

T-12539

T-12539

NOAA FORM 76-35 (6-80)	
U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SURVEY	
DESCRIPTIVE REPORT	
Map No. T-12539	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 MAHAULA BAY	
1963 TO 1972	
REGISTERED 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 Unit, Atlantic Marine Center Norfolk, VA		SURVEY TP. <u>T-12539</u> MAP EDITION NO. <u>(1)</u> MAP CLASS <u>Final</u> JOB <u>PH. 6401</u>					
OFFICER-IN-CHARGE Richard Houlder		LAST PRECEDING MAP EDITION TYPE OF SURVEY <input type="checkbox"/> ORIGINAL <input type="checkbox"/> RESURVEY <input type="checkbox"/> REVISED JOB <u>PH. _____</u> MAP CLASS <u>_____</u> SURVEY DATES: 19 <u> </u> TO 19 <u> </u>					
I. INSTRUCTIONS DATED							
1. OFFICE		2. FIELD					
Compilation Sept 12, 1968 Supplement No. 1 Feb 11, 1969 Compilation March 11, 1969 Supplement No. 2 Dec. 11, 1969		Control/Field Inspection April 29, 1964					
II. DATUMS							
1. HORIZONTAL:		<input type="checkbox"/> 1927 NORTH AMERICAN OTHER (Specify) Old Hawaiian Datum					
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) <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">STATE Hawaii</td> <td style="width: 50%;">ZONE 1</td> </tr> <tr> <td>STATE</td> <td>ZONE</td> </tr> </table>		STATE Hawaii	ZONE 1	STATE	ZONE
STATE Hawaii	ZONE 1						
STATE	ZONE						
5. SCALE 1:10,000		STATE ZONE					
III. HISTORY OF OFFICE OPERATIONS							
OPERATIONS		NAME	DATE				
1. AEROTRIANGULATION BY METHOD: <u>stereoplanigraph</u> LANDMARKS AND AIDS BY		J. Perrow H. Eichert	Feb 1969 Feb 1969				
2. CONTROL AND BRIDGE POINTS PLOTTED BY METHOD: <u>coradomat</u> CHECKED BY		J. Perrow H. Eichert	Feb 1969 Feb 1969				
3. STEREOSCOPIC INSTRUMENT PLANIMETRY BY COMPILATION CHECKED BY INSTRUMENT: <u>Wild B-8</u> CONTOURS BY SCALE: <u>1:10,000</u> CHECKED BY		C. Blood A. Shands N.A. N.A.	Sep 1969 Sep 1969 -- --				
4. MANUSCRIPT DELINEATION PLANIMETRY BY CHECKED BY METHOD: <u>smooth drafted</u> CONTOURS BY CHECKED BY SCALE: <u>1:10,000</u> HYDRO SUPPORT DATA BY CHECKED BY		C. Blood R. Smith N.A. N.A. C. Blood R. Smith	Oct 1969 Dec 1969 -- -- Oct 1969 Dec 1969				
5. OFFICE INSPECTION PRIOR TO FIELD EDIT BY		R. Smith	Dec 1969				
6. APPLICATION OF FIELD EDIT DATA BY		C. Blood	Feb 1973				
7. COMPILATION SECTION REVIEW BY		C. Parker	June 1974				
8. FINAL REVIEW BY		J. Hancock	Dec 1986				
9. DATA FORWARDED TO PHOTOGRAMMETRIC BRANCH BY		J. Hancock	Mar. 1987				
10. DATA EXAMINED IN PHOTOGRAMMETRIC BRANCH BY		P. Dempsey	May 1987				
11. MAP REGISTERED - COASTAL SURVEY SECTION BY		E. L. DAUGHERTY	MAY 1987				

T-12539
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 Yukon	<input checked="" type="checkbox"/> STANDARD
<input checked="" type="checkbox"/> PREDICTED TIDES <input type="checkbox"/> REFERENCE STATION RECORDS <input type="checkbox"/> TIDE CONTROLLED PHOTOGRAPHY				MERIDIAN 135th	<input type="checkbox"/> DAYLIGHT
NUMBER AND TYPE	DATE	TIME	SCALE	STAGE OF TIDE	
63S(P) 7943 - 7949 *	Aug 31, 63	09:06	1:30,000	0.6 ft above MLLW	
63S(P) 8059 - 8060 *	Sep 1, 63	09:07	1:30,000	0.4 ft "	
63S(C) 8043 - 8049 **	Aug 31, 63	10:37	1:15,000	1.4 ft above MLLW	
				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 the office interpretation of the compilation photographs using stereo instrument 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

5. FINAL JUNCTIONS

NORTH	EAST	SOUTH	WEST
T-12537	No survey	T-12540	No survey

REMARKS

NOAA FORM 76-36C (3-72)		U. S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SURVEY	
T-12539			
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	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 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	June 1964
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) 7931*	LAVA CONE, 1913 (Sub Pts 1 & 2 identified)		
*Section of ratio photos submitted			
3. PHOTO NUMBERS (Clarification of details)			
63(S) 7944, 7946, 7947, 7948, 7950 (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)			
2 forms 152 (CSI)			
(1 Form 152, reidentification in Nov. 1968 for station Lava Cone, 1913).			

NOAA FORM 76-36C
(3-72)U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

T-12539

HISTORY OF FIELD OPERATIONS

I. ☐ FIELD INSPECTION OPERATION☒ FIELD EDIT OPERATION

OPERATION	NAME	DATE
1. CHIEF OF FIELD PARTY	(NOAA Ship RAINIER) C. Haraden	Sept 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 AID TO NAVIGATION	RECOVERED (Triangulation Stations) BY LOCATED (Field Methods) BY IDENTIFIED BY	None None S. Hollinshead
5. GEOGRAPHIC NAMES INVESTIGATION	TYPE OF INVESTIGATION <input type="checkbox"/> COMPLETE <input type="checkbox"/> SPECIFIC NAMES ONLY <input checked="" type="checkbox"/> NO INVESTIGATION	BY None Sept 1972
6. PHOTO INSPECTION	CLARIFICATION OF DETAILS BY	S. Hollinshead
7. BOUNDARIES AND LIMITS	SURVEYED OR IDENTIFIED BY	None
II. SOURCE DATA		
1. HORIZONTAL CONTROL IDENTIFIED	2. VERTICAL CONTROL IDENTIFIED	
None	None	
PHOTO NUMBER	STATION NAME	PHOTO NUMBER
		STATION DESIGNATION

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 inspect)	Dec 1969	Dec 1969
field edit applied compilation complete	June 1974	Class I manuscript		Jul 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	landmark for charts

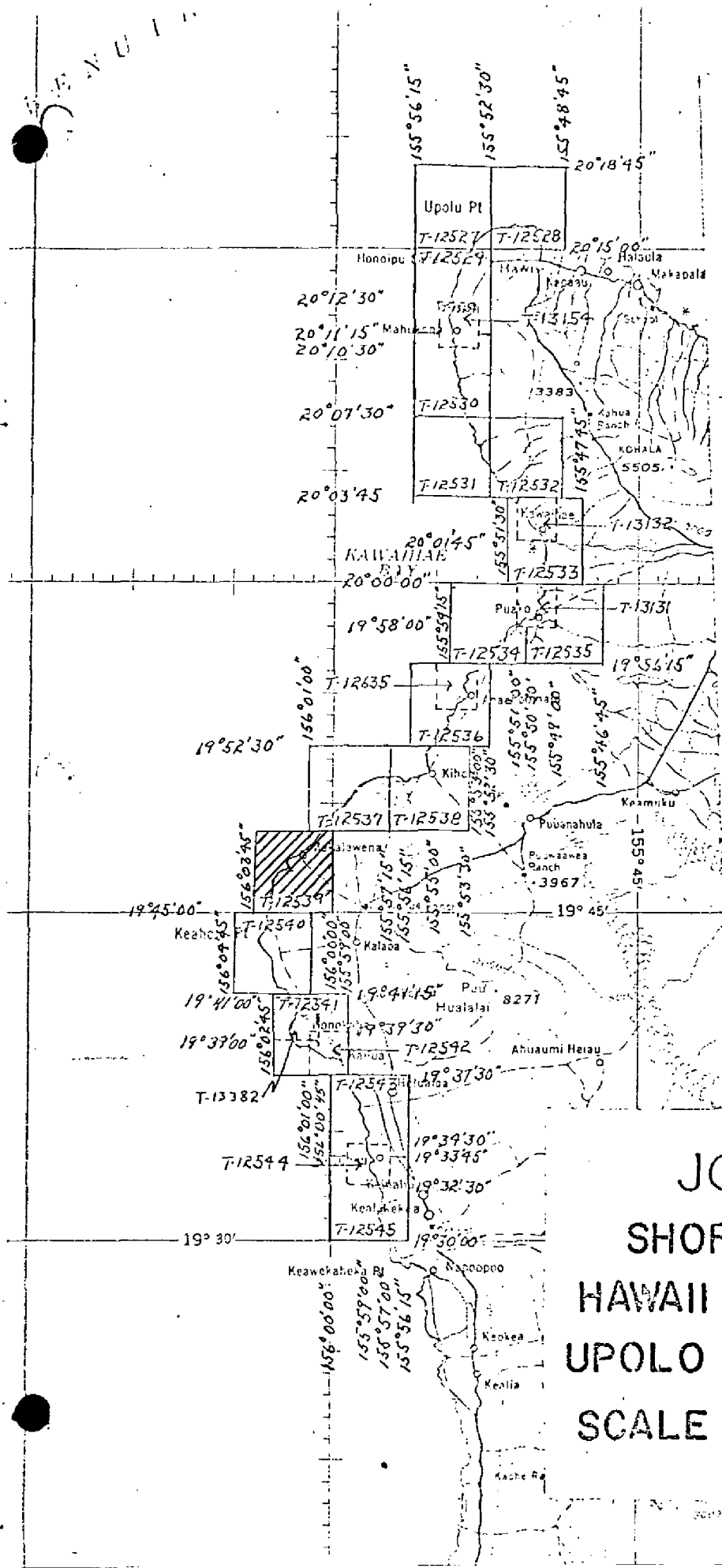
2. ☐ REPORT TO MARINE CHART DIVISION, COAST PILOT BRANCH. DATE FORWARDED: _____
3. ☐ REPORT TO AERONAUTICAL CHART DIVISION, AERONAUTICAL DATA SECTION. DATE FORWARDED: _____

III. FEDERAL RECORDS CENTER DATA

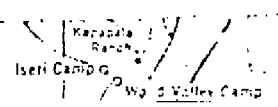
1. ☒ BRIDGING PHOTOGRAPHS; ☒ DUPLICATE BRIDGING REPORT; ☒ COMPUTER READOUTS.
2. ☒ CONTROL STATION IDENTIFICATION CARDS. ☒ FORM NO. 76-40 FOR SUBMITTED BY FIELD PARTIES

Official Mileage
For
Cost Accounts

Sheet No.	Area Sq. Mi.
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
T-12537	4
T-12538	2
T-12539	4
T-12540	4
T-12541	4
T-12542	2
T-12543	3
T-12544	2
T-12545	3
T-12635	2
T-13131	2
T-13132	2
T-13154	2
T-13382	1
Total	61



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



6.1

SUMMARY TO ACCOMPANY
DESCRIPTIVE REPORT

T-12539

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 northwest coast of Hawaii Island from Lat. $19^{\circ} 45' 00''$ to Lat. $19^{\circ} 48' 45''$.

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 hydrographer for field edit. A copy of the manuscript was also submitted to the Marine Charts Section.

T-12539

Field edit was performed September 1972 by NOAA Ship RAINIER personnel in conjunction with hydrographic survey H-9334 which lies just south of this map. Hydrographic survey H-9237 is the common area survey; however, the shoreline edit was not accomplished during the 1971 hydrographic operations.

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. 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-12539

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. 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 "MAD A AND B" a 1 ft. check was obtained between these

24. Supplemental Data

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

25. Photography

STRIP 01

63-5-7797 km 7802

STRIP 02

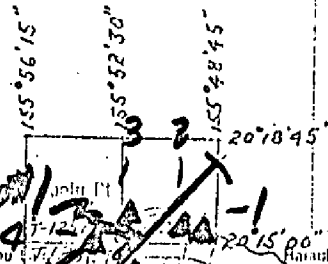
63-5-7703 km 7815

STRIP 03

63-5-7919 km 7939

STRIP 04

63-5-7919 km 7939



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

DESCRIPTIVE REPORT CONTROL RECORD

MAP NO.	JOB NO.	GEODETIC DATUM	ORIGINATING ACTIVITY		
T-12539	PH-6410	N.A. 1927	Coastal Mapping Div., AMC		
STATION NAME	SOURCE OF INFORMATION (Index)	AEROTRIANGULATION POINT NUMBER	COORDINATES IN FEET STATE <u>Hawaii</u> ZONE <u>1</u>	GEOGRAPHIC POSITION ϕ LATITUDE λ LONGITUDE	REMARKS
Kuili (HGS) 1882	GP pg 14		X= 19° 48' 11.674"	ϕ	
			Y= 156° 00' 44.802"	λ	
			X=	ϕ	
			Y=	λ	
			X=	ϕ	
			Y=	λ	
			X=	ϕ	
			Y=	λ	
			X=	ϕ	
			Y=	λ	
			X=	ϕ	
			Y=	λ	
			X=	ϕ	
			Y=	λ	
			X=	ϕ	
			Y=	λ	
			X=	ϕ	
			Y=	λ	
			X=	ϕ	
			Y=	λ	
			X=	ϕ	
			Y=	λ	
COMPUTED BY A. C. Rauck, Jr.		DATE 2/14/69	COMPUTATION CHECKED BY C. Blood		DATE 2/14/69
LISTED BY		DATE	LISTING CHECKED BY		DATE
HAND PLOTTING BY		DATE	HAND PLOTTING CHECKED BY		DATE

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

COMPILATION REPORT
T-12539

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.

37 - LANDMARKS AND AIDS

There were no landmarks or navigational aids within the limits of this map.

38 - CONTROL FOR FUTURE SURVEYS

None.

39 - JUNCTIONS

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

T-12539

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 Makalawena, 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

for *Gerry L. Hancock*
Charles Blood
Cartographic Technician
October 1969

Approved

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

ADDENDUM TO THE COMPILATION REPORT

T-12539

Field edit was performed September 1972 with the hydrographic survey (H-9334) which lies just south of this map. Hydrographic survey H-9237 is common to this map; however, the shoreline edit was not accomplished at the time (1971) of hydrography. Adequate information was furnished from the 1972 field edit in order to advance the manuscript to Class I.

GEOGRAPHIC NAMES

FINAL NAME SHEET

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

T-12539

Awakee Bay

Kahoiawa Bay

Kahoiawa Point

Kawikohale Point

Kawili Point

Mahaiula

Mahaiula Bay

Makalawena

Makolea Point

Pacific Ocean

Puialoa Point

Puu Alii Bay

Puukala Point

Unualoha Point

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-13331 T-11796
Kona Coast, Hawaii

NOAA Ship RAINIER

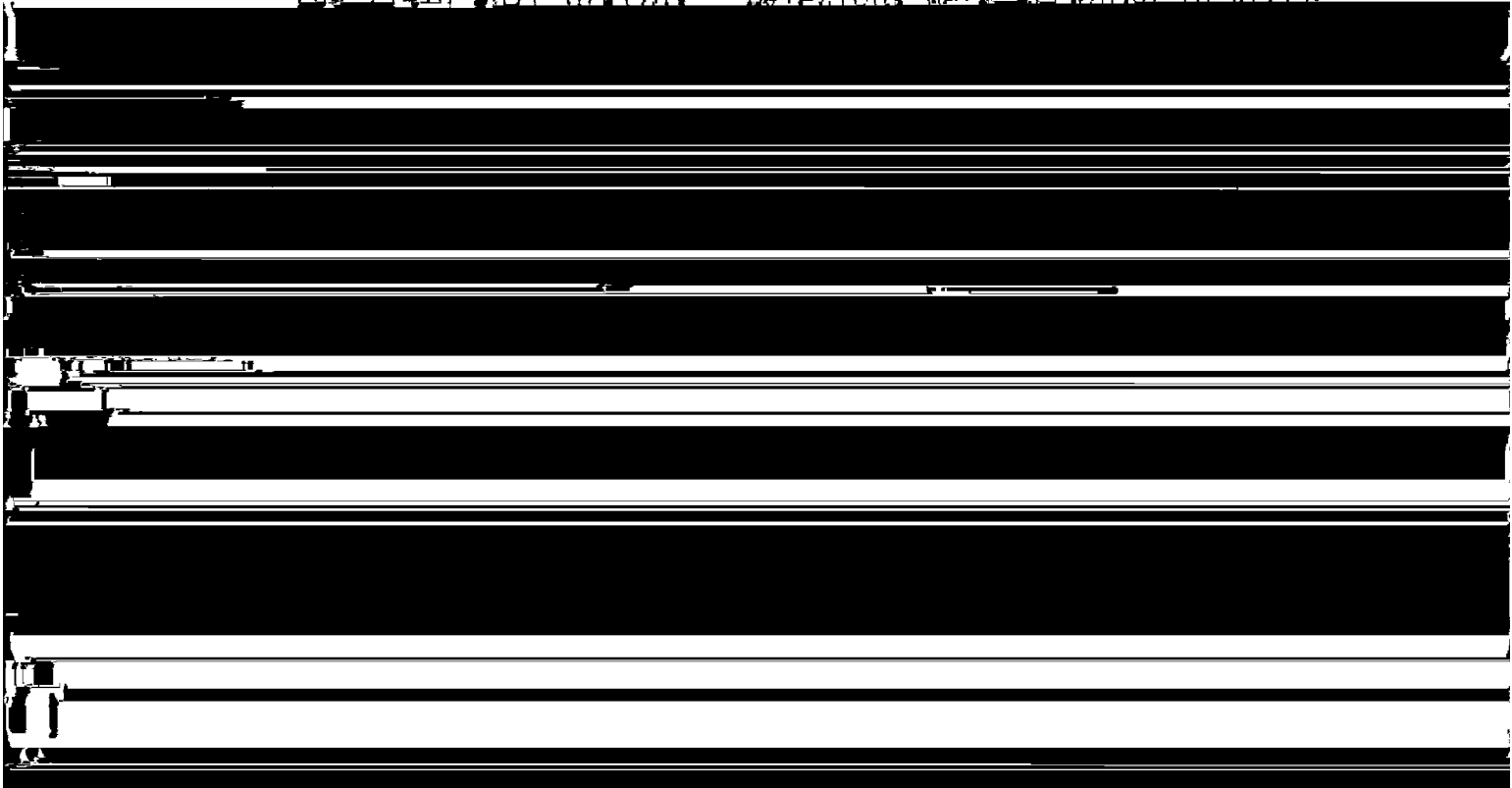
CAPT G.E. HARADEN
Commanding

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 original. Deletions were accented in green



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 Kalaaau 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 lava bluffs six to ten feet high with rocky beaches and a steep cliff (160 feet high) on the northeast side of the bay.

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

T-12547 (incomplete) Kealakekua Bay

No field edit was done on this manuscript.

T-11797 (incomplete) Honaunau Bay

No field edit was done on this manuscript.

T-12548 (completed) Kauhako Bay

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

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

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

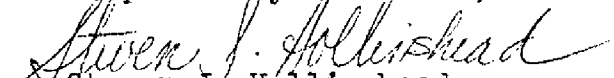
T-12549 (completed) Kauluoa Point

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

T-12550 (incomplete) Puoa Point

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

Respectfully submitted,


Steven J. Hollinshead
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	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	

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

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

**NOTE: No field edit done

REVIEW REPORT
T-12539

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 Makalawena, Hawaii, dated 1959, scale 1:24,000.

64 - COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS

This map is common to hydrographic survey H-9237, FA 10-18-71. However, a copy of the survey was not available at the time of final review. The field edit for this map was performed in conjunction with hydrographic survey H-9334 which junctions to the south of H-9237.

65 - COMPARISON WITH NAUTICAL CHARTS

A comparison was made with NOS chart 19327 scale 1:80,000 8th



RESPONSIBLE PERSONNEL	
NAME	ORIGINATOR
	<input checked="" type="checkbox"/> PHOTO FIELD PARTY <input type="checkbox"/> HYDROGRAPHIC PARTY <input type="checkbox"/> GEODETIC PARTY <input type="checkbox"/> OTHER (Specify)
INIER	
ad	FIELD ACTIVITY REPRESENTATIVE
	OFFICE ACTIVITY REPRESENTATIVE
	<input type="checkbox"/> REVIEWER <input type="checkbox"/> QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

OR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'
 Consult Photogrammetric Instructions No. 64.

FIELD (Cont'd)

B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object.
 EXAMPLE: P-8-V

8-12-75
 74L(C)2982

II. TRIANGULATION STATION RECOVERED

When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery.
 EXAMPLE: Triang. Rec. 8-12-75

III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH

Enter 'V-Vis.' and date.
 EXAMPLE: V-Vis. 8-12-75

**PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.

REPLACES NOAA FORM 76-40 (2-71) WHICH IS OBSOLETE, AND
 THIS STOCK SHOULD BE DESTROYED UPON RECEIPT OF REVISION.

[illegible]

