

T-12535

T-12535

NOAA FORM 76-35 (6-80)	
U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SURVEY	
DESCRIPTIVE REPORT	
Map No. T-12535	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 KANEKANAKA POINT	
19 63 TO 19 69	
REGISTERED IN ARCHIVES	
DATE	

NOAA FORM 76-36A (3-72)		U. S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMIN.					
DESCRIPTIVE REPORT - DATA RECORD		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"> TYPE OF SURVEY <input checked="" type="checkbox"/> ORIGINAL <input type="checkbox"/> RESURVEY <input type="checkbox"/> REVISED </td> <td style="width: 50%;"> SURVEY TR. <u>12535</u> MAP EDITION NO. <u>(1)</u> MAP CLASS <u>Final</u> JOB PH. <u>6401</u> </td> </tr> </table>		TYPE OF SURVEY <input checked="" type="checkbox"/> ORIGINAL <input type="checkbox"/> RESURVEY <input type="checkbox"/> REVISED	SURVEY TR. <u>12535</u> MAP EDITION NO. <u>(1)</u> MAP CLASS <u>Final</u> JOB PH. <u>6401</u>		
TYPE OF SURVEY <input checked="" type="checkbox"/> ORIGINAL <input type="checkbox"/> RESURVEY <input type="checkbox"/> REVISED	SURVEY TR. <u>12535</u> MAP EDITION NO. <u>(1)</u> MAP CLASS <u>Final</u> JOB PH. <u>6401</u>						
PHOTOGRAMMETRIC OFFICE Coastal Mapping Unit, Atlantic Marine Center Norfolk, Virginia		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2" style="text-align: center;">LAST PRECEDING MAP EDITION</th> </tr> <tr> <td style="width: 50%;"> TYPE OF SURVEY <input type="checkbox"/> ORIGINAL <input type="checkbox"/> RESURVEY <input type="checkbox"/> REVISED </td> <td style="width: 50%;"> JOB PH. _____ MAP CLASS _____ SURVEY DATES: 19__ TO 19__ </td> </tr> </table>		LAST PRECEDING MAP EDITION		TYPE OF SURVEY <input type="checkbox"/> ORIGINAL <input type="checkbox"/> RESURVEY <input type="checkbox"/> REVISED	JOB PH. _____ MAP CLASS _____ SURVEY DATES: 19__ TO 19__
LAST PRECEDING MAP EDITION							
TYPE OF SURVEY <input type="checkbox"/> ORIGINAL <input type="checkbox"/> RESURVEY <input type="checkbox"/> REVISED	JOB PH. _____ MAP CLASS _____ SURVEY DATES: 19__ TO 19__						
OFFICER-IN-CHARGE Richard Houlder							
I. INSTRUCTIONS DATED							
1. OFFICE		2. FIELD					
Compilation September 12, 1968 Supplement No. 1 February 11, 1969 Compilation March 11, 1969 Supplement No. 2 December 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> </table>		STATE Hawaii	ZONE 1		
STATE Hawaii	ZONE 1						
5. SCALE 1:10,000		STATE ZONE					
III. HISTORY OF OFFICE OPERATIONS							
OPERATIONS		NAME	DATE				
1. AEROTRIANGULATION BY METHOD: Stereoplanigraph LANDMARKS AND AIDS BY		J. Perrow	Feb 1969				
2. CONTROL AND BRIDGE POINTS PLOTTED BY METHOD: Coradomat CHECKED BY		J. Perrow	Feb 1969				
3. STEREOSCOPIC INSTRUMENT PLANIMETRY BY COMPILATION CHECKED BY INSTRUMENT: Wild B-8 CONTOURS BY SCALE: 1:10,000 CHECKED BY		A. Shands	Feb 1969				
4. MANUSCRIPT DELINEATION PLANIMETRY BY CHECKED BY METHOD: Smooth drafted CONTOURS BY CHECKED BY SCALE: 1:10,000 HYDRO SUPPORT DATA BY CHECKED BY		C. Bishop	Mar 1969				
5. OFFICE INSPECTION PRIOR TO FIELD EDIT BY		N.A.					
6. APPLICATION OF FIELD EDIT DATA BY CHECKED BY		A. Shands	Feb 1969				
7. COMPILATION SECTION REVIEW BY		C. Bishop	Mar 1969				
8. FINAL REVIEW BY		C. Bishop	Mar 1969				
9. DATA FORWARDED TO PHOTOGRAMMETRIC BRANCH BY		A. Shands/R. White	Aug 69/Feb 72				
10. DATA EXAMINED IN PHOTOGRAMMETRIC BRANCH BY		C. Parker	Feb 1972				
11. MAP REGISTERED - COASTAL SURVEY SECTION BY		C. Parker	Feb. 1972.				
12. DATA FORWARDED TO PHOTOGRAMMETRIC BRANCH BY		J. Hancock	Nov 1986				
13. DATA EXAMINED IN PHOTOGRAMMETRIC BRANCH BY		J. Hancock	Mar 1987				
14. MAP REGISTERED - COASTAL SURVEY SECTION BY		P. Dempsey	May 1987				
15. MAP REGISTERED - COASTAL SURVEY SECTION BY		E. L. DAUGHERTY	MAY 1987				

COMPILATION SOURCES

1. COMPILATION PHOTOGRAPHY

CAMERA(S) Wild R.C.-8"S" S=152.29 mm ✓		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 Yukon ✓	<input checked="" type="checkbox"/> STANDARD
				MERIDIAN 135th	<input type="checkbox"/> DAYLIGHT
NUMBER AND TYPE	DATE	TIME	SCALE	STAGE OF TIDE	
63S(P)7919-7922* ✓	Aug.31,1963	08:54 ✓	1:30,000 ✓	0.7 ft. above MLLW ✓	
63S(C)7778-7780** ✓	Aug.27,1963	10:17 ✓	1:20,000 ✓	1.9 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 office interpretation of the compilation photographs using stereo instrument methods.

3. SOURCE OF MEAN LOW-WATER LINE 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) Surveyed	SURVEY COPY USED	SURVEY NUMBER	DATE(S)	SURVEY COPY USED
H-9018	1969/1970	Registered			

5. FINAL JUNCTIONS

NORTH	EAST	SOUTH	WEST
T-12533	No Survey	No Survey	T-12534

REMARKS

The northwest segment of this sheet is duplicated on inset map T-13131 at a scale of 1:5,000.

HISTORY OF FIELD OPERATIONS

1. ☒ FIELD INSPECTION OPERATION☐ FIELD EDIT OPERATION

OPERATION	NAME	DATE
1. CHIEF OF FIELD PARTY	R. Newsom	Jun 1964
RECOVERED BY	E. Cline	Jun 1964
2. HORIZONTAL CONTROL	ESTABLISHED BY	E. Cline
PRE-MARKED OR IDENTIFIED BY	E. Cline	Jun 1964
RECOVERED BY	None	
3. VERTICAL CONTROL	ESTABLISHED BY	None
PRE-MARKED OR IDENTIFIED BY	None	
RECOVERED (Triangulation Stations) BY	None	
4. LANDMARKS AND AIDS TO NAVIGATION	LOCATED (Field Methods) BY	None
IDENTIFIED BY	None	
5. GEOGRAPHIC NAMES INVESTIGATION	TYPE OF INVESTIGATION	
	<input type="checkbox"/> COMPLETE	
	<input type="checkbox"/> SPECIFIC NAMES ONLY	
	<input checked="" type="checkbox"/> NO INVESTIGATION	
6. PHOTO INSPECTION	CLARIFICATION OF DETAILS BY	E. Cline
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)7921*	PUAKO, NEW, 1948 (Sub pts. 1 & 2)		
63(S)7921*	PUAKO, 1873 (Direct)		
	*Section of ratio photo submitted.		

3. PHOTO NUMBERS (Clarification of details)

63(S)7814, 7920, 7921 (Matte Contacts)

4. LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED

None

PHOTO NUMBER	OBJECT NAME	PHOTO NUMBER	OBJECT NAME

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

7. SUPPLEMENTAL MAPS AND PLANS

None

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

1 Form 152 (CSI)

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

T-12535

HISTORY OF FIELD OPERATIONS

- 1.
- ☐
- FIELD INSPECTION OPERATION
- ☒
- FIELD EDIT OPERATION (Partial)

OPERATION	NAME	DATE
1. CHIEF OF FIELD PARTY	(USC&GS Ship McARTHUR) R. Newsom, CDR	Apr 1969
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 BY <input checked="" type="checkbox"/> NO INVESTIGATION	
6. PHOTO INSPECTION	CLARIFICATION OF DETAILS BY	R. Newsom Apr 1969
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)7920 (Matte Ratio, 1:10,000 scale)

4. LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED

None

PHOTO NUMBER	OBJECT NAME	PHOTO NUMBER	OBJECT NAME

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

7. SUPPLEMENTAL MAPS AND PLANS

None

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

1 Field Edit Paper Print
1 Field Edit Report

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

T-12535

HISTORY OF FIELD OPERATIONS

I. ☐ FIELD INSPECTION OPERATION☒ FIELD EDIT OPERATION

OPERATION	NAME	DATE
1. CHIEF OF FIELD PARTY	(USC&GS Ship PATHFINDER) E. Taylor, CAPT	Feb 1970
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	
6. PHOTO INSPECTION	CLARIFICATION OF DETAILS BY	E. Taylor
7. BOUNDARIES AND LIMITS	SURVEYED OR IDENTIFIED BY	None

II. SOURCE DATA

1. HORIZONTAL CONTROL IDENTIFIED

None

2. VERTICAL CONTROL IDENTIFIED

PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION

3. PHOTO NUMBERS (Clarification of details)

63S(C)7779, 7780 (Cronapague 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 Paper Print (same copy used for 1969 edit)

1 Field Edit Report

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

T-12535

RECORD OF SURVEY USE

I. MANUSCRIPT COPIES

COMPILATION STAGES			DATE MANUSCRIPT FORWARDED	
DATA COMPILED	DATE	REMARKS	MARINE CHARTS	HYDRO SUPPORT
Compilation complete pending field edit	Mar. 1969	Class III Manuscript (Includes Field Inspection)	Mar. 1969	Mar. 1969
Partial field edit applied	Aug. 1969	Class III Manuscript		Jul. 1971 Oct. 1971
Field edit application completed	Feb. 1972	Class I Manuscript	Mar. 1977	Mar. 1973
Final Review	Nov. 1986	Final Map	Mar 1987	Mar 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: None3. ☐ 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	

Sheet No.	Area Sq. Mi.
1	100
2	100
3	100
4	100
5	100
6	100
7	100
8	100
9	100
10	100
11	100
12	100
13	100
14	100
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90	100
91	100
92	100
93	100
94	100
95	100
96	100
97	100
98	100
99	100
100	100

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	<u>1</u>

Total 61

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

Kapadale Ranch

Isleri Camp

Ward Valley Camp

6

SUMMARY TO ACCOMPANY
DESCRIPTIVE REPORT

T-12535

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° 58.5' to Lat. 20° 00.0'. Inset map T-13131 duplicates all of the coastal area at 1:5,000 scale.

Photo coverage for the project was adequately provided in August/September 1963 using the Wild RC-8 "S" camera. Photography consisted of 1:30,000 scale panchromatic photographs used for field inspection 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 March 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-12535

Field edit for a northern portion of this map was conducted during hydrographic survey H-9018 by USC&GS Ship McARTHUR personnel in April 1969. The remaining map area, south of Lat. 19°58.8', was edited in February 1970 as a continuation of H-9018 by USC&GS Ship PATHFINDER personnel.

Application of field edit was accomplished in two phases at the Atlantic Marine Center and completed in February 1972. A general comparison was made with the common 1:5,000 scale inset map, T-13131, which was being compiled from 1969 photography at the same time (February 1972) this map was advanced to Class I. Shoreline detail between the two sheets did not reveal any significant changes.. A copy of this Class I manuscript was submitted to Marine Charts and the Hydrographic Surveys Branch.

Final review was performed at the Atlantic Marine Center in November 1986. A comparison was made with the common nautical chart(s) and hydrographic survey(s). 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-12535

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.

8

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.

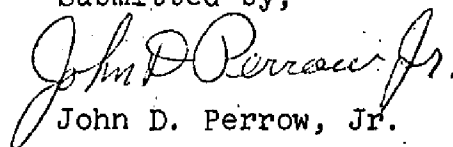
24. Supplemental Data

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

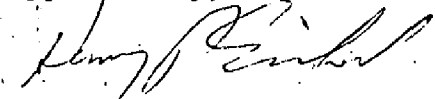
25. Photography

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.

Approved by,



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
63-5-7991 thru 7955

STRIP #6
63-5-7961 thru 7917

STRIP #7
63-5-7961 thru 7917

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
63-5-7991 thru 7955

STRIP #6
63-5-7961 thru 7917

1. KUPUHI 1913
2. KUPUHI, 1913
3. KEALAHUWA 2, 1948
4. LORAN TOWER, 1948
5. PUU ULA, 1913
6. RED TANK, 1948
7. KEAWANUI, 1948
8. PUU KAMALI, 2, 1928
9. KAWAINAE LT. 1928
10. PUAKO, 1873
11. PUAKO NEW, 1948
12. ANAEHOMALU, 1913
13. HAND, 1928

DESCRIPTIVE REPORT CONTROL RECORD

MAP NO.	JOB NO.	PH-6401	GEODETTIC DATUM		ORIGINATING ACTIVITY	
			Old Hawaiian Datum	Unit, AMC, Norfolk, VA		
STATION NAME	SOURCE OF INFORMATION (Index)	AEROTRI-ANGULATION POINT NUMBER	COORDINATES IN FEET STATE ZONE	GEOGRAPHIC POSITION ϕ LATITUDE λ LONGITUDE	REMARKS	
PUAKO (H.G.S.) (U.S.G.S.), 1873	G.P. pg. 13		X=	ϕ 19 58 45.509		
			Y=	λ 155 49 59.231		
PUAKO NEW, 1948	G.P. pg. 13		X=	ϕ 19 58 36.320		
			Y=	λ 155 49 32.753		
			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		
			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		

COMPILATION REPORT
T-12535

31 - DELINEATION

Delineation was by instrument methods using the Wild B-8 stereoplotter and 1:20,000 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 1:20,000 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-12535

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, Puu Hinai, Hawaii, dated 1956, scale 1:24,000.

47 - COMPARISON WITH NAUTICAL CHARTS

A comparison was made with USC&GS Charts 4167, scale 1:10,000, 3rd edition, dated Jun. 26, 1967
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

Geny L. Hancock

for A. Shands
Cartographic Technician
March 1969

Approved

Geny L. Hancock

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

ADDENDUM TO THE COMPILATION REPORT

T-12535

Field edit was performed in two phases in conjunction with hydrographic survey H-9018. Field edit north of Lat. $19^{\circ}58.8'$ was conducted in April 1969 and the remaining area was edited in February 1970. Remarks from both field edits were included on the same paper print. 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-12535

Auwaiakeakua Gulch---Not compiled *JWH*

Hapuna Bay

Hapuna Beach Park

Kamakoa Gulch-----Not compiled *JWH*

Kaneakanaka Point

Kaunaoa Point

Kawaihae Bay

Ohai Point

Pacific Ocean

Puako Bay

Waialea Bay

Approved by:

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

Prepared by:

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

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Field Edit Report
to Accompany T12535

April 1969

USC&GSS McARTHUR

Ronald L. Newsom
CDR, USESSA
Commanding Officer

51 METHODS

Part of Manuscript T 12535 was field edited by personnel aboard the USC&GSS McARTHUR in conjunction with hydrography on boatsheet AR10-7-68, H-9018. Shore line was verified visually from Launch AR-2 due to extensive foul areas. Field edit information was shown on photo 63-S-7920 and on the field edit ozalid in violet ink.

52 ADEQUACY OF COMPILATION

Manuscript T 12535 was adequate for hydrography but the accompanying photos were not adequate for locating photo-hydro signals.

54 RECOMMENDATIONS

Photography for this area should be taken in the afternoon when the haze is lower and the coast is lighted better. Infra Red photography might give a better contrast between the dark sea and the black lava rock. Also, the shoreline should be more towards the center of the Photograph where resolution is higher and distortion less.

The manuscript T 12535 should be reissued to the next Ship working in this area to complete the field edit.

FIELD EDIT REPORT

CHART TOPOGRAPHY

West Coast Of Hawaii, Hawaii

Map Manuscripts, T-12534, T-12535,

T-12536, T-12537 & T-12538

February 1970

FIELD EDIT REPORT - OPR 419

Chart Topography
---Hawaii, West Coast
Map Manuscripts, T-12534 T-12535, T-12536,
T-12537, T-12538

This report covers the west shore of the island of Hawaii from Kaunaoa Point south to Kau Bay.

The entire shoreline was inspected using a small boat and/or walking. The field edit copies (discrepancy prints) of the map manuscripts were used as the index for the field corrections and the photographs containing the bulk of the corrections were cross-referenced to the field edit copies.

Adequacy of Compilation:

The extent and accuracy of the maps appear to be complete.

Methods:

The shoreline was inspected and the correction have been indicated on the field edit photography in red ink. Annotations on the field edit sheet were done with a purple pencil and in some cases with a ball point pen. Deletions of features on both the field edit sheets and the photography are in green ink.

Mean high water references were made to identifiable alongshore objects. In general the mean high water compilation was very good. The characteristics of the shore are generally a lava composition with a few sand beaches. The foreshore and adjacent offshore underwater areas are quite shallow. Coral heads are forming in areas that have a water depth of three feet or more.

There are no communities of any size. There are several residents along the shore south of Ohai Point to an area about 1/2 mile south of Kapuniau Point.

Rocks and shoals were investigated. The elevations of these features in relationship to the stage of tide at the time of the investigation were recorded on the field edit photography and/or the field edit sheets where required.

A Geographic Names investigation was not made, however one discrepancy was brought to the attention of the Field Editor by a local resident of over 50 years. The spelling of the small bay about 1/4 mile north of Ohai Point is spelled Wailoa Bay and not Waialea Bay.

Pertinent information pertaining to each individual discrepancy sheet will be listed under that specific sheet.

Sheet T-12534

Considerable time was spent looking for the submerged rocks from office interpretation but those west of the foul line were not found. Methods included fixes from identifiable objects from shore and investigation from a small boat.

Several areas have been mapped as coral however no coral was found close to the shoreline. Coral heads and coral are found in areas that are constantly under water.

Sheet T-12535

The first half of this sheet was done by personnel of the ship MCARTHUR in 1969.

A new boat ramp was constructed since the photography. A sketch was drawn on the back of photo 63 S 7779. Three tanks that are close together were picked as a landmark, See photo 63 S 7780. A form 567 will be submitted.

Sheet T-12536

See the comments on the Field Edit Ozalid.

Sheet T-12537

See the comments on the Field Edit Ozalid.

A new development has been constructed on Mahewalu Point. Several of the buildings will be of landmark value. The plans are being submitted with this report.

Sheet T-12538

See the comments on the Field Edit Ozalid.

Respectfully submitted,

Lyle L. Riggers

Lyle L. Riggers
Surveying Tech.

Approved:

E. A. Taylor, CAPT, USNBSA
Comd. Officer "PATHFINDER"

Supplement To
FIELD EDIT REPORT
CHART TOPOGRAPHY

March 25, 1970

West Coast of Hawaii, Hawaii
Map Manuscripts, T-12534, T-12535
T-12536, T-12537, and T-12538

Three additional Geographic Names discrepancies have been located on the following T-sheets.

T-12534 The discrepancy on this sheet concerns Makaiwa Bay located at Lat. 19°57' and Long. 155°53.5' just west of LANUIPUAA. On C&GS chart 4140 Jan. 24, 1966 the location of the name appears to refer to a different part of the coastline than on this T-sheet.

T-12536 A bay located at Lat. 19°55.8' Long. 155°53.5' has a spelling discrepancy. This T-sheet gives the spelling as Waiulua Bay and chart 4140 gives the spelling as Waialua Bay.

T-12537 In the general area of Kakapa Bay at Lat. 19°49' Long. 156°00.3' there exists a major discrepancy in the names of two prominent points of land. This T-sheet shows the point which forms the north shore of Kakapa Bay as Kikaua Pt. and the point forming the south shore as Papiha Pt. The chart 4140 gives the name of Papiha Pt. to the northern point and does not name the point to the south.

A Geographic Names investigation was not made on any of these discrepancies due to the lack of time at the end of the project when these discrepancies were found.

Respectfully submitted,

Approved:

Richard D. Olson

Richard D. Olson
ENS, USESSA
Photogrammetric Officer

E. A. Taylor, CAPT, USESSA
Comd. Officer "PATHFINDER"

REVIEW REPORT
T-12535

SHORELINE

61 - GENERAL STATEMENT

Final review for this final field edited map was accomplished at the Atlantic Marine Center in November 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 Puu Hinai, Hawaii, dated 1956, scale 1:24,000.

64 - COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS

A portion of hydrographic survey H-9018 and H-9234 are common to this final shoreline map. A comparison was made with a registered copy of H-9018, AR-10-7-68/PF-10-1-70, 1:10,000 scale, field surveyed 1969/1970 and H-9234, FA-5-1-71, 1:5,000 scale, field surveyed 1971. No significant discrepancies were noted.

65 - COMPARISON WITH NAUTICAL CHARTS

A comparison was made with NOS charts 19330, scale 1:10,000, 7th edition, Oct. 15, 1983 19327, scale 1:80,000, 8th edition, Sept. 5, 1981.

66 - ADEQUACY OF RESULTS AND FUTURE SURVEYS

This map complies with the Project Instructions, and meets the requirements for National Standards of Map Accuracy.

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T-12535

Submitted by

Jerry L. Hancock

Jerry L. Hancock
Final Reviewer

Approved for forwarding

Billy H. Barnes

Billy H. Barnes
Chief, Photogrammetric Section, AMC

Approved

Jerry O. Roborn

Chief, Photogrammetric Production Sec.

D. Y. Bryson

Chief, Photogrammetry Branch

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. T-12535, PH-6401

INSTRUCTIONS

~~A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart~~