T-12561

T-12561

NOAA FORM 76-35
(3-76)

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

DESCRIPTIVE REPORT

Map No.	*Edition No.*
T-12561	1

Job No.
PH-6402

Map Classification
FINAL FIELD EDITED MAP

Type of Survey
SHORELINE

LOCALITY

State
HAWAII

General Locality HAWAII ISLAND, WEST COAST
KAILUA TO SOUTH CAPE

Locality
KA LAE

19 63 TO 19 79

REGISTRY IN ARCHIVES

DATE

*U.S. GOVERNMENT PRINTING OFFICE:1976-669-248

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 H-T-12561

MAP EDITION NO. (1)

MAP CLASS FINAL

JOB PH-6402

PHOTOGRAMMETRIC OFFICE
Coastal Mapping Division
Atlantic Marine Center, Norfolk, Va

OFFICER-IN-CHARGE
R. Matsushige

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
Compilation	Oct. 28, 1969	Control/Field Inspection May 8, 1964
Amendment I	Jan. 3, 1973	
Memo	Sept. 1, 1978	
Compilation (CM-7713)	Jan. 23, 1978	

II. DATUMS

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

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 Hawaii, ZONE 1; STATE, ZONE

5. SCALE: 1:10,000

III. HISTORY OF OFFICE OPERATIONS

OPERATIONS		NAME	DATE
1. AEROTRIANGULATION METHOD: Analytic	BY	R. Fisher	May 1978
	LANDMARKS AND AIDS BY		
2. CONTROL AND BRIDGE POINTS METHOD: Coradomat	PLOTTED BY	S. Solbeck	May 1978
	CHECKED BY	S. Solbeck	May 1978
3. STEREOSCOPIC INSTRUMENT COMPILATION INSTRUMENT: Wild B-8 SCALE: 1:10,000	PLANIMETRY BY	D. Butler	Sept1978
	CHECKED BY	L. Neterer	Sept1978
	CONTOURS BY	N.A.	
	CHECKED BY	N.A.	
4. MANUSCRIPT DELINEATION METHOD: Smooth drafted SCALE: 1:10,000	PLANIMETRY BY	J. Roderick	Oct 1978
	CHECKED BY	L. Neterer	Oct 1978
	CONTOURS BY	N.A.	
	CHECKED BY	N.A.	
	HYDRO SUPPORT DATA BY	J. Roderick	Oct 1978
	CHECKED BY	L. Neterer	Oct 1978
5. OFFICE INSPECTION PRIOR TO FIELD EDIT	BY	L. Neterer	Oct 1978
6. APPLICATION OF FIELD EDIT DATA	BY	D. Butler	June1980
	CHECKED BY	F. Mauldin	June1980
7. COMPILATION SECTION REVIEW	BY	F. Mauldin	June1980
8. FINAL REVIEW	BY	J. Hancock	May 1987
9. DATA FORWARDED TO PHOTOGRAMMETRIC BRANCH	BY	J. Hancock	June 1987
10. DATA EXAMINED IN PHOTOGRAMMETRIC BRANCH	BY	P. Dempsey	Aug 1987
11. MAP REGISTERED - COASTAL SURVEY SECTION	BY	E.L. DAUGHERTY	Sep 87

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

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

NOAA FORM 76-36B
(3-72)

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

T-12561

COMPILATION SOURCES

1. COMPILATION PHOTOGRAPHY

CAMERA(S): Wild R.C. 8"S", S=152.29mm

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
63S(P) 7964-7965*	Aug.31,1963	09:33	1:30,000	1.1 FT. above MLLW
63S(P) 7967-7968*	Aug.31,1963	09:36	1:30,000	1.1 Ft. above MLLW
63S(C) 8006-8013**	Aug.31,1963	10:05	1:15,000	1.3 FT. above MLLW
				Mean Tide Range=1.7FT.

REMARKS: *Bridging/compilation photographs,**Compilation/hydro support photographs. Tide range derived form Honuapo Hawaii gage.

2. SOURCE OF MEAN HIGH-WATER LINE:

The mean high water line was compiled from office interpretation of the compilation photographs using stereo instrument and graphic methods.

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

No mean lower low water line was compiled

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

SURVEY NUMBER	DATE(S)	SURVEY COPY USED	SURVEY NUMBER	DATE(S)	SURVEY COPY USED
H-9852 H-9853	1979	Registered			

5. FINAL JUNCTIONS

NORTH	EAST	SOUTH	WEST
T-12559	None	None	None

REMARKS

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

T-12561

HISTORY OF FIELD OPERATIONS

I. [XX] FIELD INSPECTION OPERATION [ ] FIELD EDIT OPERATION

OPERATION		NAME	DATE
1. CHIEF OF FIELD PARTY		R. Newsom	Feb.-Sept. 1964
2. HORIZONTAL CONTROL	RECOVERED BY	E. Cline	Feb. July 64
	ESTABLISHED BY	E. Cline	"
	PRE-MARKED OR IDENTIFIED BY	E. Cline	"
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	E. Cline	Aug. 1964
	LOCATED *(Field Methods)* BY	None	
	IDENTIFIED BY	E. Cline	Aug. 1964
5. GEOGRAPHIC NAMES INVESTIGATION	TYPE OF INVESTIGATION [ ] COMPLETE [ ] SPECIFIC NAMES ONLY [X] NO INVESTIGATION — BY		
6. PHOTO INSPECTION	CLARIFICATION OF DETAILS BY	E. Cline	Aug. 1964
7. BOUNDARIES AND LIMITS	SURVEYED OR IDENTIFIED BY	N.A.	

II. SOURCE DATA

1. HORIZONTAL CONTROL IDENTIFIED

2. VERTICAL CONTROL IDENTIFIED
None

PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION
63(S)7965*	Ka Lae 2, 1948 (Direct & Sub. Pt)		
63(S)7964*	Palahemo, 1898 (Direct & Sub. Pt.)		
	*Partial ratio print		

3. PHOTO NUMBERS *(Clarification of details)*
63S(C) 7963-7965 (1:30,000 scale matte contacts)

4. LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED

PHOTO NUMBER	OBJECT NAME	PHOTO NUMBER	OBJECT NAME
63(S)7965	Ka Lae Light		

5. GEOGRAPHIC NAMES: [ ] REPORT [XX] 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)*
2 Forms 152 (CSI), 1 Project 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

T-12561

HISTORY OF FIELD OPERATIONS

I. [XX] FIELD INSPECTION OPERATION (See Item #8) [ ] FIELD EDIT OPERATION

OPERATION		NAME	DATE
1. CHIEF OF FIELD PARTY		B. Melby	Jan. 1978
2. HORIZONTAL CONTROL	RECOVERED BY	B. Melby	Jan. 1978
	ESTABLISHED BY	B. Melby	Jan. 1978
	PRE-MARKED OR IDENTIFIED BY	B. Melby	Jan. 1978
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 [X] 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

None

PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION
77GS AASY * 553	Kalae 2, 1948 (Sub Pts. A & B)		
	(*Contact print)		

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 [XX] 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 NOAA Form 76-53 (CSI)
(* Field work performed in conjunction with adjoining project CM-7713)

☆ 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

T-12561

HISTORY OF FIELD OPERATIONS

I. ☐ FIELD INSPECTION OPERATION ☒ FIELD EDIT OPERATION

OPERATION		NAME	DATE
1. CHIEF OF FIELD PARTY		(NOAA Ship RAINIER) W. Mobley	Sept./Oct. 1979
2. HORIZONTAL CONTROL	RECOVERED BY	None	
	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	Sept./Oct 79
7. BOUNDARIES AND LIMITS	SURVEYED OR IDENTIFIED BY	N.A.	

II. SOURCE DATA

1. HORIZONTAL CONTROL IDENTIFIED

None

2. VERTICAL CONTROL IDENTIFIED

None

PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION

3. PHOTO NUMBERS *(Clarification of details)*

63S(C) 8008-8010, 8012 (Cronapaque ratios, 1:10,000 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 film print, 1 Field edit paper print, 1 Field edit report, 1 Form 76-40

☆ 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

T-12561

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	Oct. 1978	Class II manuscript	Oct. 1978	Oct. 1978
Field edit applied, compilation complete	June 1980	Class I manuscript	June 1980	June 1980
Final review	May 1987	Final Map	July 1987	July 1987

II. LANDMARKS AND AIDS TO NAVIGATION

1. REPORTS TO MARINE CHART DIVISION, NAUTICAL DATA BRANCH

76-40 NUMBER Page	CHART LETTER NUMBER ASSIGNED	DATE FORWARDED	REMARKS
1		June 1980	Navigational Aid to be charted

2. [X] REPORT TO MARINE CHART DIVISION, COAST PILOT BRANCH. DATE FORWARDED: June 1980
3. [ ] REPORT TO AERONAUTICAL CHART DIVISION, AERONAUTICAL DATA SECTION. DATE FORWARDED: _____

III. FEDERAL RECORDS CENTER DATA

1. [X] BRIDGING PHOTOGRAPHS; [X] DUPLICATE BRIDGING REPORT; [X] COMPUTER READOUTS.
2. [X] CONTROL STATION IDENTIFICATION CARDS; [X] FORM NOS 567 SUBMITTED BY FIELD PARTIES.
3. [X] 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 / MAP CLASS
SECOND EDITION	TP - _____ (2)	PH - _____	[ ] REVISED [ ] RESURVEY
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	[ ] II. [ ] III. [ ] IV. [ ] V. [ ] FINAL
THIRD EDITION	SURVEY NUMBER	JOB NUMBER	TYPE OF SURVEY / MAP CLASS
	TP - _____ (3)	PH - _____	[ ] REVISED [ ] RESURVEY
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	[ ] II. [ ] III. [ ] IV. [ ] V. [ ] FINAL
FOURTH EDITION	SURVEY NUMBER	JOB NUMBER	TYPE OF SURVEY / MAP CLASS
	TP - _____ (4)	PH - _____	[ ] REVISED [ ] RESURVEY
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	[ ] II. [ ] III. [ ] IV. [ ] V. [ ] FINAL

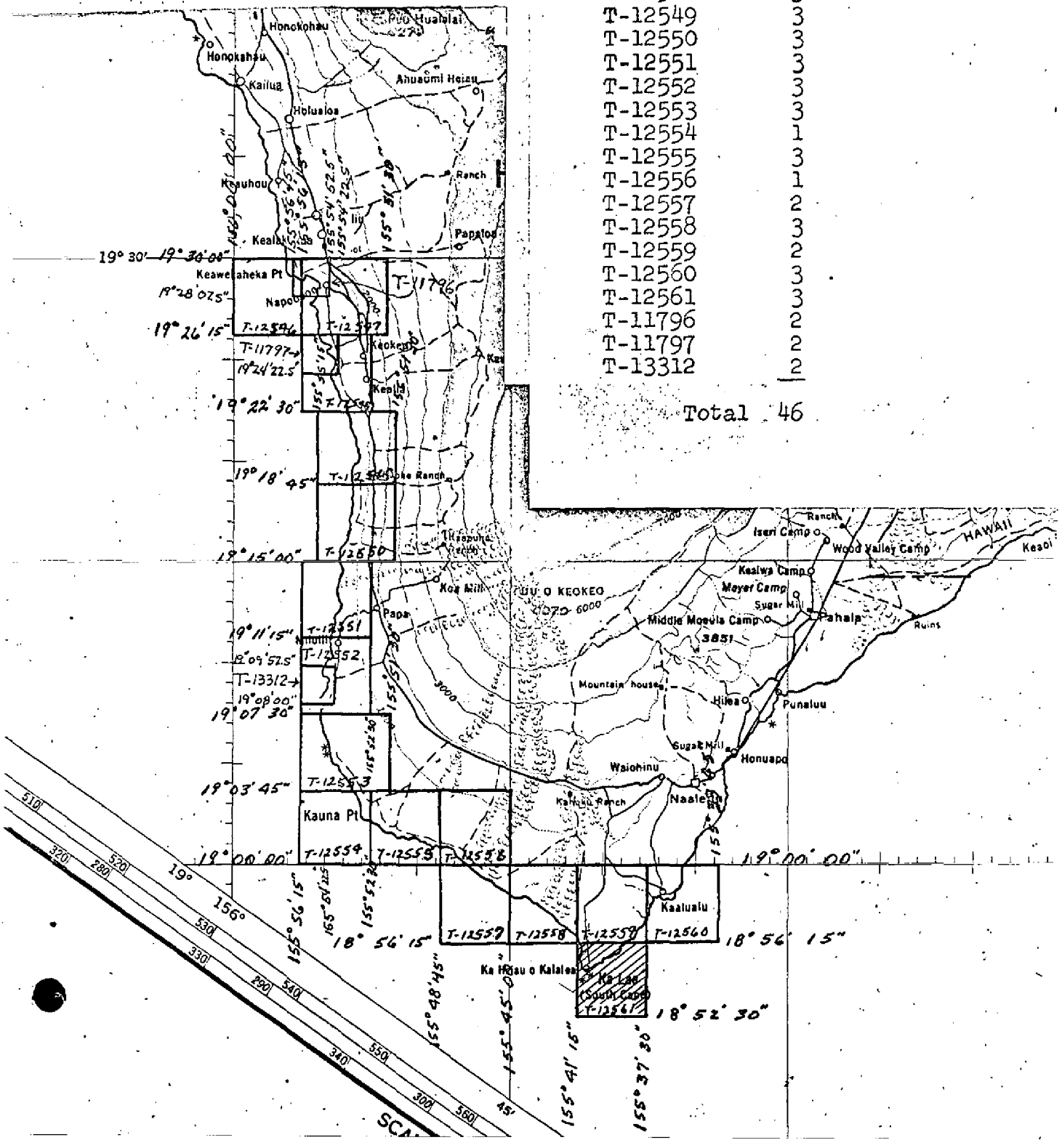
☆ U.S. GPO: 1977-765-092/1106 Region 5

JOB PH-6402
SHORELINE MAPPING
HAWAII IS. WEST COAST
KAILUA TO SOUTH CAPE
SCALE 1:10,000

JOB PH-6402

OFFICIAL MILEAGE FOR COST ACCOUNTS

Sheet No.	Area Sq. Miles
T-12546	1
T-12547	3
T-12548	3
T-12549	3
T-12550	3
T-12551	3
T-12552	3
T-12553	3
T-12554	1
T-12555	3
T-12556	1
T-12557	2
T-12558	3
T-12559	2
T-12560	3
T-12561	3
T-11796	2
T-11797	2
T-13312	2
Total	46



SUMMARY TO ACCOMPANY
DESCRIPTIVE REPORT

T-12561

This 1:10,000 scale Final Field Edited Map is one of nineteen maps that comprise PH-6402, Hawaii Island, West Coast, Kailua to South Cape. The project consists of sixteen 1:10,000 scale maps (T-12546 thru T-12561) and three 1:5,000 scale inset maps (T-11796, T-11797, T-13312).

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 includes shoreline along the most southern coast of Hawaii Island from Latitude 18° 54' 45" to Latitude 18° 56' 15".

Photo coverage for the project was adequately provided in August/September 1963 using the Wild RC-8 "S" camera. Photography consisted of 1:30,000 scale panchromatic photographs used for field inspection, aerotriangulation, and compilation. Color photographs at 1:15,000 scale were obtained for compilation and hydro support. Additional color photographs at 1:15,000 scale were obtained in March 1969 with the Wild RC-8 "E" camera. These supplemental photographs were used to compile inset maps T-11796 and T-11797. The stage of tide for all project photographs was based upon predicted tide data. No infrared photographs were provided.

Field work prior to aerotriangulation consisted of the recovery and establishment of horizontal control by photoidentification methods. A field inspection was performed for the project area utilizing the 1:30,000 scale contact photographs. This activity was conducted in February thru September 1964 in conjunction with the northern adjoining project PH-6401. Due to inadequate bridging results, additional horizontal control was established in January 1978 in conjunction with the southern adjoining project, CM-7713.

Analytic aerotriangulation was provided by the Washington Science Center in June 1969. Bridging results for maps T-12559 thru T-12561 could not be satisfactorily achieved. Consequently, the bridge for adjoining project CM-7713 was extended to include horizontal control for the three maps. Refer to the Photogrammetric Plot Report for CM-7713 dated May 10, 1978.

Compilation for this map was performed at the Coastal Mapping Section, Atlantic Marine Center in October 1978. Copies of the initial compilation and hydrographic support data were forwarded to the hydrographer for field edit.

Field edit was conducted in October 1979 by NOAA ship RAINIER personnel in conjunction with hydrographic surveys H-9852 and H-9853.

T-12561

Application of field edit was performed at the original compilation office in June 1980. Map copies were submitted to Marine Charts and to the hydrographer for smooth sheet application.

Final review was performed at the Atlantic Marine Center in May 1987. A comparison was made with the common hydrographic survey and nautical chart. The original base manuscript and related data along with a final Chart Maintenance Print and a Hydrographic Print were forwarded to the Washington Science Center for registration and distribution.

FIELD INSPECTION

T-12561

Field activity prior to compilation included a field inspection of the shoreline and the recovery/photoidentification of horizontal control necessary for project aerotriangulation. Results of the 1964 field inspection were submitted on the 1:30,000 scale contact photographs. Due to inadequate bridging results for maps T-12558 thru T-12561, additional horizontal control was established in January 1978 in conjunction with adjoining project CM-7713.

FORM CD-121 (3-62-65)
(FORM. BY A.D. 200-10)

UNITED STATES GOVERNMENT

Memorandum

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

40

6310

TO : Chief, Photogrammetric Field Operations
THRU : Honolulu Field Officer

DATE: August 5, 1964

FROM : Lt(jg) Edward P. Cline

SUBJECT: Control Identification Project No. 21413

No problems were found in the control identification on Project 21413. The following is a list of the stations identified on the various Flight Lines:

FLIGHT STRIP NO. 5
WAIKAKUU,4, 1951
KAPUKAWAA, 1884
OHEPUUPUU, 1890

FLIGHT STRIP NO. 6
KAMOI, 1948
NA PUU a PELE, 1891
PUU KI, 1914
TANK, 1948
Supplimental Station Pricked:
KAUNA POINT LIGHT, 1949

FLIGHT STRIP NO. 7
KALAE 2, 1948
PALAHEMO 1898
KAMILO, 1898
KIPAEPAE, 1898
Supplimental Stations Pricked:
KALAE LIGHT, 1948
KALAE, 1887
MAHANA, 1898

The ratio prints provided by the Washington Office were of great assistance in the identification of the stations and they were very well placed.

Edward P. Cline
Edward P. Cline

CC: Honolulu Field Office

Photogrammetric Plot Report
Hawaii Island, Hawaii
PH-6402

June 10, 1969

21. Area Covered

This project extends along the southwest shore of Hawaii Island. It includes T-sheets 12546 through 12561 at 1:10,000 and T-sheets 11796, 11797 and 13312 at 1:5,000. This project joins PH-6401 which extends along the northwest shore of the island.

22. Method

Strips were bridged on the stereoplanigraph and adjusted by IBM 1620 methods. Strip #4 discussed in the report

[redacted]

2. KAMILO, 1949 and SS #1 3. KIPAEPAE, 1948 and SS #1. Problems with these two stations could not be resolved. Re-identification of the stations is planned at the same time that work continues to the east.

4. McCANDLESS, 1948 SS #1 and SS #2 although held in the bridging could be seen on only one photograph in Strip #10 due to cloud coverage.

24. Supplemental Data

Ratio prints will be provided to aid in compilation. Local USGS quads were used to provide vertical points needed for the strip adjustment program.

25. Photography

Photography was not adequate to provide coverage of the 1:5,000 scale sheets. This inadequate coverage was caused by a change in the limits of the 1:5,000 areas after bridging was nearing completion. Photography was adequate in regard to definition and overlap.

Submitted by,

John D. Perrow Jr.

John D. Perrow, Jr.

Approved by,

Henry P. Eichert

Henry P. Eichert
Chief, Aerotriangulation Section

Notes to Compiler
PH-6402
Hawaii Island, Hawaii

The following points should be used in setting individual models along Strips #12 and #13.

(1) 63-S-7964-7965

Points 68803, 68804, 67100, 67101, 64100, 64101, 64102 and 64103.

(2) 63-S-8080-8081

Points 22330, 23310, 23800, 23801

(3) 63-S-8081-8082

Points 77331, 78333, 22801, 23800, McCANDLESS SS #1 and SS #2

(4) 63-S-8082-8083

Points 76331, 77331, 77333

(5) 63-S-8083-8084

Points 75331 HONAUNAU ST. BENEDICT CATH. CH. SPIRE, 1948 plus points dropped from model 8082-8083.

(6) 63-S-8084-8085

Points 75331, 75333 plus points dropped from model 8083-8084.

Plates 63-S-7821 and 7824 were not used in bridging Strip #10.

Plates 63-S-7976, 7978, 7880, 7982 and 7984 were not used in Strip #11.

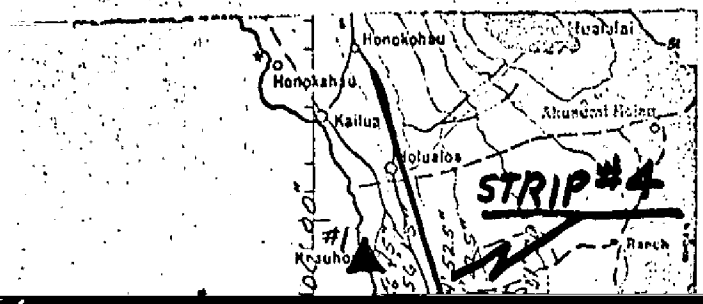
JOB PH-6402

SHORELINE MAPPING

HAWAII IS. WEST COAST

AILUA TO SOUTH CAPE

SCALE 1:10,000



JOB PH-6402

OFFIC

Sheet No.	
T-12	1. POINT, 1928
T-12	2. KANAKU, 1948
T-12	3. HONAUNAU ST. BENEDICT CATH. CH. SPIRE, 1948
T-12	4. KEEI S. BASE, 1948
T-12	5. McCANDLESS, 1948
T-12	6. WAIKAKUU 4, 1951
T-12	7. KAPUKAWAA, ~~1962~~ 1884
T-12	8. KAMOI, 1948
T-12	9. NA PUUA PELE 1949
T-12	10. PUU KI, 1949
T-12	11. TANK 1949

[redacted]

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)

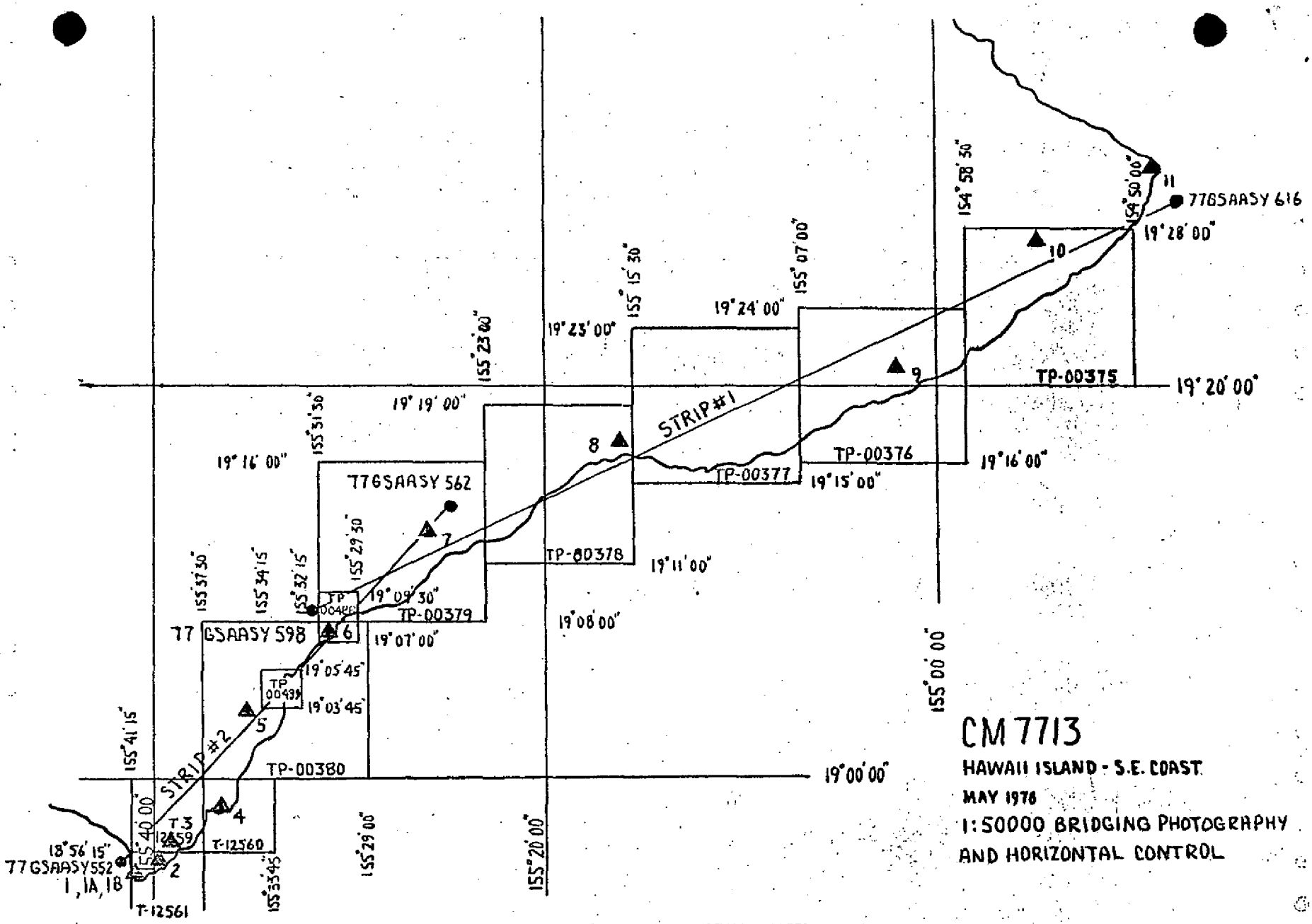
1A KALAE 2, 1948	
SUB PT. A	(-0.96, 0.23)
SUB PT. B	(1.19, 0.95)
4. KAMILO (HTS) 1898	(2.06, 0.58)
SUB PT.	(0.33, -0.11)
5. STEIN 2 (HTS) 1949	(-1.26, -1.59)
SUB PT.	(2.42, 1.99)
6. LUU 1930	(-0.07, 1.16)
SUB PT.	(-0.24, -0.47)
7. PUU ULAULA 1914	(0.23, -0.36)

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 1976
1:50000 BRIDGING PHOTOGRAPHY
AND HORIZONTAL CONTROL
STRIP #1
STRIP #2
77GSAASY552
1, 1A, 18
T-12561
T-12560
T-12559
77GSAASY598
T76SAASY562
T76SAASY616
TP-00375
TP-00376
TP-00377
TP-00378
TP-00379
TP-00380
TP-00439
TP-00488
19°28'00"
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19°03'45"
19°00'00"
18°56'15"
155°50'00"
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155°37'30"
155°34'15"
155°32'15"
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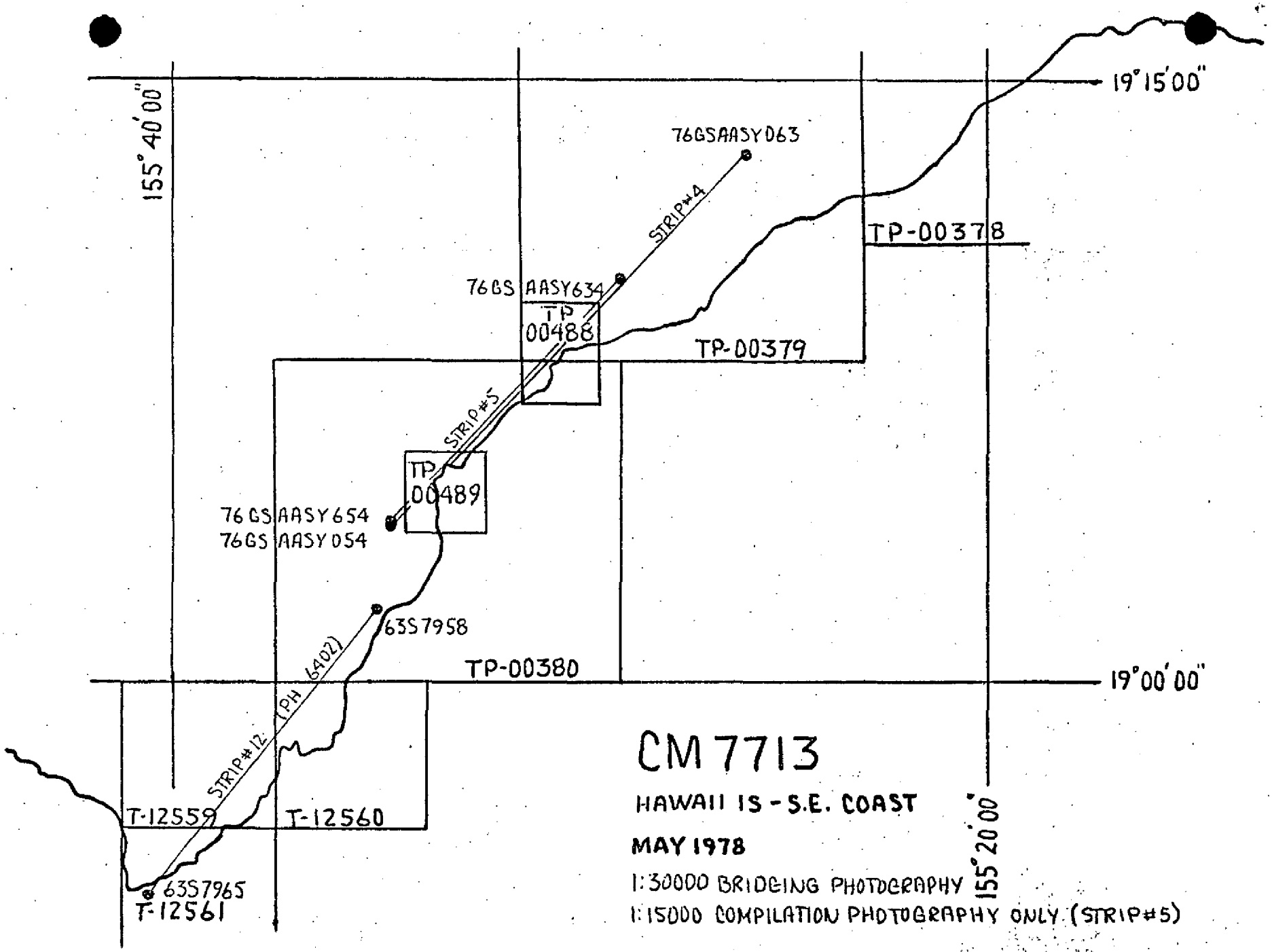
155°33'45"



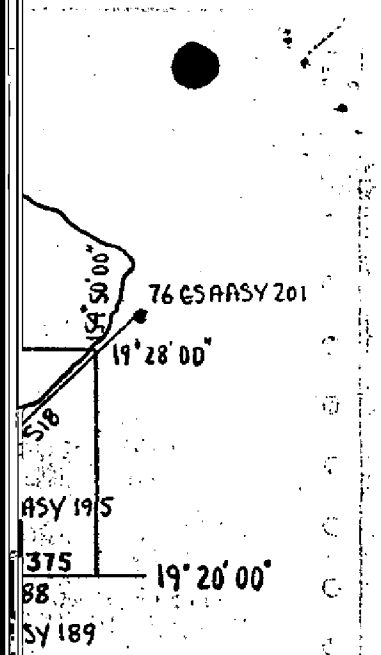
CM 7713

HAWAII IS - S.E. COAST

MAY 1978

1:30000 BRIDGING PHOTOGRAPHY

1:15000 COMPILATION PHOTOGRAPHY ONLY (STRIP#5)



D - S.E. COAST

ND PHOTOGRAPHY

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
T-12561	PH-6402	Old Hawaiian Datum	Coastal Mapping Section, AMC

STATION NAME	SOURCE OF INFORMATION (Index)	AEROTRI-ANGULATION POINT NUMBER	COORDINATES IN FEET STATE Hawaii ZONE 1	GEOGRAPHIC POSITION φ LATITUDE λ LONGITUDE	REMARKS
KA LAE 2, 1948-1949	G.P. Pg. 27		x=	φ 18° 54' 56.570"	
			y=	λ 155° 41' 04.290"	
PALAHEMO (H.G.S.) (H.T.S. 1938), 1898	G.P. Pg. 27		x=	φ 18° 55' 54.401"	
			y=	λ 155° 39' 40.233"	
KA LAE (H.G.S.), 1887	G.P. Pg. 40		x=	φ 18° 54' 57.671"	
			y=	λ 155° 41' 04.143"	
			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	DATE	COMPUTATION CHECKED BY	DATE
A. C. Rauck, Jr.	7-29-69	D. Butler	9-21-78
LISTED BY	DATE	LISTING CHECKED BY	DATE
HAND PLOTTING BY	DATE	HAND PLOTTING CHECKED BY	DATE

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

20

COMPILATION REPORT

T-12561

31. DELINEATION:

Delineation was by instrument methods using the Wild B-8 stereoplotter and 1:30,000 scale panchromatic compilation/bridging photographs. Ratio prints of the 1:15,000 scale color photographs were used graphically to supplement the compilation of minor detail and to assist in photo interpretation.

The field inspection supplied on the 1:30,000 scale contact prints was difficult to interpret. Individual rocks that could not be clearly identified during compilation were not compiled.

Photo quality and coverage were adequate.

32. CONTROL:

Specified control stations from adjoining project CM-7713 were provided to strengthen the horizontal control for this manuscript.

Refer to the Photogrammetric Plot Reports, dated June 10, 1969 and May 10, 1978 (CM-7713).

33. SUPPLEMENTAL DATA:

None.

34. CONTOURS AND DRAINAGE:

Contours are inapplicable. Drainage was delineated from the compilation photographs.

35. SHORELINE AND ALONGSHORE DETAILS:

The shoreline, coral and foul limits were delineated from office interpretation of the photographs and from the annotated photographs resulting from the precompilation field inspection. Because of the small tide range, no mean lower low water line was compiled.

36. OFFSHORE DETAILS:

Compilation of offshore detail was performed as described in Item #31.

T-12561

37. LANDMARKS AND AIDS:

One charted navigational aid was photogrammetrically positioned and appropriate data was submitted for field edit.

38. CONTROL FOR FUTURE SURVEYS:

None.

39. JUNCTIONS:

Refer to the Data Record Form 76-36B, Item 5.

40. HORIZONTAL AND VERTICAL ACCURACY:

Refer to the Photogrammetric Plot Reports dated June 10, 1969 and May 10, 1978 (CM-7713).

46. COMPARISON WITH EXISTING MAPS:

A comparison was made with USGS quadrangle Ka Lae, Hawaii, scale 1:24,000, dated 1959.

47. COMPARISON WITH NAUTICAL CHARTS:

A comparison was made with NOS Chart 19320, 12th edition, scale 1:250,000, dated June 17, 1978.

ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY:

None.

ITEMS TO BE CARRIED FORWARD:

None.

Submitted by:

Jerry L. Hancock
for Joanne Roderick
Cartographer
October 1978

Approved:

Jerry L. Hancock
for Albert C. Rauck, Jr.
Chief, Coastal Mapping Section

ADDENDUM TO THE COMPILATION REPORT

T-12561

Field edit was conducted in September/October 1979 by NOAA ship RAINIER personnel in conjunction with hydrographic surveys H-9852 and H-9853. Adequate information was furnished to advance the manuscript to Class I.

GEOGRAPHIC NAMES

FINAL NAME SHEET

PH-6402 Hawaii

Tpl2561

Hanalua

Island of Hawaii

Kaalo

Kahawai Kolono

Kahukupoko

Ka Lae

Kananaka

Kaulana

Luakeananolo

Lua o Palahemo---------Not compiled 9/14

Mahana Bay----------Compiled on T-12559 9/14

Pacific Ocean

Pali Haukeuke

Papakolea

Pohakea

Puu Alii

Puu Ulaula----------Not compiled 9/14

Kaahue 9/14

Pohokuloa 9/14

Approved by:

A. J. Wraight

A. Joseph Wraight
Chief Geographer

Prepared by:

Frank W. Pickett

Frank W. Pickett
Cartographer Technician

FIELD EDIT REPORT
OPR-T126-RA-79
CM-7713
T-12561

HAWAII
Hawaii, Southeast Coast
Ka Lae

1 Field Edit

25 September 1979 - 4 October 1979
(J.D. 268 - J.D. 277)

Methods

Field edit operations on T-12561 began 25 September 1979 (J.D. 268) and ended 4 October 1979 (J.D. 277). 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 print. 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 except for the sheet west and north of Ka Lae light. This latter area was examined by small boat. Additions of rocks were photo-pricked and referenced on the discrepancy print. The rock at W155° 29' 24", N18° 55' 36" was neither verified nor disproved due to surf conditions. Also due to surf conditions, it was difficult in some cases to determine the submerged ledge or foul limits.

Color photographs 8008, 8009, 8010, 8012, the discrepancy print, and the field edit sheet were sued to record and present data.

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

Adequacy and Completeness

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

Geographical Names

The name of the bay in the special investigation is Kaulana Bay.

Manuscript Accuracy

Direct comparison of shoreline features with the discrepancy print and photos was the primary method of determining accuracy. Agreement was excellent with the exception of Kaulana Bay boat ramp, a new feature. During an investigation of the bay as a possible harbor of refuge the boat ramp was located using two T-2 Theodolites. Its location is N18° 55' 11.780", W155° 40' 17.410".

Recommendations

The rock at 155° 29' 24", 18° 55' 36"N should be retained as plotted on the manuscript. The Kaulana Bay boat ramp should be 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

Separate Items: Photographs C&GS 31 AUG 63 S(C) 8007-8013
Master Film Field Edit Ozalid
Final Discrepancy Print
Field Discrepancy Print

REVIEW REPORT
SHORELINE

T-12561

61. GENERAL STATEMENT:

Final review for this Final Field Edited Map was accomplished at the Atlantic Marine Center in May 1987. 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 USGS quadrangle Ka Lae, Hawaii, scale 1:24,000, dated 1962.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS:

A comparison was made with a registered copy of hydrographic surveys H-9852, RA-10-3-79 and H-9853, RA-10-4-79; both surveyed in 1979 at 1:10,000 scale. No significant differences were noted.

65. COMPARISON WITH NAUTICAL CHARTS:

A comparison was made with NOS Chart 19320, 13th edition, scale 1:250,000, 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.

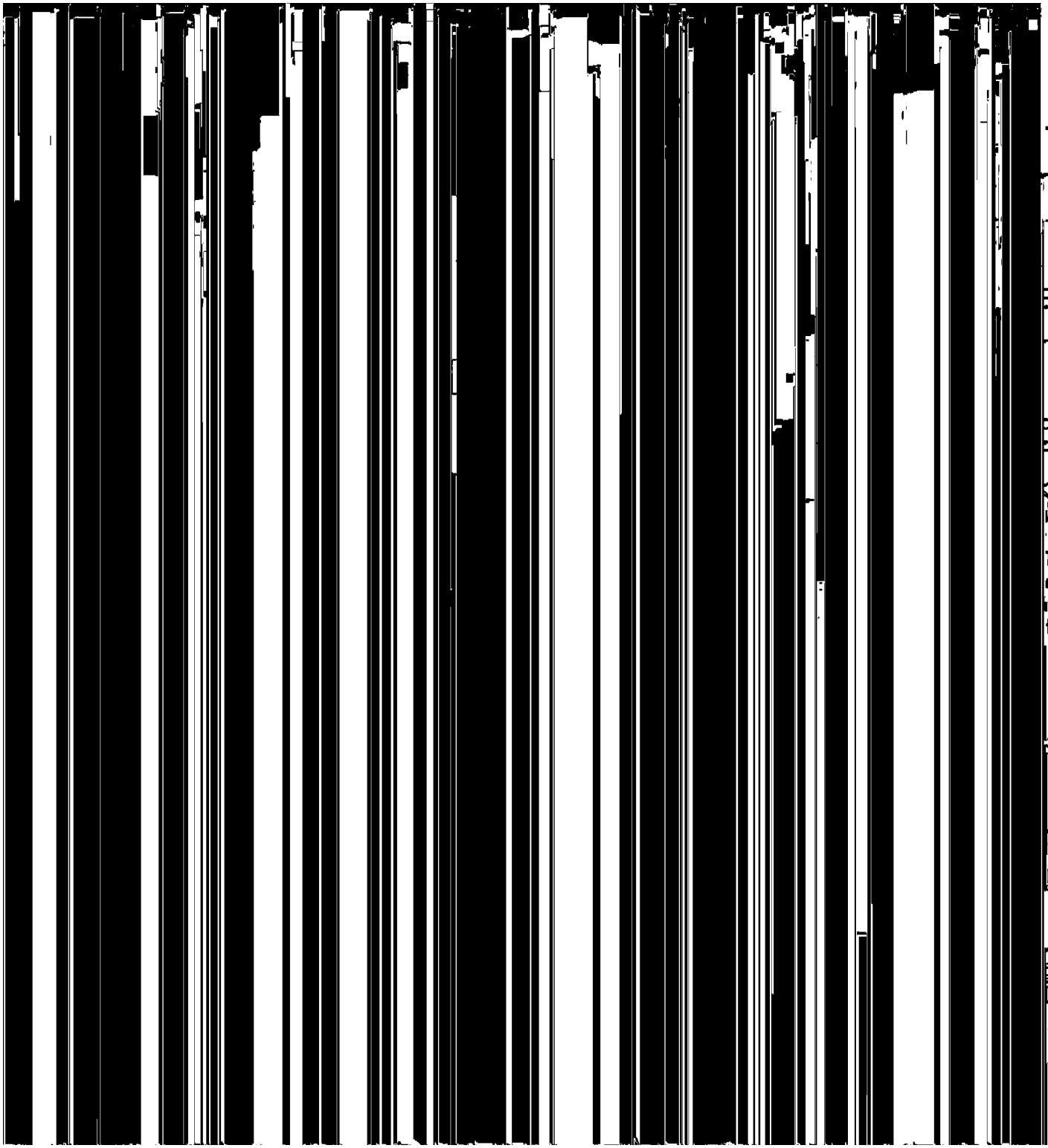
Submitted by:

Jerry L. Hancock

Jerry L. Hancock
Final Reviewer

Approved for forwarding:

[redacted]



☒ HYDROGRAPHIC PARTY
☐ GEODETIC PARTY
☐ OTHER *(Specify)*

FIELD ACTIVITY REPRESENTATIVE

OFFICE ACTIVITY REPRESENTATIVE

☐ REVIEWER
☐ QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

ON'

field positions** require
of location or verification,
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ocate or identify the object.

75
2982

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VISUALLY ON PHOTOGRAPH
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D POSITIONS are dependent
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EVISION.

U.S.GPO:1975-0-665-080/1155

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

OR CHARTS

LOCALITY	DATE	ORIGINATING ACTIVITY
West Coast Kailua to South Cape	June 1980	☐ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ PHOTO FIELD PARTY ☒ COMPILATION ACTIVITY ☐ FINAL REVIEWER ☐ QUALITY CONTROL & REVIEW GRP. ☐ COAST PILOT BRANCH *(See reverse for responsible personnel)*

rmine their value as landmarks.

Old Hawaiian

POSITION				METHOD AND DATE OF LOCATION *(See instructions on reverse side)*		CHARTS AFFECTED
DE	LONGITUDE					
// .M.Meters	° ′	// D.P.Meters		OFFICE	FIELD	
54.44 673.6	155 41	04.55 133.2		63S(C)8010 Aug 31, 1963	F-2-6-V Sept. 1979	19320 19004 19010

FORM C&GS-8352
(8-20-63)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. T-12561, (PH-6402)

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 Revi

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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			Drawing No.

FORM C&GS-8352 SUPERSEDES ALL EDITIONS OF FORM C&GS-975.

USCOMM-DC [illegible]