

T-12540

T-12540

NOAA FORM 76-35 (6-80)	
U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SURVEY	
DESCRIPTIVE REPORT	
Map No. T-12540	Edition No. 1
Job No. PH-6401	
Map Classification FINAL, FIELD EDITED MAP	
Type of Survey SHORELINE	
LOCALITY	
State HAWAII	
General Locality HAWAII ISLAND, WEST COAST UPOLO POINT TO KAILUA	
Locality MAKAKO BAY	
19 <sub>63</sub> TO 19 <sub>72</sub>	
REGISTERED IN ARCHIVES	
DATE	

<b>NOAA FORM 76-36A</b> (3-72)		<b>U. S. DEPARTMENT OF COMMERCE</b> <b>NATIONAL OCEANIC AND ATMOSPHERIC ADMIN.</b>		<b>TYPE OF SURVEY</b>		<b>SURVEY TP.</b> T-12540	
<b>DESCRIPTIVE REPORT - DATA RECORD</b>				<input checked="" type="checkbox"/> ORIGINAL		MAP EDITION NO. 1	
				<input type="checkbox"/> RESURVEY		MAP CLASS Final	
				<input type="checkbox"/> REVISED		JOB PH. 6401	
<b>PHOTOGRAMMETRIC OFFICE</b> Coastal Mapping Unit, Atlantic Marine Center Norfolk, VA				<b>LAST PRECEDING MAP EDITION</b>			
<b>OFFICER-IN-CHARGE</b> Richard Houlder				<b>TYPE OF SURVEY</b>		<b>JOB PH.</b>	
				<input type="checkbox"/> ORIGINAL		MAP CLASS	
				<input type="checkbox"/> RESURVEY		SURVEY DATES:	
				<input type="checkbox"/> REVISED		19__ TO 19__	
<b>I. INSTRUCTIONS DATED</b>							
<b>1. OFFICE</b>				<b>2. FIELD</b>			
Compilation Sept 12, 1968				Control/Field Inspection - April 29, 1964			
Supplement No. 1 February 11, 1969							
Compilation March 11, 1969							
Supplement No. 2 Dec. 11, 1969							
<b>II. DATUMS</b>							

<b>2. VERTICAL:</b>	<input checked="" type="checkbox"/> MEAN HIGH-WATER	<b>OTHER (Specify)</b>
	<input type="checkbox"/> MEAN LOW-WATER	
	<input type="checkbox"/> MEAN LOWER LOW-WATER	
	<input type="checkbox"/> MEAN SEA LEVEL	

T-12540  
COMPILATION SOURCES

## 1. COMPILATION PHOTOGRAPHY

CAMERA(S) Wild RC - 8"S", S=152.29mm		TYPES OF PHOTOGRAPHY LEGEND		TIME REFERENCE	
TIDE STAGE REFERENCE		(C) COLOR (P) PANCHROMATIC (I) INFRARED		ZONE	<input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> DAYLIGHT
<input checked="" type="checkbox"/> PREDICTED TIDES <input type="checkbox"/> REFERENCE STATION RECORDS <input type="checkbox"/> TIDE CONTROLLED PHOTOGRAPHY				MERIDIAN	
				135th	
NUMBER AND TYPE	DATE	TIME	SCALE	STAGE OF TIDE	
63S(P) 7941-7943 *	Aug 31, 63	09:05	1:30,000	0.6 ft above MLLW	
63S(P) 8061-8063 *	Sep 1, 63	09:07	1:30,000	0.4 "	
63S(P) 8096 *	Sep 1, 63	09:26	1:30,000	0.5 "	
63S(C) 7902-7907 **	Aug 30, 63	09:11	1:15,000	1.0 "	
				Mean Tide Range = 1.4 ft	

## REMARKS

\* Bridging Photographs, \*\* Compilation 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 methods.

T-12540  
**HISTORY OF FIELD OPERATIONS**

I. ☒ FIELD INSPECTION OPERATION

☐ FIELD EDIT OPERATION

OPERATION	NAME	DATE
1. CHIEF OF FIELD PARTY	R. Newsom	June 1964
2. HORIZONTAL CONTROL	RECOVERED BY E. Cline	June 1964
	ESTABLISHED BY E. Cline	June 1964
	PRE-MARKED OR IDENTIFIED BY E. Cline	June 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 E. Cline	June 1964
	LOCATED (Field Methods) BY none	
	IDENTIFIED BY E. Cline	June 1964
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	
7. BOUNDARIES AND LIMITS	SURVEYED OR IDENTIFIED BY None	

II. SOURCE DATA

1. HORIZONTAL CONTROL IDENTIFIED		2. VERTICAL CONTROL IDENTIFIED	
		none	
PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION
63(S)8062*	Keahole Point Lighthouse, 1928 (Direct)		
63(S)8061*	Keahole 2, 1948 (Direct & Sub Pt 1)		
*Section of ratio photo submitted			

3. PHOTO NUMBERS (Clarification of details)

63(S) 8096-8099 (Matte Contacts)

4. LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED

PHOTO NUMBER	OBJECT NAME	PHOTO NUMBER	OBJECT NAME
63(S)8062	Keahole Point Lighthouse, 1928		

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 152 (CSI)

NOAA FORM 76-36C  
(3-72)U. S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEAN SURVEYT-12540  
HISTORY OF FIELD OPERATIONSI. ☐ FIELD INSPECTION OPERATION☒ FIELD EDIT OPERATION

OPERATION	NAME	DATE
1. CHIEF OF FIELD PARTY	(NOAA Ship RAINIER) G. Haraden	Sep 1972
2. HORIZONTAL CONTROL	RECOVERED BY S. Hollinshead	Sep 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 S. Hollinshead	Sep 1972
	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 S. Hollinshead	Sep 1972
7. BOUNDARIES AND LIMITS	SURVEYED OR IDENTIFIED BY None	

## 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)

63(S) 7943, 8063 (Matte 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 ☒ 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 Report  
 1 Field Edit Paper Print  
 1 Form 76-40

T-12540  
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	Dec 1969	Class III manuscript (Includes Field Inspec)	Jan 1970	Jan 1970 May 1972
Field edit applied compilation complete	June 1974	Class I manuscript		June 1974
Final Review	Dec 1986	Final Map	mar 1987	mar 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		mar 1987	1 aid to navigation

2. ☐ REPORT TO MARINE CHART DIVISION, COAST PILOT BRANCH. DATE FORWARDED: \_\_\_\_\_3. ☐ REPORT TO AERONAUTICAL CHART DIVISION, AERONAUTICAL DATA SECTION. DATE FORWARDED: \_\_\_\_\_

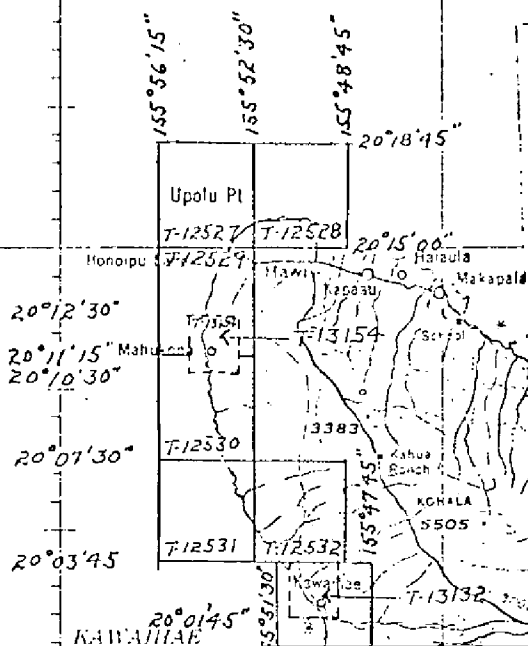
## III. FEDERAL RECORDS CENTER DATA

1. ☒ BRIDGING PHOTOGRAPHS; ☒ DUPLICATE BRIDGING REPORT; ☒ COMPUTER READOUTS.  
2. ☒ CONTROL STATION IDENTIFICATION CARDS; ☒ FORM NOS <sup>76-90</sup> ~~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	



Official Mileage  
For  
Cost Accounts

<u>Sheet No.</u>	<u>Area</u> <u>Sq. Mi.</u>
T-12527	1
T-12528	3
T-12529	3
T-12530	3
T-12531	2
T-12532	2
T-12533	3
T-12534	2
T-12535	2
T-12536	3

SUMMARY TO ACCOMPANY  
DESCRIPTIVE REPORT

T-12540

This 1:10,000 scale final shoreline map is one of twenty-three maps that comprise PH-6401, Hawaii Island, Hawaii, West Coast, Upolo Point to Kailua. The project consists of seventeen 1:10,000 scale maps (T-12527 thru T-12541, T-12543, T-12545) and six 1:5,000 scale inset maps (T-12542, T-12544, T-12635, T-13131, T-13132, T-13382).

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 a portion of shoreline along the west coast of Hawaii Island from Lat. 19° 41' 15" to Lat. 19° 45' 00".

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 and aerotriangulation. The 1:20,000 and 1:15,000 scale color photographs were used for compilation and hydro support. The 1:20,000 scale photo coverage was obtained for the 1:10,000 scale maps and the 1:15,000 scale photographs provided coverage of the 1:5,000 scale inset maps. Additional color photographs at 1:15,000 scale were obtained in February 1969 with the Wild RC-8"E" camera. These photographs were bridged and a supplemental plot report was prepared in order to compile three 1:5,000 scale inset maps (T-13131, T-13132 and T-12635). 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 photographs. This activity was conducted in May/June 1964.

Analytic aerotriangulation was adequately provided by the Washington Science Center in three phases. Initial bridging activity was accomplished for seven of the northern project maps in June 1966. The second phase was conducted for the remaining project maps in February 1969. A final bridge was provided in October 1971 for the 1969 photo coverage of three 1:5,000 scale inset maps. Aerotriangulation activity included ruling the base manuscripts and also provided ratio photographs for the compilation and hydrographic/field edit operations.

Compilation for this map was performed at the Coastal Mapping Section, Atlantic Marine Center in December 1969. Copies of the manuscript and hydrographic support data were forwarded to the



T-12540

Field edit was conducted in conjunction with hydrographic survey H-9334 by NOAA Ship RAINIER personnel in September 1972.

Application of field edit was accomplished at the Atlantic Marine Center in June 1974 and the manuscript was advanced to Class I. Copies of the Class I manuscript were forwarded to the Hydrographic Surveys Branch.

Final review was performed at the Atlantic Marine Center in December 1986. A comparison was made with the common nautical chart and hydrographic survey. 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-12540

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.

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.

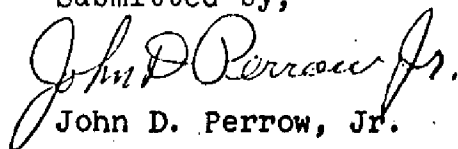
24. Supplemental Data

Local USGS quads were used to provide vertical points needed for the strip adjustment program.

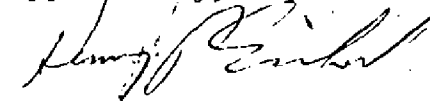
25. Photography

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.

Approved by,

  
Henry P. Eichert  
Chief, Aerotriangulation Section

STRIP 1

65-577972 Nov 7802

STRIP 2

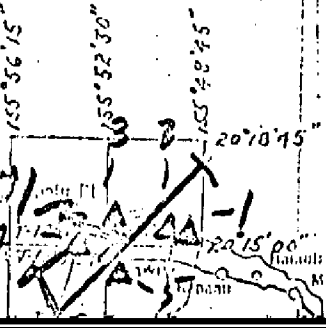
65-57703 Nov 7815

STRIP 3

65-577972 Nov 7837

STRIP 4

STRIP 5



1. KEPUNI 2, 1948
2. KEPUNI, 1913
3. KEALAHEWA 2, 1948
4. LORAN TOWER, 1948
5. PUU ULA, 1913
6. RED TANK, 1948

## DESCRIPTIVE REPORT CONTROL RECORD

MAP NO. T-12540	JOB NO. PH-6401	SOURCE OF INFORMATION (Index)	AEROTRI- ANGULATION POINT NUMBER	GEODETTIC DATUM		GEOGRAPHIC POSITION		REMARKS
				Old Hawaiian Datum	COORDINATES IN FEET STATE <u>Hawaii</u> ZONE <u>1</u>	$\phi$ LATITUDE $\lambda$ LONGITUDE		
KEAHOE 2, 1948	G.P. pg 14			Lat. & Long. 19° 43' 39.860" / 156° 03' 38.925" /	$\phi$	$\lambda$		
KEAHOE POINT LIGHTHOUSE, 1928	" pg 32			19° 43' 51.283" / 156° 03' 49.825" /	$\phi$	$\lambda$		
WAWA, 1972	Field edit Report 1972			19° 43' 12.196" / 156° 03' 09.185" /	$\phi$	$\lambda$		
KALIHI, 1972	"			19° 43' 27.922" / 156° 03' 32.561" /	$\phi$	$\lambda$		
				X=	$\phi$			
				Y=	$\lambda$			
				X=	$\phi$			
				Y=	$\lambda$			
				X=	$\phi$			
				Y=	$\lambda$			
				X=	$\phi$			
				Y=	$\lambda$			
				X=	$\phi$			
				Y=	$\lambda$			
				X=	$\phi$			
				Y=	$\lambda$			
COMPUTED BY				COMPUTATION CHECKED BY CHB				
LISTED BY A. C. Rauck, Jr.			DATE 7/24/69	LISTING CHECKED BY			DATE 12/29/69	
HAND PLOTTING BY			DATE	HAND PLOTTING CHECKED BY			DATE	

COMPILATION REPORT  
T-12540

31 - DELINEATION

Delineation was by instrument methods using the Wild B-8 stereoplotter and 1:15,000 scale color photographs. The 1:30,000 scale panchromatic field inspection photographs were used during compilation; however, several of the field identified rocks were not discernible when viewing the 1:15,000 scale color compilation photographs. Rocks that were not clearly identifiable were not compiled.

Compilation ratio photographs were processed for hydro support and were used graphically to assist in delineation of minor details. Photo coverage and quality were adequate.

32 - CONTROL

Refer to the Photogrammetric Plot Report, dated February 4, 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 was delineated from office interpretation of the mapping 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

There were no significant offshore details.

T-12540

40 - HORIZONTAL AND VERTICAL ACCURACY

Refer to the Photogrammetric Plot Report dated February 4, 1969.

46 - COMPARISON WITH EXISTING MAPS

A comparison was made with U.S.G.S Quadrangle Keahole Point, Hawaii, dated 1959, scale 1:24,000.

47 - COMPARISON WITH NAUTICAL CHARTS

A comparison was made with USC&GS Chart 4140, scale 1:80,000, 3rd edition, dated Jan. 24, 1966.

ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY

None.

ITEMS TO BE CARRIED FORWARD

None.

Submitted by

*Jerry L. Hancock*

for

A. L. Shands  
Cartographer  
October 1969

Approved

*Jerry L. Hancock*

for

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



## ADDENDUM TO THE COMPILATION REPORT

T-12540

Field edit was performed in conjunction with hydrographic survey H-9334 in September 1972. Adequate information was furnished in order to advance the manuscript to Class I status.

## GEOGRAPHIC NAMES

## FINAL NAME SHEET

PH-6401 (Hawaii, West Coast I. of Hawaii)

T-12540

Hoona Bay

Kalihi Point

Kaloko Fishpond

Keahole Point

Makako Bay

Makalawena Bank

Pacific Ocean

Puhili Point

Unualoha Point

Wawahiwaa Point

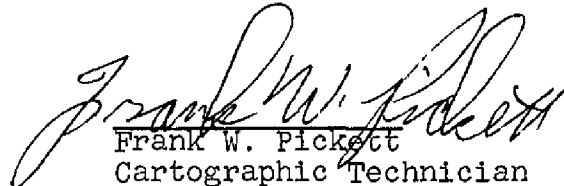
Wawaloli Beach

Approved by:



A. Joseph Wraight  
Chief Geographer

Prepared by:



Frank W. Pickett  
Cartographic Technician

FIELD EDIT REPORT

OPR-419, 1972

T-12539 through T-12550 §  
T-13332 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 Mokuaukaia 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

~~Hotel (approximate position noted) none of landmark value~~



T-12546 (completed) Keawekahuka 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) Kealahou 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) Kealahou 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	
<del>T-12540</del> 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 Keaweakehaka 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  
T-12540

SHORELINE

61 - GENERAL STATEMENT

Final review for this final field edited map was accomplished at the Atlantic Marine Center in December 1986. For a schedule of the office and field operations, refer to the Summary included with this Descriptive Report.

62 - COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS

Not applicable.

63 - COMPARISON WITH MAPS OF OTHER AGENCIES

A comparison was made with U.S.G.S Quadrangle Keahole Point, Hawaii, dated 1959, scale 1:24,000.

64 - COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS

This map is common to portions of hydrographic surveys H-9237 and H-9334. A copy of H-9237 was not available at the time of final review. A comparison made with a registered copy of H-9334, RA-10-7-72, surveyed in 1972 did not reveal any significant differences.

65 - COMPARISON WITH NAUTICAL CHARTS

A comparison was made with NOS chart 19327, scale 1:80,000, 8th edition, September 5, 1981.

66 - ADEQUACY OF RESULTS AND FUTURE SURVEYS

This map complies with the Project Instructions and meets the



RESPONSIBLE PERSONNEL		ORIGINATOR	
TYPE OF ACTION	NAME	<input type="checkbox"/> PHOTO FIELD PARTY <input checked="" type="checkbox"/> HYDROGRAPHIC PARTY <input type="checkbox"/> GEODETIC PARTY <input type="checkbox"/> OTHER (Specify)	
OBJECTS INSPECTED FROM SEAWARD	S. Hollinshead	FIELD ACTIVITY REPRESENTATIVE	
POSITIONS DETERMINED AND/OR VERIFIED	S. Hollinshead	OFFICE ACTIVITY REPRESENTATIVE	
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	L. Neterer	<input 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.)			
<b>OFFICE</b> <b>I. OFFICE IDENTIFIED AND LOCATED OBJECTS</b> 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		<b>FIELD (Cont'd)</b> <b>B. Photogrammetric field positions** require</b> 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	
<b>FIELD</b> <b>I. NEW POSITION DETERMINED OR VERIFIED</b> Enter the applicable data by symbols as follows: F - Field L - Located V - Verified 1 - Triangulation 2 - Traverse 3 - Intersection 4 - Resection 5 - Field Identified 6 - Theodolite 7 - Planetable 8 - Sextant A. Field positions* require entry of method of location and date of field work. EXAMPLE: F-2-6-L 8-12-75		<b>II. TRIANGULATION STATION RECOVERED</b> 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	
<b>*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.</b>		<b>III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH</b> Enter 'V-Vis.' and date. EXAMPLE: V-Vis. 8-12-75	
<b>**PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.</b>			

NOAA FORM 76-40  
(8-74)

Replaces C&GS Form 567.

NONFLOATING AIDS TO NAVIGATION 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)

REPORTING UNIT (Field Party, Ship or Office) Atlantic Marine Center Coastal Mapping Sect.	STATE Hawaii	LOCALITY Hawaii West Coast	DATE Jun 1974
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The following objects HAVE ☐ HAVE NOT ☐ been inspected from seaward to determine their value as landmarks.

OPR PROJECT NO.	JOB NUMBER PH-6401	SURVEY NUMBER T-12540	DATUM Old Hawaiian Datum
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CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses.)	POSITION	
		LATITUDE ° / ' " D.M. Meters	LONGITUDE ° / ' " D.P. Meters

LIGHTHOUSE	(KEAHOLE POINT LIGHTHOUSE, 1928)	19 43	51.283	156 03	49.825	63(S) 8061 Sep 1, 1963	V-Vis Sep 23, 1972	19327
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CHARTS  
AFFECTED

