

T-12548

T-12548

NOAA FORM 76-35 (3-76)	
U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SURVEY	
DESCRIPTIVE REPORT	
Map No. T-12548	Edition No. 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 KAUHAKE BAY	
19 63 TO 1972	
REGISTRY IN ARCHIVES	
DATE	

NOAA FORM 76-36A (3-72)		U. S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMIN.		TYPE OF SURVEY <input checked="" type="checkbox"/> ORIGINAL <input type="checkbox"/> RESURVEY <input type="checkbox"/> REVISED		SURVEY XX T-12548 MAP EDITION NO. (1) MAP CLASS FINAL JOB PH-6402	
DESCRIPTIVE REPORT - DATA RECORD							
PHOTOGRAMMETRIC OFFICE Coastal Mapping Div. Atlantic Marine Center, Norfolk, VA				LAST PRECEDING MAP EDITION TYPE OF SURVEY <input type="checkbox"/> ORIGINAL <input type="checkbox"/> RESURVEY <input type="checkbox"/> REVISED			
OFFICER-IN-CHARGE R. Matsushige				JOB PH- MAP CLASS SURVEY DATES: 19__ TO 19__			
I. INSTRUCTIONS DATED							
1. OFFICE				2. FIELD			
Compilation Oct. 28, 1973 Amendment 1 Jan. 3, 1974 Memo Sept. 1, 1978				Control/ Field Inspection May 8, 1964			
II. DATUMS							
1. HORIZONTAL: <input type="checkbox"/> 1927 NORTH AMERICAN				OTHER (Specify) Old Hawaiian			
2. VERTICAL: <input checked="" type="checkbox"/> MEAN HIGH-WATER <input type="checkbox"/> MEAN LOW-WATER <input type="checkbox"/> MEAN LOWER LOW-WATER <input type="checkbox"/> MEAN SEA LEVEL				OTHER (Specify)			
3. MAP PROJECTION Polyconic				4. GRID(S) STATE Hawaii ZONE 1			
5. SCALE 1:10,000				STATE ZONE			
III. HISTORY OF OFFICE OPERATIONS							
OPERATIONS				NAME		DATE	
1. AEROTRIANGULATION BY METHOD: Stereoplanigraph LANDMARKS AND AIDS BY				J. Perrow		June 1969	
2. CONTROL AND BRIDGE POINTS PLOTTED BY METHOD: Coradomat CHECKED BY				J. Perrow		June 1969	
3. STEREOSCOPIC INSTRUMENT PLANIMETRY BY COMPILATION CHECKED BY				L. Neterer		Oct. 1969	
INSTRUMENT: Wild B-8				A. Shands		Oct. 1969	
SCALE: 1:10,000				N.A.			
4. MANUSCRIPT DELINEATION PLANIMETRY BY				L. Graves		Feb. 1970	
METHOD: Smooth drafted				R. Pate		Mar. 1972	
SCALE: 1:10,000				N.A.			
HYDRO SUPPORT DATA BY				L. Graves		Feb. 1970	
CHECKED BY				R. Pate		Mar. 1972	
5. OFFICE INSPECTION PRIOR TO FIELD EDIT BY				R. Pate		Mar. 1972	
6. APPLICATION OF FIELD EDIT DATA BY				L. Graves		Jan. 1973	
CHECKED BY				R. Minton		Apr. 1974	
7. COMPILATION SECTION REVIEW BY				R. Minton		Apr. 1974	
8. FINAL REVIEW BY				J. Hancock		Apr. 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				FL DAUGHERTY		SEP 87	

NOAA FORM 76-36B
(3-72)

T-12548

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

COMPILATION SOURCES

1. COMPILATION PHOTOGRAPHY

CAMERA(S) Wild B-8"S", S=152.29mm		TYPES OF PHOTOGRAPHY LEGEND		TIME REFERENCE	
TIDE STAGE REFERENCE <input checked="" type="checkbox"/> PREDICTED TIDES <input type="checkbox"/> REFERENCE STATION RECORDS <input type="checkbox"/> TIDE CONTROLLED PHOTOGRAPHY		(C) COLOR (P) PANCHROMATIC (I) INFRARED		ZONE Hawaii	<input checked="" type="checkbox"/> STANDARD
				MERIDIAN 150th	<input type="checkbox"/> DAYLIGHT
NUMBER AND TYPE	DATE	TIME	SCALE	STAGE OF TIDE	
63S(P) 8081-8084*	Sept. 1, 1963	09:17	1:30,000	0.4 Ft. above MLLW	
63S(C) 8025-8028**	Aug. 31, 1963	10:28	1:15,000	1.4 Ft. above MLLW	
				Mean Tide Range 1.4 FT.	

REMARKS

*Bridging/compilation photographs, **Compilation/hydro support photographs

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 H-9307	DATE(S) 1972	SURVEY COPY USED Registered	SURVEY NUMBER	DATE(S)	SURVEY COPY USED
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5. FINAL JUNCTIONS

NORTH T-12547, T-11797*	EAST None	SOUTH T-12549	WEST None
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REMARKS

Inset map T-11797 (1:5,000 scale) lies within the northwest region of this manuscript.

T-12548

HISTORY OF FIELD OPERATIONS

I. ☒ 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	Aug. 1964
	ESTABLISHED BY E. Cline	Aug. 1964
	PRE-MARKED OR IDENTIFIED BY E. Cline	Aug. 1964
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 <input type="checkbox"/> COMPLETE <input type="checkbox"/> SPECIFIC NAMES ONLY <input checked="" type="checkbox"/> NO INVESTIGATION	
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)8078*	McCANDLESS, 1948 (Sub. Pts 1 & 2) (Station is just east of sheet)		
*Partial ratio print			

3. PHOTO NUMBERS (Clarification of details)

63(S) 8081-8083 (1:30,000 scale matte contacts)

4. LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED

None

PHOTO NUMBER	OBJECT NAME	PHOTO NUMBER	OBJECT NAME

5. GEOGRAPHIC NAMES: ☐ REPORT ☒ NONE6. BOUNDARY AND LIMITS: ☐ REPORT ☒ NONE

7. SUPPLEMENTAL MAPS AND PLANS

None

8. OTHER FIELD RECORDS (Sketch books, etc. DO NOT list data submitted to the Geodesy Division)

2 Forms 152 (CSI)
Project Field Report

NOAA FORM 76-36C
(3-72)U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEYT-12548
HISTORY OF FIELD OPERATIONSI. ☐ FIELD INSPECTION OPERATION☒ FIELD EDIT OPERATION

OPERATION	NAME	DATE
1. CHIEF OF FIELD PARTY	(NOAA Ship RAINIER) G. Haraden	Sept./Oct. 1972
2. HORIZONTAL CONTROL	RECOVERED BY ESTABLISHED BY PRE-MARKED OR IDENTIFIED BY	S. Hollinshead None None
3. VERTICAL CONTROL	RECOVERED BY ESTABLISHED BY PRE-MARKED OR IDENTIFIED BY	None None None
4. LANDMARKS AND AIDS TO NAVIGATION	RECOVERED (Triangulation Stations) BY LOCATED (Field Methods) BY IDENTIFIED BY	None None None
5. GEOGRAPHIC NAMES INVESTIGATION	TYPE OF INVESTIGATION <input type="checkbox"/> COMPLETE <input type="checkbox"/> SPECIFIC NAMES ONLY <input checked="" type="checkbox"/> NO INVESTIGATION	BY
6. PHOTO INSPECTION	CLARIFICATION OF DETAILS BY	S. Hollinshead
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) 8025-8027 (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 Form 76-40
1 Field edit paper print
1 Field edit report

NOAA FORM 76-36D (3-72)			U. S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION	
T-12548 RECORD OF SURVEY USE				
I. MANUSCRIPT COPIES				
COMPILATION STAGES			DATE MANUSCRIPT FORWARDED	
DATA COMPILED	DATE	REMARKS	MARINE CHARTS	HYDRO SUPPORT
Compilation complete pending field edit	Mar. 1972	Class II manuscript	None	July 1972
Field edit applied, compilation complete	Apr. 1974	Class I manuscript	June 1980	Apr. 1974
Final review	Apr. 1987	Final Map	July 1987	July 1987
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	L-817(87)	June 1980	Landmark for Charts (Feature was submitted in error - should have been "To Be Deleted")	
2. <input checked="" type="checkbox"/> REPORT TO MARINE CHART DIVISION, COAST PILOT BRANCH. DATE FORWARDED: <u>June 1980</u> 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 7637/40 SUBMITTED BY FIELD PARTIES. 3. <input 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	
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	MAP CLASS <input type="checkbox"/> II. <input type="checkbox"/> III. <input type="checkbox"/> IV. <input type="checkbox"/> V. <input type="checkbox"/> FINAL	
THIRD EDITION	SURVEY NUMBER TP - _____ (3)	JOB NUMBER PH - _____	TYPE OF SURVEY <input type="checkbox"/> REVISED <input type="checkbox"/> RESURVEY	
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	MAP CLASS <input type="checkbox"/> II. <input type="checkbox"/> III. <input type="checkbox"/> IV. <input type="checkbox"/> V. <input type="checkbox"/> FINAL	
FOURTH EDITION	SURVEY NUMBER TP - _____ (4)	JOB NUMBER PH - _____	TYPE OF SURVEY <input type="checkbox"/> REVISED <input type="checkbox"/> RESURVEY	
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	MAP CLASS <input type="checkbox"/> II. <input type="checkbox"/> III. <input type="checkbox"/> IV. <input type="checkbox"/> V. <input type="checkbox"/> FINAL	

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SUMMARY TO ACCOMPANY
DESCRIPTIVE REPORT

T-12548

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 west coast of Hawaii Island from Latitude 19° 22' 30" to Latitude 19° 26' 15". The northwest segment of the map is portrayed by inset map T-11797, 1:5,000 scale.

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. In addition, 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 adjoining project PH-6401.

Analytic aerotriangulation was adequately provided by the Washington Science Center in June 1969. Tie points from photo strip #4 contained in adjoining project PH-6401 were included in this bridge. Aerotriangulation activity included ruling the base manuscripts and also provided ratio prints for compilation and hydrographic/field edit operations.

Compilation for this map was performed at the Coastal Mapping Section, Atlantic Marine Center in March 1972. The northwest segment of this map was not compiled since it is mapped at 1:5,000 scale on inset map T-11797. Copies of the initial compilation and hydrographic support data were forwarded to the hydrographer for field edit.

Field edit was conducted in conjunction with hydrographic survey H-9307 by NOAA Ship RAINIER personnel in September 1972.

T-12548

Application of field edit was completed at the original compilation office in April 1974 and the manuscript was advanced to Class I. Map copies were submitted to the hydrographer for smooth sheet application.

Final review was performed at the Atlantic Marine Center in April 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-12548

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.

UNITED STATES GOVERNMENT

Memorandum

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

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631W

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

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

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 north-west shore of the island.

22. Method

Strips were bridged on the stereoplanigraph and adjusted by IBM 1620 methods. Strip #4 discussed in the report for PH-6401. Strip #10 was adjusted on five triangulation stations with tie points from Strips #4 and #11 as checks. Strip #11 was adjusted on five stations with one station and tie points as checks. The adjustment of Strip #12 met with considerable problems. These problems were due to control identification on stations KAMILO, KIPAEPAE on the northeast end of the strip. Points were dropped from Strip #11 to enable model 63-S-7964 and 7965 to be set, thus enabling T-sheet 12561 to be completed.

T-sheets 12559 and 12560 must await further field work. Difficulties were also experienced in bridging Strip #13. This problem was resolved by dropping enough points from Strips #4 and #10 to set individual models between 63-S-8080 and 8085. All points between strips were averaged. Points were drilled by using the Wild PUG.

23. Adequacy of Control

Control provided by the field was adequate. The following stations could not be held in the bridging adjustments.

1. KEEI SOUTH BASE, 1948, SS #1 and SS #2, could not be held in Strip #13, as was the case of Strip #4 in PH-6401. No reasons could be determined for the lack of adjustment with other points.

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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.

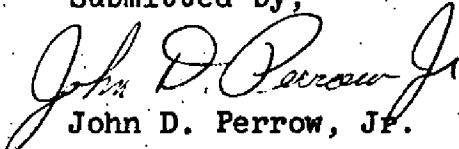
24. Supplemental Data

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

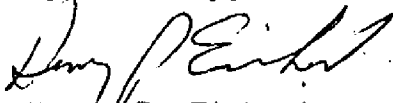
25. Photography

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.

Approved by,



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.

SHORELINE MAPPING

JOB PH-6402

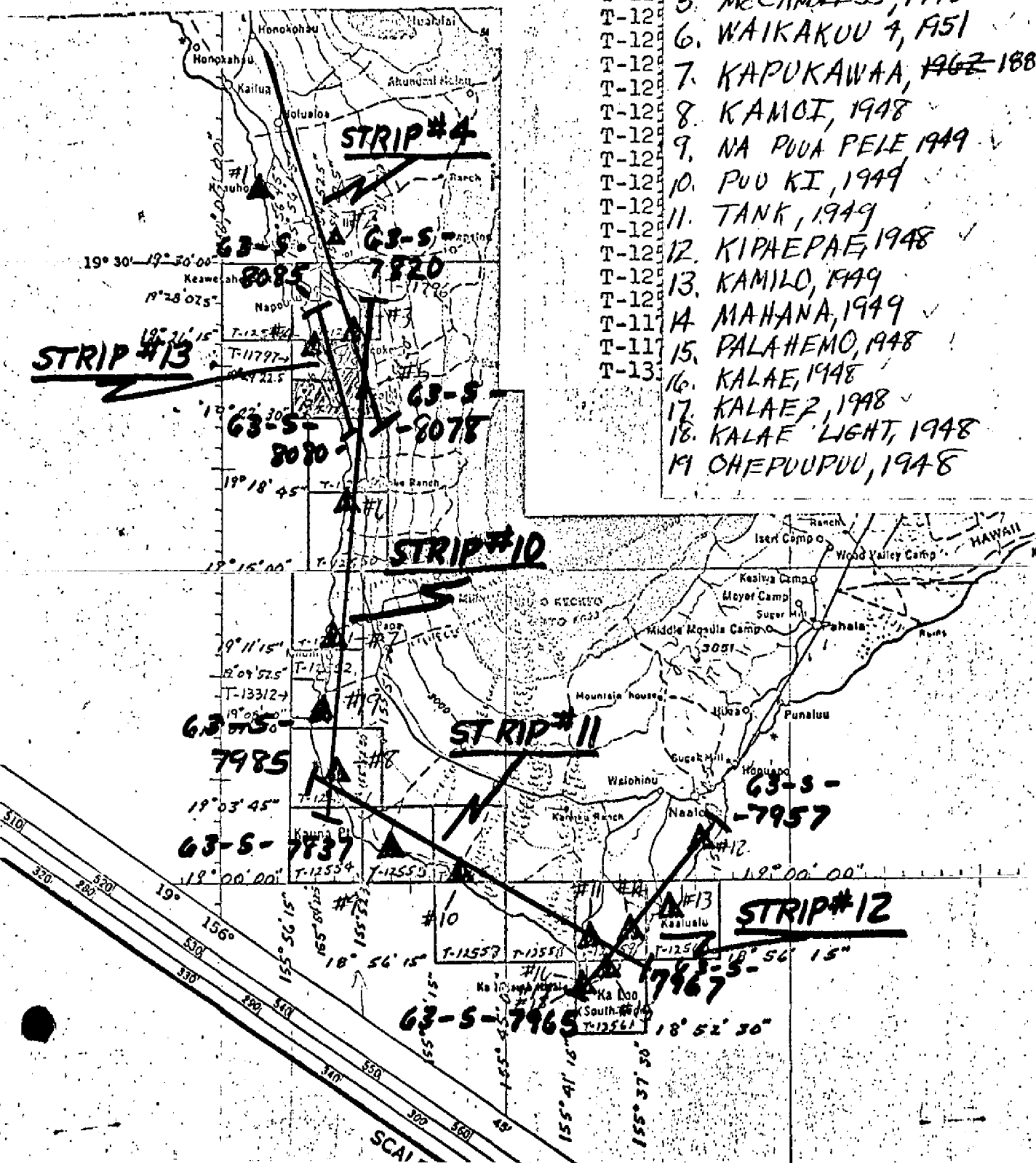
HAWAII IS. WEST COAST
AILUA TO SOUTH CAPE

SCALE 1:10,000

OFFICE

Sheet
No.

1. POINT, 1928.
2. KANAKU, 1948
3. HONAUNAU ST. BENEDICT
CATH. CH. SPIRE, 1948
4. KEEI S. BASE, 1948
5. McCANDLESS, 1948
6. WAIKAKOU 4, 1951
7. KAPUKAWAA, 1962-188.
8. KAMOI, 1948
9. NA PUUA PELE 1949
10. PUU KI, 1949
11. TANK, 1949
12. KIPAEPAE, 1948
13. KAMILO, 1949
14. MAHANA, 1949
15. PALAHEMO, 1948
16. KALAE, 1948
17. KALAE 2, 1948
18. KALAE LIGHT, 1948
19. OHEPUUPUU, 1948



Photogrammetric Plot Report

PH-6401

Hawaii Island, Hawaii

Feb. 4, 1969

21. Area Covered

The area covered by this report is along the northwest coast of Hawaii Island. T-sheets in this area are numbered 12534 thru 12541, 12543, and 12545 at 1:10,000 scale. T-sheets 12542, 12544, 12635, 13131 and 13132 at 1:5,000 scale. Sheets T-12527 thru 12533 and 13154 were covered by a previous report on Strips #1 and #2.

22. Method

All strips were bridged on the stereoplanigraph and adjusted by IBM 1620 methods. Strip #3 was adjusted on four stations with two additional stations as checks. Strip #4 was adjusted on seven stations with two additional stations as checks. Strip #6 was adjusted on two control points plus 7 tie points. Strip #7 was adjusted on one control station and three tie points. Strip #8 was adjusted on three control stations and three tie points. All tie points between strips were averaged. Points were drilled using the Wild PUG.

23. Adequacy of Control

The control provided by the field was adequate after reidentification of Anaehoomalu 1913, Lana Cone, 1913 and the identification of Hand, 1928 and Nawai 1928. The following stations could not be held in the bridging adjustments.

1. LAVA CONE, 1913, SS #A and SS #B ("NEAR"). By holding four triangulation stations and floating substitute stations "NEAR A AND B", a 1 ft. check was achieved between these substitute stations and placed LAVA CONE, 1913 80 ft. north of survey mark "NEAR" and on the high point of the immediate area. This bares out the field recovery note for station LAVA CONE 1913 that the survey mark "NEAR" and intersection station LAVA CONE, 1913 are not one and the same. Geodesy Division has been notified of our findings and the bridging information added to their files.

2. KEEI SOUTH BASE, 1948 SS #1 and SS #2 could not be held in Strip #4 by 11' and 16' respectively. It is believed these errors are due to bad identification, since seven other stations were held in the adjustment. This station falls in Strip #4 but is outside of the PH-6401 area of compilation.

24. Supplemental Data

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 with the exception of T-12542. 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.

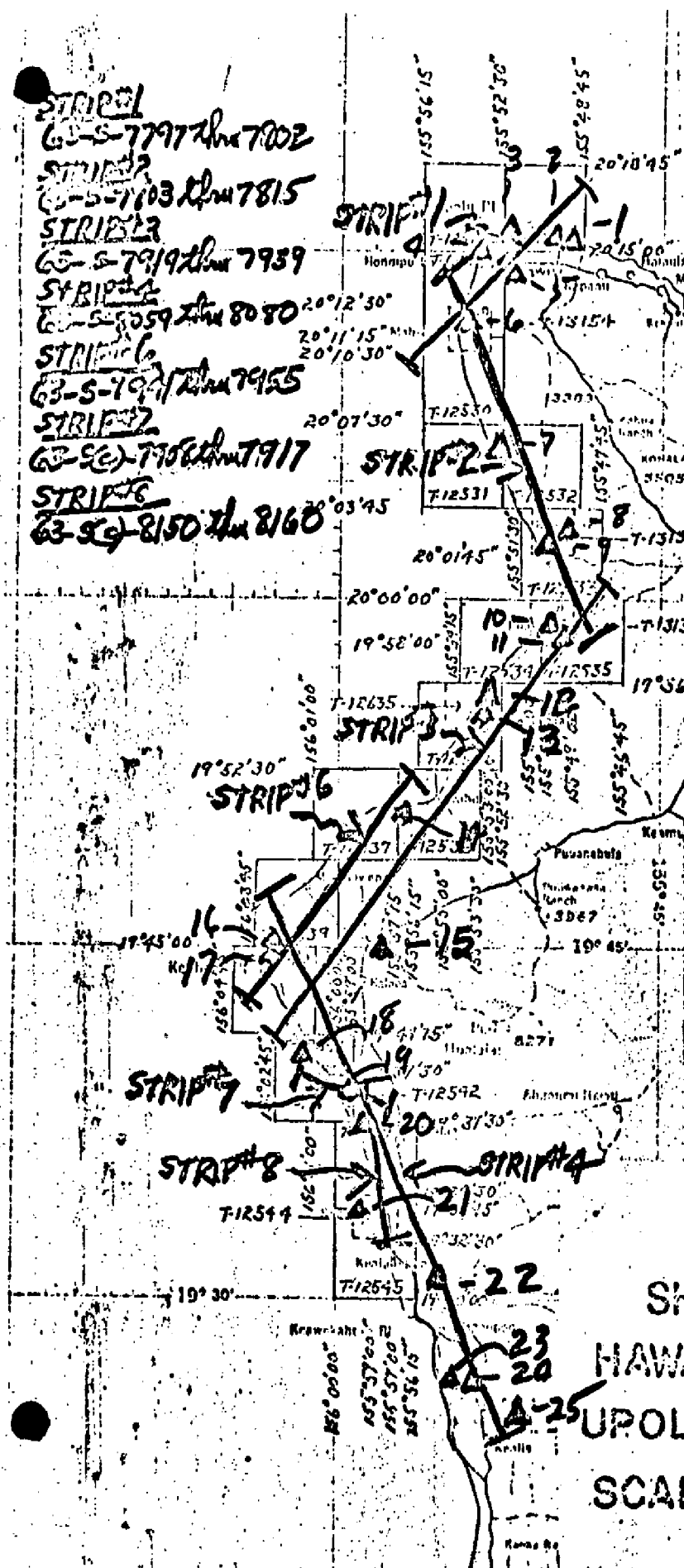
Submitted by,

John D. Perrow Jr.
John D. Perrow, Jr.

Approved by,

Henry P. Eichert

Henry P. Eichert
Chief, Aerotriangulation Section



1. KEPUHI 2, 1948
2. KEPUHI, 1913
3. KEELAHWEA 2, 1948
4. LORAN TOWER, 1948
5. PUV ULA, 1913
6. RED TANK, 1948
7. KEAWANDU, 1948
8. PUV KAMALI, 2, 1928
9. KAWAINAE LT. 1928.
10. PUAKO, 1873
11. PUAKO NEW, 1948
12. ANAEHOOMALU, 1913
13. HAND, 1928
14. NAWAT, 1928
15. LAVA CONE, 1913
16. KEAHOLE 2, 1948
17. KEAHOLE, 1882
18. KEARUOLU PT. NW. RANGE
MARKER, 1948
19. KAILUA, 1887
20. KAHALO, 1882
21. POINT, 1928
22. KEALAKEKUM KONA CH.
SPIRE, 1948
23. KEEI SOUTH BASE, 1948
24. HONAUHOU, ST. BENEDICT
CATH. CHURCH SPIRE, 1948
25. MC CANDLESS, 1948

JOB PH-6401

SHORELINE MAPPING

HAWAII IS. WEST COAST

PURPOLO POINT TO KAILUA

SCALE 1:5,000 & 1:10,000

DESCRIPTIVE REPORT CONTROL RECORD

MAP NO.	JOB NO.	PH-6402	SOURCE OF INFORMATION (Index)	AEROTRI- ANGULATION POINT NUMBER	GEODEIC DATUM		ORIGINATING ACTIVITY	
					Old Hawaiian Datum COORDINATES IN FEET STATE <u>Hawaii</u> ZONE <u>1</u>	Geographic Position ϕ LATITUDE λ LONGITUDE	Coastal Mapping Section, AMC	REMARKS
T-12548					X=	ϕ 19° 24' 03.665"		
					Y=	λ 155° 54' 47.264"		
LAE LOA (H.G.S.), 1884			G.P. Pg. 16		X=	ϕ 19° 23' 41.773"		
					Y=	λ 155° 52' 02.704"		
MCCANDLESS, 1948			G.P. Pg. 17		X=	ϕ 19° 23' 46.092"		
					Y=	λ 155° 54' 41.037"		
LAE MAMO, 1972			Field Edit Report 1972		X=	ϕ 19° 23' 00.677"		
					Y=	λ 155° 54' 10.341"		
HOOKENA, 1972			Field Edit Report 1972		X=	ϕ 19° 22' 40.672"		
					Y=	λ 155° 53' 52.751"		
PUIWA, 1972			Field Edit Report 1972		X=	ϕ 19° 25' 18.035"		
					Y=	λ 155° 52' 46.902"		
KALAPA (H.G.S.), 1884			G.P. Pg. 17		X=	ϕ		
					Y=	λ		
					X=	ϕ		
					Y=	λ		
					X=	ϕ		
					Y=	λ		
					X=	ϕ		
					Y=	λ		
COMPUTED BY	A. C. Rauck, Jr.	DATE	7-29-69	COMPUTATION CHECKED BY	L. L. Graves	DATE	11-10-69	
LISTED BY		DATE		LISTING CHECKED BY		DATE		
HAND PLOTTING BY		DATE		HAND PLOTTING CHECKED BY		DATE		

COMPILATION REPORT

T-12548

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:

Refer to the Photogrammetric Plot Reports, dated February 4, 1969 (PH-6401) and June 10, 1969.

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.

37. LANDMARKS AND AIDS:

One potential landmark was located for field edit verification.

T-12548

38. CONTROL FOR FUTURE SURVEYS:

During compilation, additional pass points were established by instrument methods for horizontal control of inset map T-11797 which is contained within the northeast segment of this sheet. The selection of pass points was limited to like points that were common to the 1963 photographs and the 1969 photographs provided for T-11797.

39. JUNCTIONS:

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

40. HORIZONTAL AND VERTICAL ACCURACY:

Refer to the Photogrammetric Plot Reports dated February 4, 1969 (PH-6401) and June 10, 1969.

46. COMPARISON WITH EXISTING MAPS:

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

47. COMPARISON WITH NAUTICAL CHARTS:

A comparison was made with C. & G.S. Chart 4115, scale 1:250,000, 8th edition, dated September 9, 1963, revised January 1, 1967.

ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY:

None.

ITEMS TO BE CARRIED FORWARD:

None.

Submitted by:

Gerry L. Hancock

for L. Graves
Cartographic Technician
February 1970

Approved:

Gerry L. Hancock
for

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

ADDENDUM TO THE COMPILATION REPORT

T-12548

Field edit was performed in September 1972 by NOAA ship RAINIER personnel. Adequate field data was furnished to advance the manuscript to Class I.

GEOGRAPHIC NAMES

FINAL NAME SHEET

PH-6402 Hawaii

T-12548

(* Compiled on inset Map-T-11797) *gjh*

*Alahaka Bay
 *City of Refuge
 *City of Refuge National Historical Park
 *Honaunau
 *Honaunau Bay
 Honaunau Field -----Not compiled *gjh*
 Hookena
~~Heepalakamaia Point~~ Hoopalakamaia Point *gjh*
 Island of Hawaii
 Kalahiki Beach
 Kanekaukii Point
 *Kanonii Point
 Kauhako -----Not compiled *gjh*
 Kauhako Bay
 Kealia -----Not compiled *gjh*
 Kealia Beach
 Keokea -----Not compiled *gjh*
 *Kiilae Bay
 Kiilae Watercourse -----Not compiled *gjh*
 *Kii Point
 Lao Mamo
 Lainamaia Point
 Loa Point
 *Miana Point
 Pacific Ocean
 Palanihi Point
 *Pehehoni Point
 *Puuhonua Point
 Puu Kalapa -----Not compiled *gjh*

Approved by:

*A. J. Wraight*A. Joseph Wraight
Chief Geographer

Prepared by:

*Frank W. Pickett*Frank W. Pickett
Cartographic Technician

FIELD EDIT REPORT

OPR-419, 1972

T-12539 through T-12550
T-13382 T-11796
Kona Coast, Hawaii

NOAA Ship RAINIER

CAPT G.E. HARADEN
Commanding

INTRODUCTION - METHODS

Field edit was accomplished between 14 September and 26 October 1972 by personnel of the NOAA Ship RAINIER. Work was performed from a 16 foot skiff. Landings were made where necessary to verify shoreline character.

The field edit started approximately 0.4 mile north-east of Puialoa Point, Hawaii and extended southward to Puoa Point (see appendix). Editing was completed on Manuscripts T-12539, T-12540, T-12541, T-12542, T-13382, T-12543, T-12544, T-12545, T-11796, T-12546, T-12548, and T-12549. Field edit was begun but not completed on Manuscript T-12550. No field edit was done on Manuscripts T-12547 and T-11797.

All additions and corrections were noted in purple on the field edit ozalids. Deletions were accented in green. Photos used in this edit were from PH-6401 and 6402. Values given for distances from MHWL and heights of rocks were estimated. All time references were made to 150° W longitude.

To aid in cross-referencing, A "Manuscript Reference Index" and a "Position Abstract" are included in the appendix. Also included in the appendix are: 1) List of detached positions, 2) A complete signal tape listing, 3) Listing of Triangulation Stations recovered, established, and re-established.

ADEQUACY OF COMPILATION

The compilation of the MHWL on the edited manuscripts was excellent and required very few corrections. In general the compilation of off-shore features was also excellent. Time and height data for rocks not identified on the manuscripts has been included on the photographs.

DISCUSSION AND RECOMMENDATIONS

T-12539 (completed) Mahailua Bay

The shoreline in this area is primarily composed of steep cliffs 20' high, interspersed with sandy beach. The northern and southern-most buildings at Mahailua Bay are the only two prominent objects in the vicinity and therefore are of landmark value. The wooden windmill located at $19^{\circ} 47' 13.35''$ N and $156^{\circ} 02' 22.50''$ W, is no longer standing and should be deleted from C&GS Chart 4140. Further information is furnished on NOAA Form 76-40 (see appendix).

T-12540 (completed) Makako Bay

The shoreline in this area is composed primarily of low bluffs and sandy beach with marsh surrounding fish ponds.

Keahole Point Lighthouse is of landmark value. The lighthouse was field identified from photo 63-S-7943. Further information is provided on NOAA Form 76-40 (see appendix).

T-13382 (completed) Honokohau Bay

The shoreline in this area is composed primarily of gently sloping lava flows with interspersed sandy beach and marsh surrounding Kaloko Fish Pond.

Keahuolu Point Northeast Range Marker, 1948, is of landmark value. Keahuolu Point Northwest Range Marker, 1948*, has fallen over and is no longer visible from seaward. Four new navigational lights mark the entrance to the new boat basin at Honokohau, located just south of Maliu Point. Further information is provided on NOAA Form 76-40 (see appendix).

T-12541 (completed) Kailua Bay

The shoreline in this area is composed primarily of sloping lava rock with marsh surrounding small ponds and fish ponds at Honokohau Bay.

* NOTE: Keahuolu Point Northeast Range Marker, 1948, and Keahuolu Point Northwest Range Marker, 1948, are located on Manuscripts T-12541 and T-13382.

The northern-most building at Honokohau, although small, is of landmark value as a navigational aid when entering the Honokohau boat basin. Keahuolu Point Northeast, Keahuolu Point Southeast, and Keahuolu Point Southwest Range Markers are very faded and weathered but are of landmark value. The building located at Honokohau (approximate location, latitude $19^{\circ}40'25.85''$ N and longitude $156^{\circ}01'44.83''$ W) and Keahuolu Point Northwest Range Marker are not visible from seaward and should be deleted. Further information is provided on NOAA Form 76-40 (see appendix).

T-12542 (completed) Kailua Bay

The shoreline in this area is composed primarily of low bluffs interspersed with sandy beach.

The facade of the Kona Hilton Hotel, which is illuminated yellow at night, and Kailua Lighthouse are of landmark value; both were intersected using second order, class II methods. A crane lighted at night by a floodlight and used by fishermen as a navigational aid and the Kailua Mokuaiakau Church spire are also of landmark value.

The cattle pens, small craft warning mast, and building on the Kailua pier have been removed and should be deleted. The tanks located at latitude $19^{\circ}38'34.80''$ N, and longitude $156^{\circ}00'03.46''$ W, and the Kona Airport Airway Beacon have been removed and should be deleted. The church spire, latitude $19^{\circ}38'24.22''$ N and longitude $155^{\circ}59'37.05''$ W, is

present as described but is obscured by vegetation. Further information is provided on NOAA Form 76-40 (see appendix).

T-12543 (completed) Keauhou Bay

This area is composed primarily of rocky shoreline interspersed with sandy beaches.

New buildings at latitude 19°35'52.50 " N, longitude 155°58'31.50" W and latitude 19°34'39.60" W, longitude 155°58'12.60" W are not of landmark value. A hotel just south of Kalaau o Kalakani and a blue church building at Kahaluu Bay are of landmark value.

A spire at Kahaluu Bay is not visible and should be deleted. Further information is provided on NOAA Form 76-40 (see appendix).

T-12544 (completed) Keauhou Bay

The shoreline in this area is primarily composed of lava bluffs 30 feet high.

Keauhou Bay Light and Keauhou Bay Entrance Directional Light (both lights on the same structure) and the Kona Surf Hotel (approximate position scaled) are of landmark value. Further information is provided on NOAA Form 76-40 (see appendix).

T-12545 (completed) Keikiwaha Point

The shoreline in this area is composed of low lava bluffs approximately 10 feet high. There are no objects of landmark value.

T-12546 (completed) Keawekaheka Bay

The shoreline in this area is primarily composed of lava bluffs approximately 30 feet high.

There are no objects of landmark value.

T-11796 (completed) Kealakekua Bay

The shoreline in this area consists of low lava bluffs six to ten feet high with rocky beaches and a steep cliff (160 feet high) on the northeast side of the bay.

Napoopoo, Kahikolu Church Spire, 1913, Napoopoo Lighthouse, and Captain Cook's Monument are all of landmark value. Further information is provided on NOAA Form 76-40 (see appendix).

T-12547 (incomplete) Kealakekua Bay

No field edit was done on this manuscript.

T-11797 (incomplete) Honaunau Bay

No field edit was done on this manuscript.

T- 12548 (completed) Kauhako Bay

The shoreline in this area is composed of bluffs approximately 40-60 feet high with interspersed sandy beach. Buildings in the area indicated on the manuscript at Kauhako Bay are of landmark value. (building locations were not determined by the field editor or located by the compiler - see manuscript).

A church steeple located near Palianihi Point no longer exists and should be deleted.

Further information is provided on NOAA Form 76-40 (see appendix).

T-12549 (completed) Kauluoa Point

The shoreline in this area is composed of cliffs from 10 to 60 feet high interspersed with gravel, sand, and rocky beaches. There are no objects of landmark value.

T-12550 (incomplete) Puoa Point

The shoreline in this area is composed of lava bluffs approximately 40-60 feet high. There are no objects of landmark value. Field edit was completed to Puoa Point.

Respectfully submitted,

Steven J. Hollinshead
Steven J. Hollinshead
LTJG, NOAA

MANUSCRIPT REFERENCE INDEX

OPR-419

FIELD EDIT

MANUSCRIPT NUMBER	REFERENCE PHOTO NUMBERS	REFERENCE DETACHED POSITIONS
T-12539 Mahailua Bay	63-S-7948 63-S-8060	
T-12540 Makako Bay	63-S-7943 63-S-8063*	
T-12541 Kailua Bay	63-S-8063* 63-S-8094	
T-13382 Honokohau Bay	69-E-9255 69-E-9254	
T-12542 Kailua Bay	63-S(C)-7913 63-S(C)-7915 63-S(C)-7917	Detached Positions 10/05/72
T-12543 Keauhou Bay	63-S-8067 63-S-8068	
T-12544 Keauhou Bay	63-S(C)-8158 63-S(C)-8159 63-S(C)-8160	

*NOTE: Photo 63-S-8063 used on T-Sheets T-12540
and T-12541

MANUSCRIPT NUMBER	REFERENCE PHOTO NUMBERS	REFERENCE DETATCHED POSITIONS
T-12545 Keikiwaha Point	63-S-8088 63-S-8087*	
T-12546 Keawekaheka Bay	63-S-8087*	
T-11796 Kealakekua Bay	63-S-8138	Detatched Position 9/14/72
T-12547 Kealakekua Bay	**	
T-11797 Honaunau Bay	**	
T-12548 — Honaunau Bay	63-S(C)-8027 63-S(C)-8026 63-S(C)-8025	
T-12549 Kauluoa Point	63-S(C)-8024 63-S(C)-8023 63-S(C)-7888 63-S(C)-7887 63-S(C)-7886	
T-12550	63-S(C)-7884	

*NOTE: Photo 63-S-8087 used on T-Sheets T-12545 and T-12546

**NOTE: No field edit done

REVIEW REPORT
SHORELINE

T-12548

61. GENERAL STATEMENT:

Final review for this Final Field Edited Map was accomplished at the Atlantic Marine Center in April 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 Honaunau, Hawaii, dated 1959, scale 1:24,000.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS:

A comparison was made with a registered copy of H-9307, RA-10-06-72, surveyed in 1972 did not reveal any significant differences.

65. COMPARISON WITH NAUTICAL CHARTS:

A comparison was made with NOS Chart:

19320, 13th edition, scale 1:250,000, July 10, 1982.

A landmark "SPIRE" now displayed on the current chart at Latitude 19° 23.1', Longitude 155° 54.2' appears to be a product of the previous Class I map and accompanying 76-40 form. This information was submitted in error to Marine Charts in June 1980. The feature, submitted as a "Church Steeple", does not exist according to the September 1972 field edit. This discrepancy will be addressed on the final Chart Maintenance Print and a current 76-40 form will also be forwarded.

T-12548

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:

Billy H. Barnes

Billy H. Barnes
Chief, Photogrammetric Section, AMC

Approved:

Jay O. Robson

Chief, Photogrammetric Production Sec.

A. Y. Bryson

Chief, Photogrammetry Branch

RESPONSIBLE PERSONNEL		ORIGINATOR
TYPE OF ACTION	NAME	
OBJECTS INSPECTED FROM SEAWARD	G, Haraden, NOAA Ship RAINIER	<input type="checkbox"/> PHOTO FIELD PARTY <input checked="" type="checkbox"/> HYDROGRAPHIC PARTY <input type="checkbox"/> GEODETIC PARTY <input type="checkbox"/> OTHER (Specify)
POSITIONS DETERMINED AND/OR VERIFIED (Does NOT exist)	S, Hollinshead	FIELD ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	J, Hancock	OFFICE ACTIVITY REPRESENTATIVE <input checked="" type="checkbox"/> REVIEWER <input type="checkbox"/> QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

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

I. NEW POSITION DETERMINED OR VERIFIED

Enter the applicable data by symbols as follows:

F - Field P - Photogrammetric

L - Located Vis - Visually

V - Verified

1 - Triangulation 5 - Field Identified

2 - Traverse 6 - Theodolite

3 - Intersection 7 - Planetable

4 - Resection 8 - Sextant

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

EXAMPLE: F-2-6-L
8-12-75

*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.

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

II. TRIANGULATION STATION RECOVERED

When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery.

EXAMPLE: Triang. Rec.
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.

NOAA FORM 76-40
(8-74)

Replaces C&GS Form 367.

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

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

ORIGINATING ACTIVITY

- ☐ HYDROGRAPHIC PARTY
- ☐ GEODETIC PARTY
- ☐ PHOTO FIELD PARTY
- ☐ COMPILATION ACTIVITY
- ☒ FINAL REVIEWER
- ☐ QUALITY CONTROL & REVIEW GRP.
- ☐ COAST PILOT BRANCH

(See reverse for responsible personnel)

DATE
April 11 1987

LOCALITY
Hawaii Island, West Coast
Kailua to South Cape

STATE
Hawaii

REPORTING UNIT
(Field Party, Ship or Office)
Coastal Mapping Sec.
AMC, Norfolk, VA

OPR PROJECT NO. T-126

JOB NUMBER PH-6402

SURVEY NUMBER T-12548

DATUM
Old Hawaiian

POSITION
19 23.1

LATITUDE
° / ' " D.M. Meters

LONGITUDE
° / ' " D.P. Meters

DESCRIPTION
(Record reason for deletion of landmark or aid to navigation.
Show triangulation station names, where applicable, in parentheses.)

Feature submitted in error to Marine Charts as "Church Steeple" in June 1980. Field editor stated that the feature is "nonexisting"

CHARTING NAME
SPIRE

METHOD AND DATE OF LOCATION
(See instructions on reverse side)

OFFICE

FIELD

CHARTS AFFECTED

Feature destroyed Sept. 20, 1972

19320

