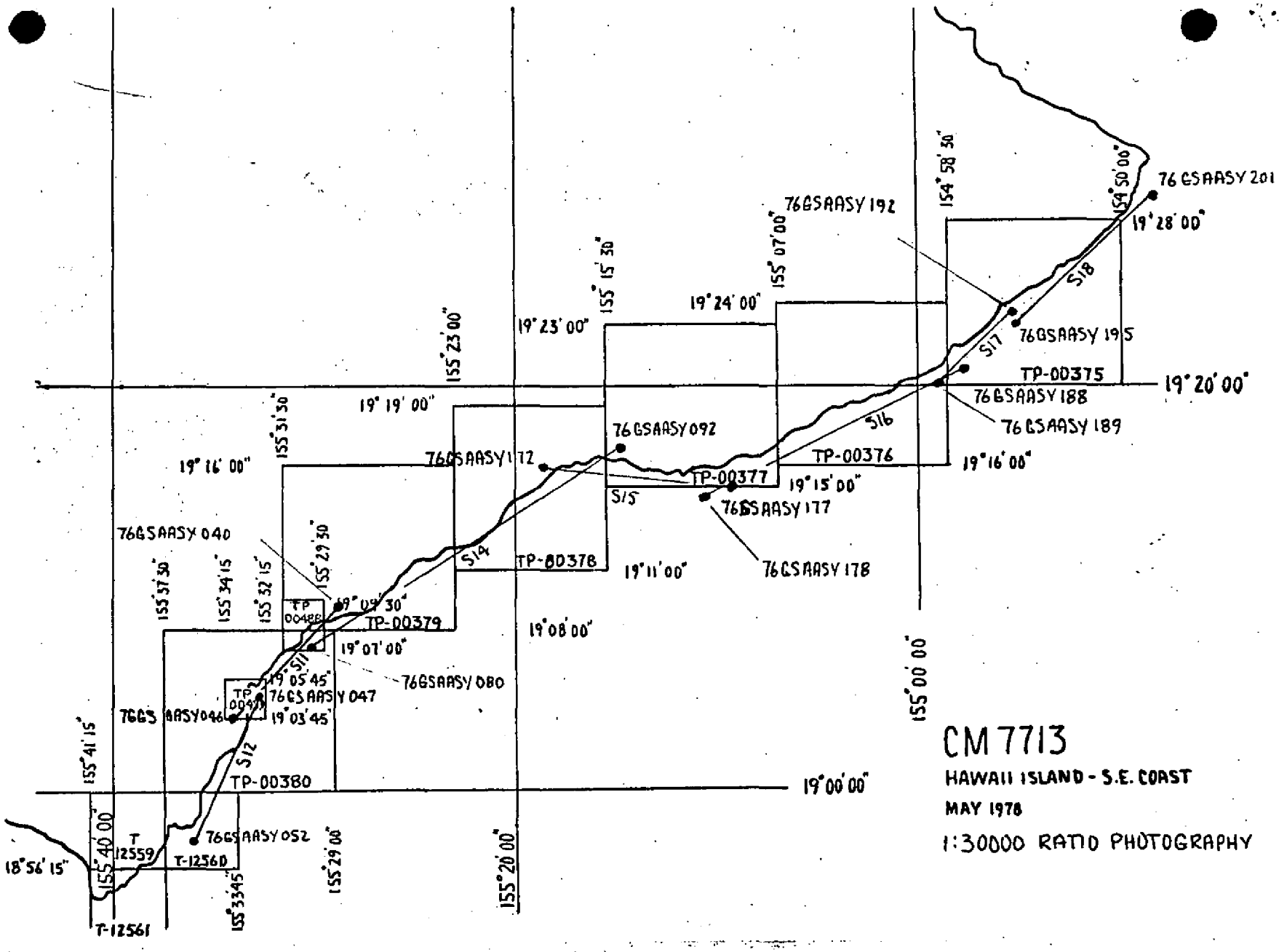
HAWAII IS - S.E. COAST

MAY 1978

1:30000 BRIDGING PHOTOGRAPHY

1:15000 COMPILATION PHOTOGRAPHY ONLY (STRIP#5)

18



CM 7713

HAWAII ISLAND - S.E. COAST

MAY 1978

1:30000 RATIO PHOTOGRAPHY

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. Norman

NOAA FORM 76-41
(6-75)

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

DESCRIPTIVE REPORT CONTROL RECORD

MAP NO.	JOB NO.	GEODETIC DATUM	ORIGINATING ACTIVITY
TP-00380	CM-7713	Old Hawaiian	Coastal Mapping Div., AMC, Norfolk, VA

STATION NAME	SOURCE OF INFORMATION (Index)	AEROTRIANGULATION POINT NUMBER	COORDINATES IN FEET (STATE Hawaii, ZONE 1)	GEOGRAPHIC POSITION (φ LATITUDE, λ LONGITUDE)	REMARKS
KIPAEPAE (HGS), 1898	191553	9	x=	φ 19 02 16.794	
			y=	λ 155 34 20.973	
STEIN 2,(HTS), 1949	191553	5 556100	x= 472,630.81	φ 19 03 48.898	
			y= 83,616.47	λ 155 34 45.337	
			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 10/3/78	COMPUTATION CHECKED BY	I. Perkinson	DATE 1/31/79
LISTED BY	A. Rauck	DATE 10/3/78	LISTING CHECKED BY	I. Perkinson	DATE 1/31/79
HAND PLOTTING BY		DATE	HAND PLOTTING CHECKED BY		DATE

SUPERSEDES NOAA FORM 76-41, 2-71 EDITION WHICH IS OBSOLETE.

6

COMPILATION REPORT
CM-7713
TP-00380

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 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-00380

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:
Naalehu, HA, scale 1:24,000, 1962.

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:

J. Byrd Jr. /for

Irene Perkinson
Cartographic Technician
January, 1979

Approved:

J. Byrd, Jr. /for

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

ADDENDUM TO THE COMPILATION REPORT

TP-00380
CM-7713

FIELD EDIT

The "foul with submerged ledge and rock" area was relabeled "breakers" to conform with the majority of the project which was edited during the 1980 field season. The limits were not changed, and the term "breakers" indicates a hazardous condition with respect to navigation. This is a feature which is characteristic of the entire shoreline.

Although the Field Editor failed to verify the bluff line along an area called "Maniania Pali", it has been retained because it appears on Chart 19320. The smaller bluffs along Kahilipali Point that he indicated are not shown because they are insignificant.

Although the editor had 1:20,000 scale photos for this manuscript, he identified five rocks (at 19°05'45", 155°32'30") on 77GSASSY 643 which is a 1:5,000 photo for TP-00489. An attempt to transfer those rocks to 76GSAASY 043 (1:20,000) proved difficult due not only to the scale difference, but also to breakers in the area.

Not all rocks located by the field editor were delineated. Many are either on or immediately adjacent to the MHW line, and could not be properly symbolized. In areas congested with many rocks, only the highest and most offshore were shown. When conflicting height data was submitted for the same rock, the greater height was used.

Submitted by:

Gary L. Hancock
for David P. Butler
Cartographic Technician
Date: July 1980

Geographic Names

Final Name Sheet

CM-7713(Island of Hawaii-Southeast Coast)

TP-00380

Alakaha
Halekini ----------TP-00489
Hale o Kane ----------TP-00489
Hanai
Hanakaulua
Hawaloa
Hilea Gulch
Honuapo ----------TP-00489
Honuapo Bay ----------TP-00489
Kahilipali Point
Kahuku
Kahukupoko ----------TP-00489
Kaieie Heiau ----------TP-00488
Kailiili
Kamuliwai
Kapukini ----------TP-00489
Kawa Bay
Kawa Springs
Kawelohea ----------TP-00489
Keanakaluapuaa
Keawanui ----------TP-00489
~~Keeku-Heiau~~ Keeku Heiau GH
Kimo Point
Kohaahu ----------TP-00488
Koloa Beach ----------TP-00488
Kuhua Bay ----TP-00488
Lae Pohue-----TP-00489
Maakole
Manakaa Point
Maniania Pali
Ninole--------TP-00488
Ninole Cove---TP-00488
Ninole SpringsTP-00488
Pacific Ocean
Paewa --------TP-00489
Pali Pohina---TP-00489
Papine--------TP-00489
Paulauka
Pohakuahalulu
Pohakuohau----TP-00489
Puhioi--------TP-00489
Puhiopaheehee
Puhiula Cave
Puu Nahaha
Puu o Kaau----TP-00489
Puuo Point----TP-00488
Waikapuna Bay
Wailea
Waipouli------TP-00489

NOTE: TP-00488 and TP-00489 are inset maps contained within the limits of of this (TP-00380) map. GH

Approved by:

Charles E. Harrington

Charles E. Harrington
Chief Geographer-C3X8

FIELD EDIT REPORT
OPR-T126-RA-79
CM-7713
TP 00380

HAWAII
Hawaii, Southeast Coast
Kimo Point

1 Field Edit
16 October 1979 - 3 December 1979
(J.D. 289 - J.D. 337)

Methods

Field edit operations on TP 00380 began 16 October 1979 (J.D. 289) and ended 3 December 1979 (J.D. 337). Ship's time (GMT-9) was used to reference shoreline features in the field, but conversion was made to GMT (Ship's time + 9) on the field edit sheet and final discrepancy sheets. Notes on the field edit sheet and discrepancy print were made using colors with the following acceptable meanings: green-deletion of features; red-answers to specific questions on the sheets; violet-verification or additions.

The features were verified on foot. Additions of rocks were photo-pricked and referenced on the discrepancy print.

There were several rocks that could be neither verified nor disproved due to surf conditions. In these cases the rocks were left with no reference at all on the discrepancy print.

The black and white photos 50, 49, 48, 44, 43, 42, 642, the discrepancy sheet and the field edit sheet were used to record and present data.

This field edit survey complied with Chapter 11, Manual of Coastal Mapping Field Procedures and project instruction.

Adequacy and Completeness

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

Geographical Names

There was no investigation of geographical names.

Manuscript Accuracy

Direct comparison of shoreline features with the discrepancy print and photos was the primary method of determining accuracy. Agreement was very good.

Recommendations

It is recommended that the rocks neither verified nor disproved be retained as plotted.

This corrected manuscript should supercede all previous shoreline compilations.

Respectfully submitted,

Thomas G. Clark

Thomas G. Clark
Lieutenant, NOAA

Approved and Forwarded

Wayne L. Mobley

Wayne L. Mobley
Captain, NOAA
Commanding

Attachments: Sketch
76-36 A, B, C, D
76-40 Landmarks for Navigation
Master Signal Tape Listing
Recovery Notes

Separate Items: Photographs NOS 15 DEC 76 GSAASY 42, 43, 44, 48, 49, 50
NOS 26 MAR 77 GSAASY 642
Master Film Field Edit Ozalid
Final Discrepancy Print
Field Discrepancy Print

REVIEW REPORT
TP-00380

SHORELINE

61 - GENERAL STATEMENT

Final review for this final field edited map was accomplished at the Atlantic Marine Center in February 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: NAALEHU, Hawaii, dated 1962, 1:24,000 scale.

64 - COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS

A comparison was made with a registered copy of H-9857, RA-20-4-79, 1:20,000 scale, field surveyed Oct.-Dec. 1979. This hydrographic survey will be affected because of revisions made during final review to the shoreline map. Affecting the hydro survey will be 13 alongshore/offshore "rocks" that were removed from the shoreline map. Removal of the "rocks" was based upon a thorough examination of all photographs and the hydrographer/field editor's statement that "there were several rocks that could neither be verified no disproved due to surf conditions." An annotated final Notes to Hydrographer print was prepared to identify all changes and will be submitted to the Hydrographic Surveys Branch.

65 - COMPARISON WITH NAUTICAL CHARTS

A comparison was made with NOS chart 19320, 1:250,000 scale, 13th edition, July 10, 1982. The comparison indicates that two rocks and an obstruction were charted from previously submitted Chart Maintenance Prints of the Class III and/or Class I manuscripts. After a complete evaluation during final review, it became apparent that these three objects do not exist and consequently were removed from the final map. An annotated final Chart Maintenance Print will be submitted in order to identify these objects.

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-00380

Submitted by:

Jerry L. Hancock
Final Reviewer

Approved for forwarding:

Billy H. Barnes
Chief, Photogrammetric Section, AMC

Approved:

Chief, Photogrammetric Section,
Rockville

Chief, Photogrammetry Branch,
Rockville

FORM C&GS-8352
(3-25-63)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. CM-7713 (TP-00380)

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.
1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Revie

CHART	DATE	CARTOGRAPHER	REMARKS
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
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FORM C&GS-8352 SUPERSEDES ALL EDITIONS OF FORM C&GS-975.

USCOMM-DC 8558-P63