

T-12549

T-12549

NOAA FORM 76-35 (3-76)		
U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SURVEY		
<b>DESCRIPTIVE REPORT</b>		
<i>Map No.</i> T-12549	<i>Edition No.</i> 1	
<i>Job No.</i> PH-6402		
<i>Map Classification</i> FINAL FIELD EDITED MAP		
<i>Type of Survey</i> SHORELINE		
<b>LOCALITY</b>		
<i>State</i> HAWAII		
<i>General Locality</i> HAWAII ISLAND, WEST COAST KAILUA TO SOUTH CAPE		
<i>Locality</i> KAULUOA POINT		
<table border="1"><tr><td>19 63 TO 19 72</td></tr></table>		19 63 TO 19 72
19 63 TO 19 72		
<b>REGISTRY IN ARCHIVES</b>		
<b>DATE</b>		

NOAA FORM 76-36A (3-72) <span style="float: right;">U. S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMIN.</span>  <h3 style="text-align: center;">DESCRIPTIVE REPORT - DATA RECORD</h3>		TYPE OF SURVEY <input checked="" type="checkbox"/> ORIGINAL <input type="checkbox"/> RESURVEY <input type="checkbox"/> REVISED	SURVEY <u>XP-T-12549</u> MAP EDITION NO. (1) MAP CLASS FINAL JOB <u>PH-6402</u>
PHOTOGRAMMETRIC OFFICE Coastal Mapping Div, Atlantic Marine Center, Norfolk, VA  OFFICER-IN-CHARGE R. Matsushige		<b>LAST PRECEDING MAP EDITION</b> TYPE OF SURVEY <input type="checkbox"/> ORIGINAL <input type="checkbox"/> RESURVEY <input type="checkbox"/> REVISED JOB PH. _____ MAP CLASS _____ SURVEY DATES: 19__ TO 19__	
<b>I. INSTRUCTIONS DATED</b>			
<b>1. OFFICE</b>		<b>2. FIELD</b>	
Compilation Oct. 28, 1969 Amendment 1 Jan. 3, 1973 Memo Sept. 1, 1978		Control/Field Inspection May 8, 1964	
<b>II. DATUMS</b>			
<b>1. HORIZONTAL:</b> <input type="checkbox"/> 1927 NORTH AMERICAN		OTHER (Specify) Old Hawaiian	
<b>2. VERTICAL:</b> <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)	
<b>3. MAP PROJECTION</b>  Polyconic		<b>4. GRID(S)</b> STATE Hawaii ZONE 1	
<b>5. SCALE</b> 1:10,000		STATE ZONE	
<b>III. HISTORY OF OFFICE OPERATIONS</b>			
OPERATIONS	BY	NAME	DATE
1. AEROTRIANGULATION METHOD: <u>Stereoplanigraph</u> LANDMARKS AND AIDS BY		J. Perrow	June 1969
2. CONTROL AND BRIDGE POINTS METHOD: <u>Coradomat</u>	PLOTTED BY CHECKED BY	J. Perrow J. Perrow	June 1969 June 1969
3. STEREOSCOPIC INSTRUMENT COMPILATION INSTRUMENT: <u>Wild B-8</u> SCALE: <u>1:10,000</u>	PLANIMETRY BY CHECKED BY CONTOURS BY CHECKED BY	L. Neterer A. Shands N.A. N.A.	Oct. 1969 Oct. 1969
4. MANUSCRIPT DELINEATION METHOD: <u>Smooth drafted</u> SCALE: <u>1:10,000</u> HYDRO SUPPORT DATA BY	PLANIMETRY BY CHECKED BY CONTOURS BY CHECKED BY	C. Blood L. Graves N.A. N.A.	Mar. 1970 Mar. 1972
5. OFFICE INSPECTION PRIOR TO FIELD EDIT	BY	L. Graves	Mar. 1972
6. APPLICATION OF FIELD EDIT DATA	BY CHECKED BY	R. White R. Minton	Feb. 1973 June 1974
7. COMPILATION SECTION REVIEW	BY	R. Minton	June 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	<u>E. DAUGHERTY</u>	<u>SEP 87</u>

T-12549  
**COMPILATION SOURCES**

**1. COMPILATION PHOTOGRAPHY**

CAMERA(S) Wild RC-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)7823,7825,7826*	Aug.29,1963	09:04	1:30,000	1.1 FT. above MLLW	
63S(P)8080,8081*	Sept.1,1963	09:17	1:30,000	0.4 FT. above MLLW	
63S(C)7886-7888**	Aug.29,1963	09:58	1:15,000	1.6 FT. above MLLW	
63S(C)8021-8025**	Aug.31,1963	10.26	1:15,000	1.4 Ft. above MLLW	
				Mean Tide Range = 1.4FT/	

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-9307	1972	Registered			

**5. FINAL JUNCTIONS**

NORTH T-12548	EAST None	SOUTH T-12550	WEST None
------------------	--------------	------------------	--------------

REMARKS

T-12549  
HISTORY OF FIELD OPERATIONS

1.  FIELD INSPECTION OPERATION  FIELD EDIT OPERATION

OPERATION	NAME	DATE
1. CHIEF OF FIELD PARTY	R. Newson	Feb.-Sept. 1964
2. HORIZONTAL CONTROL	RECOVERED BY ESTABLISHED BY PRE-MARKED OR IDENTIFIED BY	None 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	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		None	
PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION

3. PHOTO NUMBERS (Clarification of details)  
63(S)7825, 7826, 8080, 8081 (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  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 Project field report

T-12549  
**HISTORY OF FIELD OPERATIONS**

I.  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 ( <i>Triangulation Stations</i> ) BY LOCATED ( <i>Field Methods</i> ) 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      2. VERTICAL CONTROL IDENTIFIED  
None      None

PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION

3. PHOTO NUMBERS (*Clarification of details*)  
63S(C) 7886-7888, 8023, 8024 (Cronapaqueratios, 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 paper print  
1 Field edit report

**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	June 1974	Class I manuscript	Nov. 1979	June 1974
Final review	April 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  MAP CLASS <input type="checkbox"/> II. <input type="checkbox"/> III. <input type="checkbox"/> IV. <input type="checkbox"/> V. <input type="checkbox"/> FINAL
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	
THIRD EDITION	SURVEY NUMBER TP - _____ (3)	JOB NUMBER PH - _____	TYPE OF SURVEY <input type="checkbox"/> REVISED <input type="checkbox"/> RESURVEY  MAP CLASS <input type="checkbox"/> II. <input type="checkbox"/> III. <input type="checkbox"/> IV. <input type="checkbox"/> V. <input type="checkbox"/> FINAL
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	
FOURTH EDITION	SURVEY NUMBER TP - _____ (4)	JOB NUMBER PH - _____	TYPE OF SURVEY <input type="checkbox"/> REVISED <input type="checkbox"/> RESURVEY  MAP CLASS <input type="checkbox"/> II. <input type="checkbox"/> III. <input type="checkbox"/> IV. <input type="checkbox"/> V. <input type="checkbox"/> FINAL
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	



SUMMARY TO ACCOMPANY  
DESCRIPTIVE REPORT

T-12549

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 portrays the shoreline along the southwest coast of Hawaii Island from Latitude 19° 18' 45" to Latitude 19° 22' 30".

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. 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-12549

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-12549

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

*C. G. 8/5/64*  
U.S. DEPARTMENT OF COMMERCE  
COAST AND GEODETIC SURVEY

40

631W

TO : Chief, Photogrammetric Field Operations  
THRU : Honolulu Field Officer *o/r*

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

8

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.

9

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.

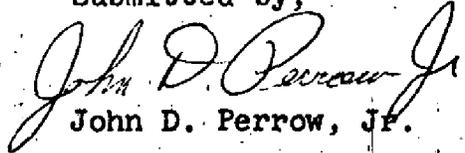
24. Supplemental Data

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

10

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.



# 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,

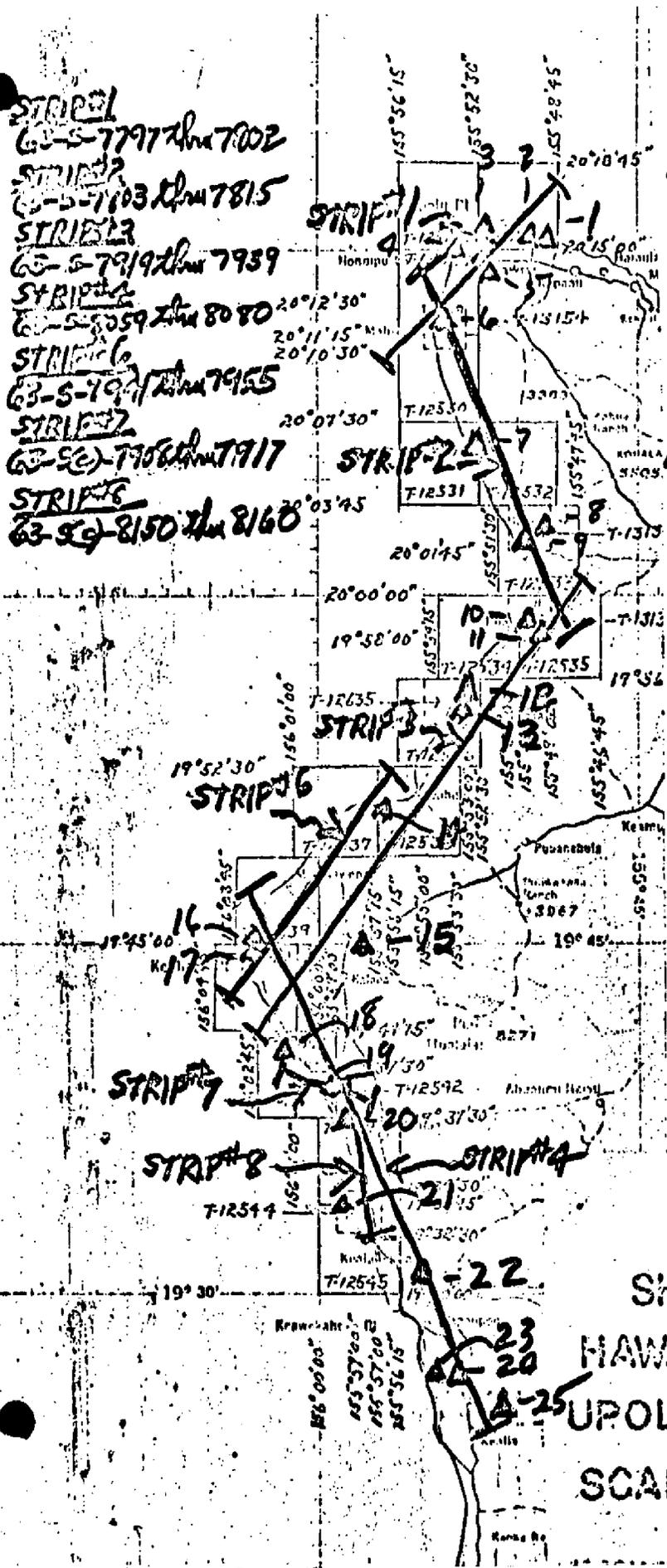
*John D. Perrow Jr.*  
John D. Perrow, Jr.

Approved by,

*Henry P. Eichert*

Henry P. Eichert  
Chief, Aerotriangulation Section

STRIP 1  
63-5-7797 thru 7802  
STRIP 2  
63-5-7803 thru 7815  
STRIP 3  
63-5-7919 thru 7939  
STRIP 4  
63-5-8059 thru 8080  
STRIP 5  
63-5-7911 thru 7955  
STRIP 6  
63-5-7956 thru 7977  
STRIP 7  
63-5-8150 thru 8160



1. KEPUHI 2, 1948
2. KEPUHI, 1913
3. KEELAHWEA 2, 1948
4. LORAN TOWER, 1948
5. PUU ULA, 1913
6. RED TANK, 1948
7. KEAWANUI, 1948
8. PUU KAMALI, 2, 1928
9. KAWAINNE LT. 1928.
10. PUAKO, 1873
11. PUAKO NEW, 1948
12. ANAEHOOMALU, 1913
13. HAND, 1928
14. NAWAT, 1928
15. LAVA CONE, 1913
16. KEA HOLE 2, 1948
17. KEA HOLE, 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. HONAUNAU ST. BENEDECT 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

DESCRIPTIVE REPORT CONTROL RECORD

MAP NO.	JOB NO.	GEODETTIC DATUM		AEROTRI- ANGULATION POINT NUMBER	SOURCE OF INFORMATION (Index)	Old Hawaiian Datum		ORIGINATING ACTIVITY		REMARKS
		COORDINATES IN FEET STATE ZONE	Old Hawaiian Datum			GEOGRAPHIC POSITION $\phi$ LATITUDE $\lambda$ LONGITUDE		Coastal Mapping Section, AMC		
T-12549	PH-6402				Field Edit Report 1972	X=		$\phi$ 19° 19' 31.604"		
KAULUOA, 1972					Field Edit Report 1972	Y=		$\lambda$ 155° 53' 29.658"		
KAHOE, 1972					Field Edit Report 1972	X=		$\phi$ 19° 19' 02.505"		
PAM, 1972					Field Edit Report 1972	Y=		$\lambda$ 155° 53' 12.471"		
						X=		$\phi$ 19° 20' 35.230"		
						Y=		$\lambda$ 155° 52' 33.168"		
						X=		$\phi$		
						Y=		$\lambda$		
						X=		$\phi$		
						Y=		$\lambda$		
						X=		$\phi$		
						Y=		$\lambda$		
						X=		$\phi$		
						Y=		$\lambda$		
						X=		$\phi$		
						Y=		$\lambda$		
COMPUTED BY	L. L. Graves	DATE	1-30-73			COMPUTATION CHECKED BY		F. P. Margiotta	DATE	1-30-73
LISTED BY		DATE				LISTING CHECKED BY			DATE	
HAND PLOTTING BY		DATE				HAND PLOTTING CHECKED BY			DATE	

## COMPILATION REPORT

T-12549

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 Report, dated 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 fowl 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:

There were no charted landmarks or fixed aids within the limits of this manuscript.

T-12549

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 Kauluoa Point, Hawaii, scale 1:24,000, dated 1962.

47. COMPARISON WITH NAUTICAL CHARTS:

A comparison was made with C. &amp; 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:

*Gary J. Hancock**for* Charles Blood  
Cartographic Technician  
March 1970

Approved:

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

ADDENDUM TO THE COMPILATION REPORT

T-12549

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-12549

- ~~Alae~~ *Not compiled*
- ~~Honokua~~ *Not compiled*
- ~~Island of Hawaii~~
- ~~Kalahiki~~ *Not compiled*
- ~~Kalahiki Beach~~
- ~~Kapilo Bay~~
- ~~Kaohu~~
- ~~Kauluoa Point~~
- ~~Lapawai Bay~~
- ~~Lepeamca Rock~~
- ~~Limukoko Point~~
- ~~Pacific Ocean~~
- ~~Papakolea Point~~
- ~~Puiwa Point~~
- ~~Waiea~~ *Not compiled*

Approved by:

A. J. Wright

A. Joseph Wright  
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 miles 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° 47' 13.35" N and 156° 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 Mokuaikaua 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  $19^{\circ}35'52.50''$  N, longitude  $155^{\circ}58'31.50''$  W and latitude  $19^{\circ}34'39.60''$  W, longitude  $155^{\circ}58'12.60''$  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) Keawekahaka 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 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).

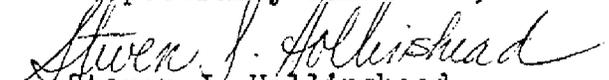
T-12549 (completed) Kauluoa Point

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  
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 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	
<del>T-12549</del> 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-12549

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 Kauluoa Point, Hawaii, 1:24,000 scale, dated 1962.

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.

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

