

T-12546

T-12546

NOAA FORM 76-35 (3-76)	
U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SURVEY	
DESCRIPTIVE REPORT	
Map No. T-12546	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 KEAWEKAHEKA BAY	
19 63 TO 19 72	
REGISTRY IN ARCHIVES	
DATE	

NOAA FORM 76-36A (3-72)		U. S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMIN.	
DESCRIPTIVE REPORT - DATA RECORD		TYPE OF SURVEY <input checked="" type="checkbox"/> ORIGINAL <input type="checkbox"/> RESURVEY <input type="checkbox"/> REVISED	
PHOTOGRAMMETRIC OFFICE Coastal Mapping Div. Atlantic Marine Center, Norfolk, VA OFFICER-IN-CHARGE R. Matsushige		SURVEY NO. T-12546 MAP EDITION NO. (1) MAP CLASS FINAL JOB PH-6402	
PHOTOGRAMMETRIC OFFICE Coastal Mapping Div. Atlantic Marine Center, Norfolk, VA OFFICER-IN-CHARGE R. Matsushige		LAST PRECEDING MAP EDITION TYPE OF SURVEY <input type="checkbox"/> ORIGINAL <input type="checkbox"/> RESURVEY <input type="checkbox"/> REVISED	
JOB PH-6402 MAP CLASS FINAL SURVEY DATES: 19__ TO 19__		SURVEY DATES: 19__ TO 19__	
I. INSTRUCTIONS DATED			
1. OFFICE		2. FIELD	
Compilation Oct. 28, 1969 Amendment 1 Jan. 3, 1973 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 Stereoplanigraph BY METHOD: LANDMARKS AND AIDS BY		J. Perrow June 1969	
2. CONTROL AND BRIDGE POINTS PLOTTED BY METHOD: Coradomat CHECKED BY		J. Perrow June 1969 J. Perrow June 1969	
3. STEREOSCOPIC INSTRUMENT PLANIMETRY BY COMPILATION CHECKED BY		L. Neterer Oct. 1969 A. Shands Oct. 1969	
INSTRUMENT: Wild B-8 SCALE: 1:10,000		CONTOURS BY N.A. CHECKED BY N.A.	
4. MANUSCRIPT DELINEATION PLANIMETRY BY CHECKED BY		A. Shands Dec. 1969 R. Pate Feb. 1972	
METHOD: Smooth drafted SCALE: 1:10,000		CONTOURS BY N.A. CHECKED BY N.A.	
HYDRO SUPPORT DATA BY		A. Shands Dec. 1969 R. Pate Feb. 1972	
5. OFFICE INSPECTION PRIOR TO FIELD EDIT BY		R. Pate Feb. 1972	
6. APPLICATION OF FIELD EDIT DATA BY		L. Graves Feb. 1973	
7. COMPILATION SECTION REVIEW BY		R. White Feb. 1973	
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		E. L. DAUGHERTY SEP 87	

NOAA FORM 76-36B
(3-72)U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEYT-12546
COMPILATION SOURCES

1. COMPILATION PHOTOGRAPHY

CAMERA(S) Wild RC-8 "S", S=152.29mm		TYPES OF PHOTOGRAPHY LEGEND (C) COLOR (P) PANCHROMATIC (I) INFRARED		TIME REFERENCE	
TIDE STAGE REFERENCE <input checked="" type="checkbox"/> PREDICTED TIDES <input type="checkbox"/> REFERENCE STATION RECORDS <input type="checkbox"/> TIDE CONTROLLED PHOTOGRAPHY				ZONE Hawaii MERIDIAN 150th	<input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> DAYLIGHT
NUMBER AND TYPE	DATE	TIME	SCALE	STAGE OF TIDE	
63S(C) 8035-8036**	Aug. 31, 1963	10:30	1:15,000	1.4 FT. above MLLW	
63S(C) 8139**	Sept. 1, 1963	10:26	1:15,000	1.0 FT. above MLLW	
63S(P) 8072-8073*	Sept. 1, 1963	09:13	1:30,000	0.4 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	DATE(S)	SURVEY COPY USED	SURVEY NUMBER	DATE(S)	SURVEY COPY USED
H-9346	1972	Registered			

5. FINAL JUNCTIONS

NORTH	EAST	SOUTH	WEST
T-12545 (PH-6401)	T-12547, T-11796*	none	none

REMARKS

Inset map T-11796 (1:5,000 scale) lies within the northeast portion of this manuscript.

T-12546
HISTORY OF FIELD OPERATIONS

I. <input checked="" type="checkbox"/> FIELD INSPECTION OPERATION				<input type="checkbox"/> FIELD EDIT OPERATION			
OPERATION			NAME		DATE		
1. CHIEF OF FIELD PARTY			R. Newsom		Feb.-Sept. 1964		
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				
			<input type="checkbox"/> COMPLETE		BY		
			<input type="checkbox"/> SPECIFIC NAMES ONLY				
			<input checked="" type="checkbox"/> NO INVESTIGATION				
6. PHOTO INSPECTION			CLARIFICATION OF DETAILS BY		E. Cline		
7. BOUNDARIES AND LIMITS			SURVEYED OR IDENTIFIED BY		N.A.		
II. SOURCE DATA							
1. HORIZONTAL CONTROL IDENTIFIED				2. VERTICAL CONTROL IDENTIFIED			
None				None			
PHOTO NUMBER	STATION NAME			PHOTO NUMBER	STATION DESIGNATION		
3. PHOTO NUMBERS (Clarification of details)							
63(S) 8086 (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: <input type="checkbox"/> REPORT <input checked="" type="checkbox"/> NONE				6. BOUNDARY AND LIMITS: <input type="checkbox"/> REPORT <input checked="" type="checkbox"/> NONE			
7. SUPPLEMENTAL MAPS AND PLANS							
None							
8. OTHER FIELD RECORDS (Sketch books, etc. DO NOT list data submitted to the Geodesy Division)							
Project field report							

NOAA FORM 76-36C
(3-72)U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEYT-12546
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 S. Hollinshead	Sept. 1972
	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 <input type="checkbox"/> COMPLETE <input type="checkbox"/> SPECIFIC NAMES ONLY BY <input checked="" type="checkbox"/> NO INVESTIGATION	
6. PHOTO INSPECTION	CLARIFICATION OF DETAILS BY S. Hollinshead	Oct. 1972
7. BOUNDARIES AND LIMITS	SURVEYED OR IDENTIFIED BY N.A.	

II. SOURCE DATA

1. HORIZONTAL CONTROL IDENTIFIED		2. VERTICAL CONTROL IDENTIFIED	
None		None	
PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION

3. PHOTO NUMBERS (Clarification of details)

63(S) 8087 (Matte ratio 1:10,000 scale)

4. LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED

None

PHOTO NUMBER	OBJECT NAME	PHOTO NUMBER	OBJECT NAME

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

7. SUPPLEMENTAL MAPS AND PLANS

None

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

1 Field edit paper print
1 Field edit report

T-12546
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. 1972	Class II manuscript	None	July 1972
Field edit applied, compilation complete	Feb. 1973	Class I manuscript	June 1980	Apr. 1974
Final Review	Apr. 1987	Final Map	July 1987	July 1987

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: None

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)

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	

SUMMARY TO ACCOMPANY
DESCRIPTIVE REPORT

T-12546

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° 26' 15" to Latitude 19° 30' 00". The northeast segment of this map is portrayed by a portion of inset map T-11796, 1:5,000 scale. This map defines the northern limit for the project and junctions with shoreline project PH-6401, map T-12545.

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 February 1972. The northeast segment of this map was not compiled since it is mapped at 1:5,000 scale on inset map T-11796. Copies of the initial compilation and hydrographic support data were forwarded to the hydrographer for field edit.

T-12546

Field edit was conducted in conjunction with hydrographic survey H-9346 by NOAA Ship RAINIER personnel in October 1972.

Application of field edit was completed at the original compilation office in June 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-12546

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 *ork*

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 & PELE, 1891
PUU KI, 1914
TANK, 1948

Supplimental Station Pricked:
KAUNA POINT LIGHT, 1948

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

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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.

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

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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

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SHORELINE MAPPING

JOB PH-6402

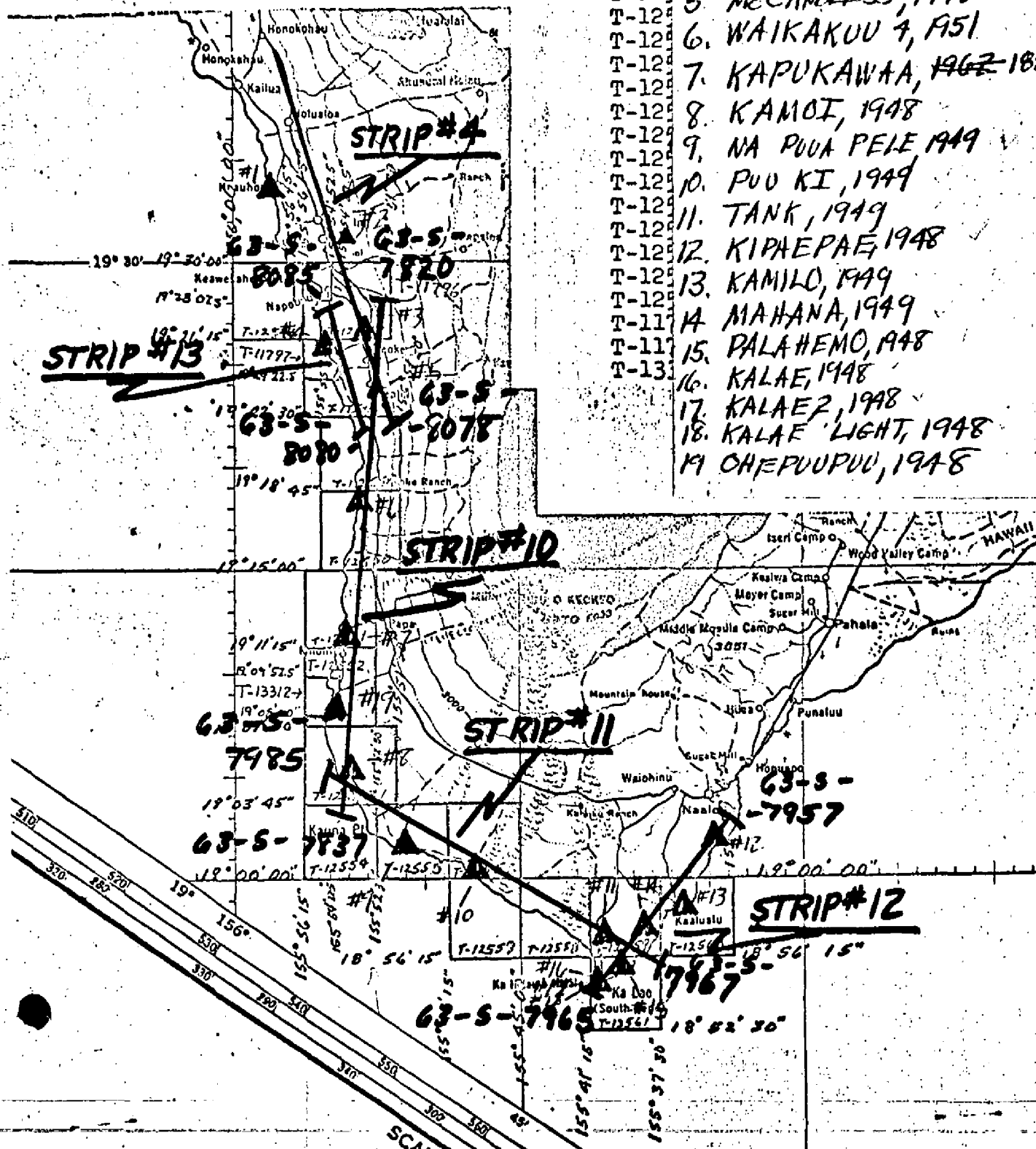
HAWAII IS. WEST COAST
AILUA TO SOUTH CAPE

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. WAIKAKU 4, 1951
7. KAPUKAWAA, 1962-18
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,

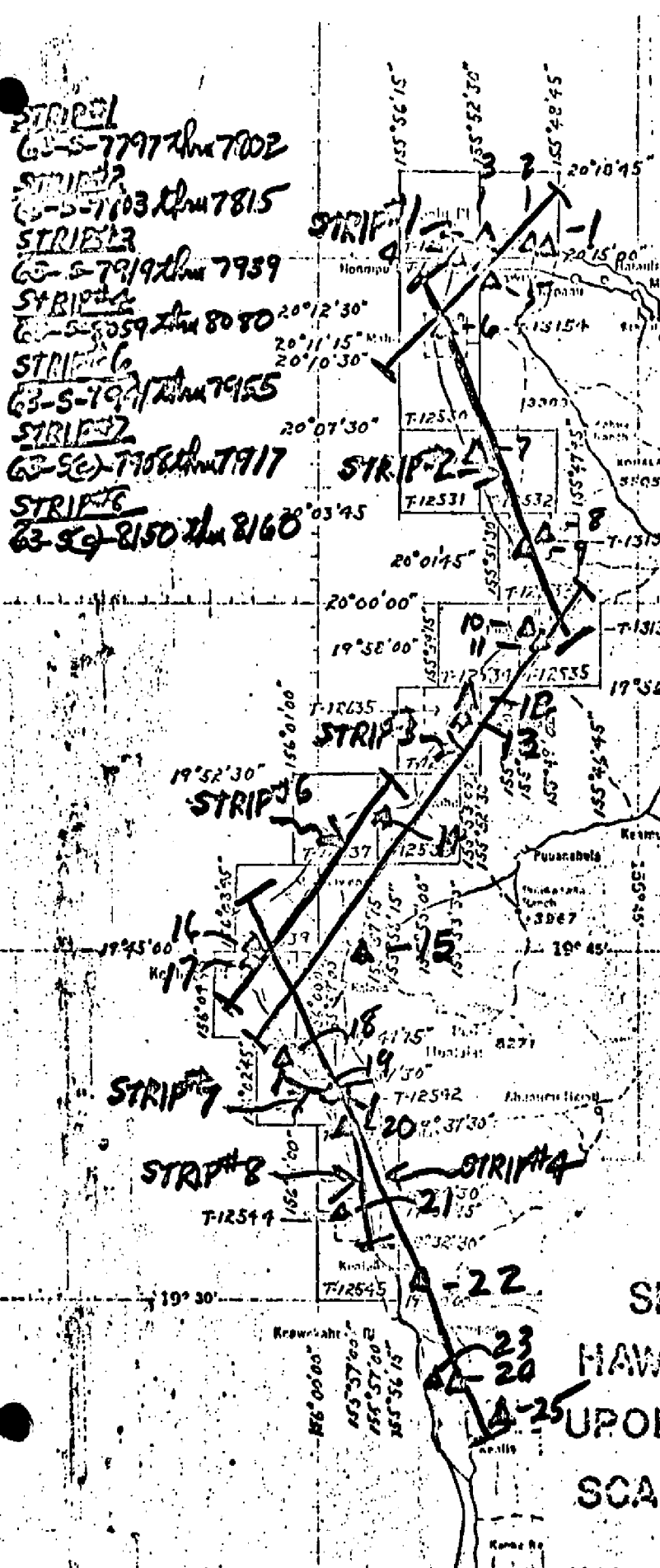
John D. Perrow Jr.
John D. Perrow, Jr.

Approved by,

Henry P. Eichert

Henry P. Eichert
Chief, Aerotriangulation Section

STRIP 1
63-5-7797 7002
STRIP 2
63-5-7703 7815
STRIP 3
63-5-7719 7939
STRIP 4
63-5-7759 8080
STRIP 5
63-5-7791 7955
STRIP 6
63-5-7756 7917
STRIP 7
63-5-8150 8160



1. KEPUHI 2, 1948
2. KEPUHI, 1913
3. KEALAHWEA 2, 1948
4. LORAN TOWER, 1948
5. PUU ULA, 1913
6. RED TANK, 1948
7. KEAWANUI, 1948
8. PUU KAMALI, 2, 1928
9. KAWAIAE LT. 1928
10. PUAKO, 1873
11. PUAKO NEW, 1948
12. ANAEOHOMALU, 1913
13. HAND, 1928
14. NAWAT, 1928
15. LAVA CONE, 1913
16. KEAHOLE 2, 1948
17. KEAHOLE, 1882
18. KEANUOLU PT. NW. RANGE MARKER, 1948
19. KAILUA, 1887
20. KAHALO, 1882
21. POINT, 1928
22. KEALAKEKUA KONA CH. SPIRE, 1948
23. KEET SOUTH BASE, 1948
24. HONAUNAU ST. BENEDICT CATH. CHURCH SPIRE, 1948
25. MC CANDLESS, 1948

JOB PH-6401
SHORELINE MAPPING
HAWAII IS. WEST COAST
UPOLO POINT TO KAILUA
SCALE 1:5,000 & 1:10,000

COMPILATION REPORT

T-12546

31. DELINEATION:

Delineation was by instrument methods using the Wild B-8 stereo-plotter and 1:30,000 scale panchromatic compilation/bridging photographs. Keawekaheka Point was not visible on the compilation photographs; consequently, the area was compiled graphically using 1:15,000 color photographs.

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 except for the 1:30,000 scale photo coverage of Keawekaheka Point.

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:

None

T-12546

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 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. Charts:

4123, 2nd edition, scale 1:10,000, June 12, 1967

4140, 3rd edition, scale 1:80,000, January 24, 1966.

ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY:

None.

ITEMS TO BE CARRIED FORWARD:

None.

Submitted by:

for *Arnold L. Shands*

Arnold L. Shands
Cartographer
December 1969

Approved:

for *Albert C. Rauck, Jr.*

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

ADDENDUM TO THE COMPILATION REPORT

T-12546

Field edit was performed in conjunction with hydrographic survey H-9346 in October 1972. Adequate field data was furnished to advance the manuscript to Class I.

GEOGRAPHIC NAMES

FINAL NAME SHEET

PH-6402 Hawaii

T-12546

Cook Point-----Not compiled

Island of Hawaii

Keawekaheka Bay

Keawekaheka Point

Napoopoo Lighthouse--Not compiled

Pacific Ocean

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 6
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°40'25.85" N and longitude 156°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 Mokuaikea 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°38'34.80" N, and longitude 156°00'03.46" W, and the Kona Airport Airway Beacon have been removed and should be deleted. The church spire, latitude 19°38'24.22" N and longitude 155°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) Keawekahēka 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 lāva 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 Light-house, 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 DETATCHED 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	Detatched 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 Keawekahaka 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-12546

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-9346, RA-10-9-72, surveyed in 1972 did not reveal any significant differences.

65. COMPARISON WITH NAUTICAL CHARTS:

A comparison was made with NOS charts:

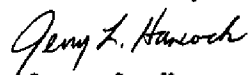
19332, 6th edition, scale 1:10,000, February 15, 1986

19327, 8th edition, scale 1:80,000, September 5, 1981.

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:



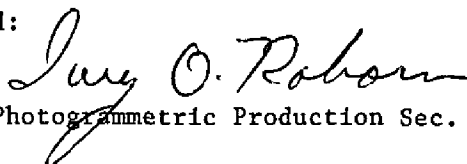
Jerry L. Hancock
Final Reviewer

Approved for forwarding:



Billy H. Barnes
Chief, Photogrammetric Section, AMC

Approved:



Chief, Photogrammetric Production Sec.



Chief, Photogrammetry Branch

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. T-12546, (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 Review.

[illegible]