

9236

Diag. Cht. No. 4115.

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

DESCRIPTIVE REPORT
(HYDROGRAPHIC)

Type of Survey HYDROGRAPHIC.....
Field No. FA-5-3-71.....
Office No. H-9236.....

LOCALITY

State HAWAII.....
General Locality WEST COAST OF HAWAII.....
Locality KIHOLO BAY.....

1971

CHIEF OF PARTY

R. H. HOILDER.....

LIBRARY & ARCHIVES

DATE 11-12-74.....

9236

HYDROGRAPHIC TITLE SHEET

INSTRUCTIONS - The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

FIELD NO.

FA-5-3-71

State Hawaii

General locality West Coast of Hawaii ~~Island~~ West Coast of Hawaii

Locality Kihole Bay

Scale 1:5,000 Date of survey 29 Oct. to 1 Nov., 1971

Instructions dated 17 September 1971 Project No. OPR-419-FA-71

Vessel NOAA Ship FAIRWEATHER Launches FA-3 and FA-6

Chief of party CAPT. R. H. Houlder

Surveyed by LTJG. E. G. Wood and ENS. F. B. Arbusto

Soundings taken by echo sounder, ~~hand lead~~, pole Raytheon DE-723, serial nos. 533, 542

Graphic record scaled by FAIRWEATHER personnel

Graphic record checked by FAIRWEATHER PERSONNEL

Protracted by _____ Automated plot by PMC Gerber Digital Plotter

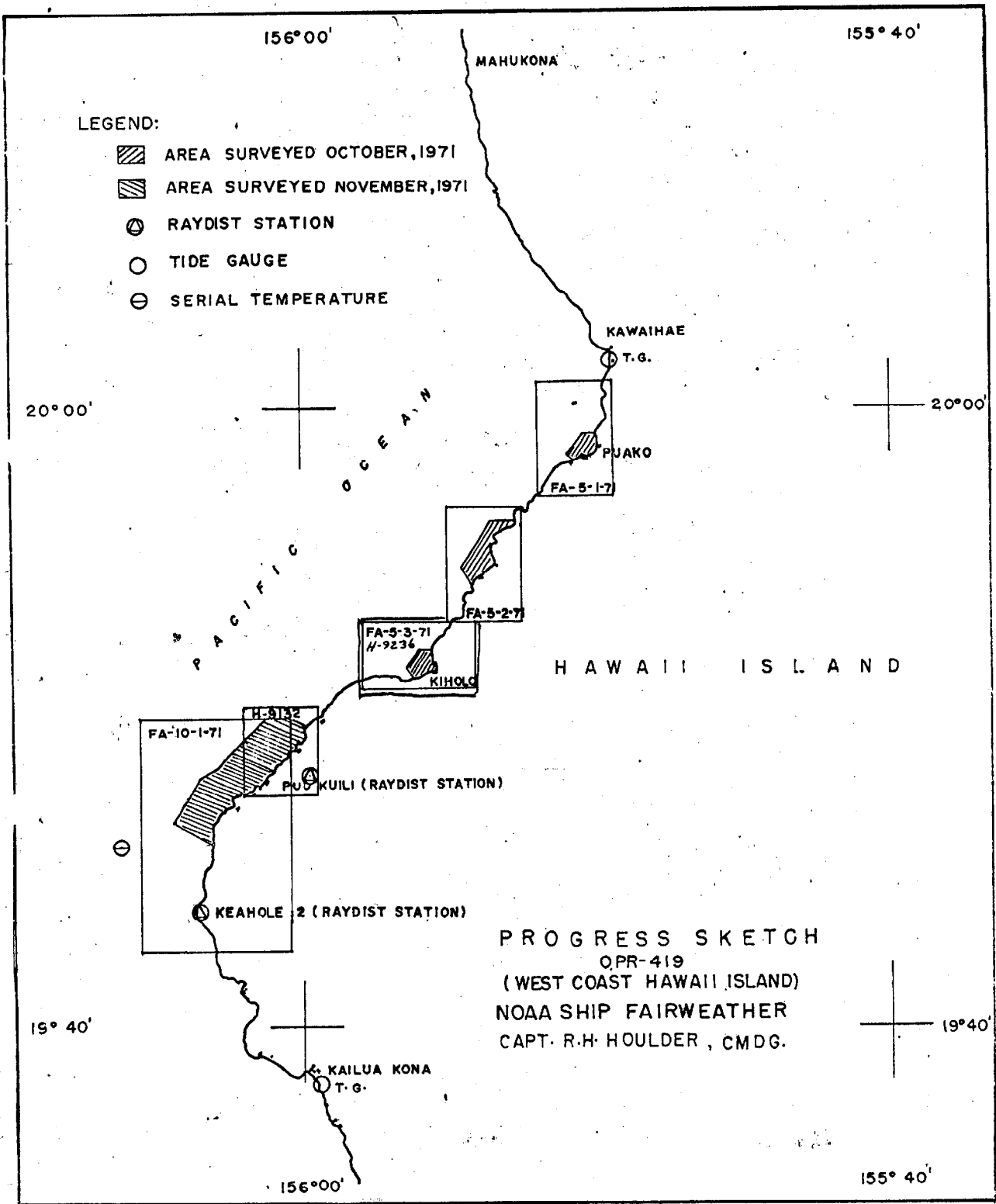
Soundings ^{verified} penciled by Howard E. Clark

Soundings in fathoms feet at MLW MLLW

REMARKS: _____

Miscellaneous data filed with field records.

Applied to stds 1/16/75
JH



Descriptive Report
to Accompany
Hydrographic Sheet H-9236 (FA-5-3-71)
Kiholo Bay, Hawaii
NOAA Ship FAIRWEATHER (MSS-20)
CAPT. R. H. Houlder, Commanding

A. PROJECT

The survey was accomplished under OPR-419, project instructions dated 17 September 1971, and in accordance with the PMC OORDER.

B. AREA SURVEYED

This survey includes the area of Kiholo Bay from Hou Pt. to just north of Nawaikulua Pt. The sheet is bounded on the north by latitude $19^{\circ}52'15''$ N. and on the south by latitude $19^{\circ}51'15''$ N. It extends from longitude $155^{\circ}56'45''$ W. on the west to longitude $155^{\circ}55'18''$ W. on the east.

The control was established from 15 October through 28 October 1971. Hydrography was accomplished from 29 October through 1 November 1971.

A junction was made with ~~prior~~ ⁽¹⁹⁷⁰⁾ survey H-9131 ~~P.~~

C. SOUNDING VESSELS

One launch was used to accomplish the main portion of hydrography. A modified boston whaler was used for the location of detached positions and the surveying of the shoreline. The following are color codes and position numbers applicable to each vessel:

FA-3	Blue	2001 - 2276
FA-6	Brown	2301 - 2341

D. SOUNDING EQUIPMENT

Raytheon DE-723 fathometers were used in the launch and modified boston whaler having serial numbers 533 and 542 respectively.

The echo sounding velocity corrections were determined from serial temperature and salinity observations. The corrections for the launches also include bar check results; an abstract of the cumulative corrections to the soundings for the survey is included with this report.

E. SMOOTH SHEET

The position and sounding data were recorded, logged for automated processing, and plotted by ship's personnel using the digital PDP 8/E computer. The signal sheet is to be plotted electronically and verified by personnel at Pacific Marine Center.

F. CONTROL

All hydrography was accomplished by visual fix methods. The control signals were located using a Wild T-2 Theodolite and MRA-3 Mark II Tellurometers. Third-order specifications were followed in establishing the control. All computations were based on the Hawaiian State Plane Coordinate System zone 1 and were performed on the NOAA Ship FAIRWEATHER PDP 8/E computer. Signals #57 and #63 were located using sextant angles. (see review paragraph 3F)

G. SHORELINE

The shoreline was transferred directly to the boatsheet by enlarging a 1:10,000 scale T-sheet to 1:5,000 scale. This was done because no 1:5,000 scale T-sheet was available and was accomplished by taking a picture of the 1:10,000 scale T-sheet and projecting the negative to a 1:5,000 scale.

H. CROSSLINES

Crosslines, consisting of approximately ten per cent of the regular system of sounding lines, were in good agreement.

I. JUNCTIONS

Junction was made with ~~prior~~ survey H-9131 ¹⁹⁷⁰ and was complete and adequate.

J. COMPARISON WITH PRIOR SURVEY

Comparison was made with prior survey H-5006 (1929), scale 1:20,000. Bottom characteristics were in good agreement.

K. COMPARISON WITH THE CHART

Comparison of the survey with C&GS Chart No. 4140, scale 1:80,000, 3rd Edition, January 24, 1966 indicates good agreement, although soundings are scarce on the chart in the survey area.

L. ADEQUACY OF THE SURVEY

This survey is considered complete and adequate for charting. ✓ ✓

M. AIDS TO NAVIGATION

There are no aids to navigation in the survey area. ✓

N. STATISTICS

	<u>FA-3</u>	<u>FA-6</u>	
Positions	275	40	✓
Sounding Lines (n.m.)	22.1	0	✓
Bottom Samples	6	0	✓

Area Surveyed 1.0 sq. n.m. ✓

O. MISCELLANEOUS

None. ✓

P. RECOMMENDATIONS

None. ✓

Q. REFERENCES TO REPORTS

1. Season's Report, NOAA Ship FAIRWEATHER, 1971. (To be forwarded). ✓ ✓
2. Field Edit Report, OPR-419, NOAA Ship FAIRWEATHER, 1971. (To be forwarded).
3. Fathometer Report, OPR-419, NOAA Ship FAIRWEATHER, 1971. (To be forwarded).
4. Coast Pilot Report, OPR-419, NOAA Ship FAIRWEATHER, 1971. (To be forwarded).
5. Traverse Hydrographic Signal Location Report, OPR-419, NOAA Ship FAIRWEATHER, 1971. (To be forwarded).
6. PDP 8 Software and Processing Report, OPR-419, NOAA Ship FAIRWEATHER, 1971. (To be forwarded).
7. PDP 8 Hardware Report, OPR-419, NOAA Ship FAIRWEATHER, 1971. (To be forwarded).

Respectfully submitted,

Emerson G. Wood

Emerson G. Wood
LTJG, NOAA

00112172

SIGNAL PLOTTER CARDS

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H-NO.	LATITUDE	LONGITUDE	X	Y	X
09236 050	71 19523192	155552878	10154	07872	050
09236 051	71 19522332	155553373	09852	07317	051
09236 052	71 19520702	155553527	09758	06264	052
09236 053	71 19514958	155553120	10006	05138	053
09236 054	71 19514407	155552772	10219	04782	054
09236 055	71 19514258	155552387	10454	04686	055
09236 056	71 19513679	155552491	10391	04312	056
09236 057	71 19513281	155552536	10363	04055	057
09236 058	71 19513260	155553349	09867	04042	058
09236 059	71 19512547	-155554482	09174	03582	059
09236 060	71 19511789	155560485	07951	03092	060
09236 061	71 19510960	155562588	06666	02557	061
09236 062	71 19511680	155564673	05392	03022	062
09236 063	71 19512917	155552925	10126	03820	063
09236 065	71 19511931	155565739	04741	03184	065

AWAHI 1928

TRANSMITTAL SHEET

The field work was examined daily under the supervision of this command. The boatsheet was inspected daily for completeness and no additional work is considered necessary.



R. H. Houlder
CAPT., NOAA
Comdg., Ship FAIRWEATHER

VELOCITY CORRECTORS

Velocity Table #1 correctors was used for launch (FA-6) Raytheon DE-723, Serial No. 542. ✓

Velocity Table #3 correctors was used for launch (FA-3) Raytheon DE-723, Serial No. 533. Table was constructed at Pacific Marine Center using Velocity Table #1 and phase corrections from Table #3.

Note: tables not in DR.

VELOCITY CORRECTORS
 FEET
 PNC FORMAT

000098 0 0003 0001 000 000000 000000

000164 0 0006

000230 0 0010

000295 0 0013

000361 0 0016

000574 0 0027

000738 0 0035

000902 0 0044

001066 0 0052

001230 0 0060

001394 0 0068

001558 0 0076

001722 0 0085

002871 0 0142

003691 0 0182

005741 0 0274

007382 0 0335

011480 0 0423

014760 0 0477

018040 0 0523

021320 0 0567

024600 0 0611

999999 0 0610

000750 0 0000 0003 000 000000 000000

000800 0 0009

000900 0 0005

001000 0 0006

001250 0 0010

002400 0 0000

000100 0 1005 0004 000 000000 000000

000200 0 1004

000300 0 1006

000400 0 1002

000650 0 1003

000700 0 1007

000800 0 1004

000900 0 1010

001200 0 1005

001300 0 1010

002100 0 1008

002300 0 1009

002400 0 0000

Fathometer # 542

H-9234

* NOTE:

TO BE USED WITH THE FOLLOWING
 BOATSHEETS:

FA 5-1-71-H-9234

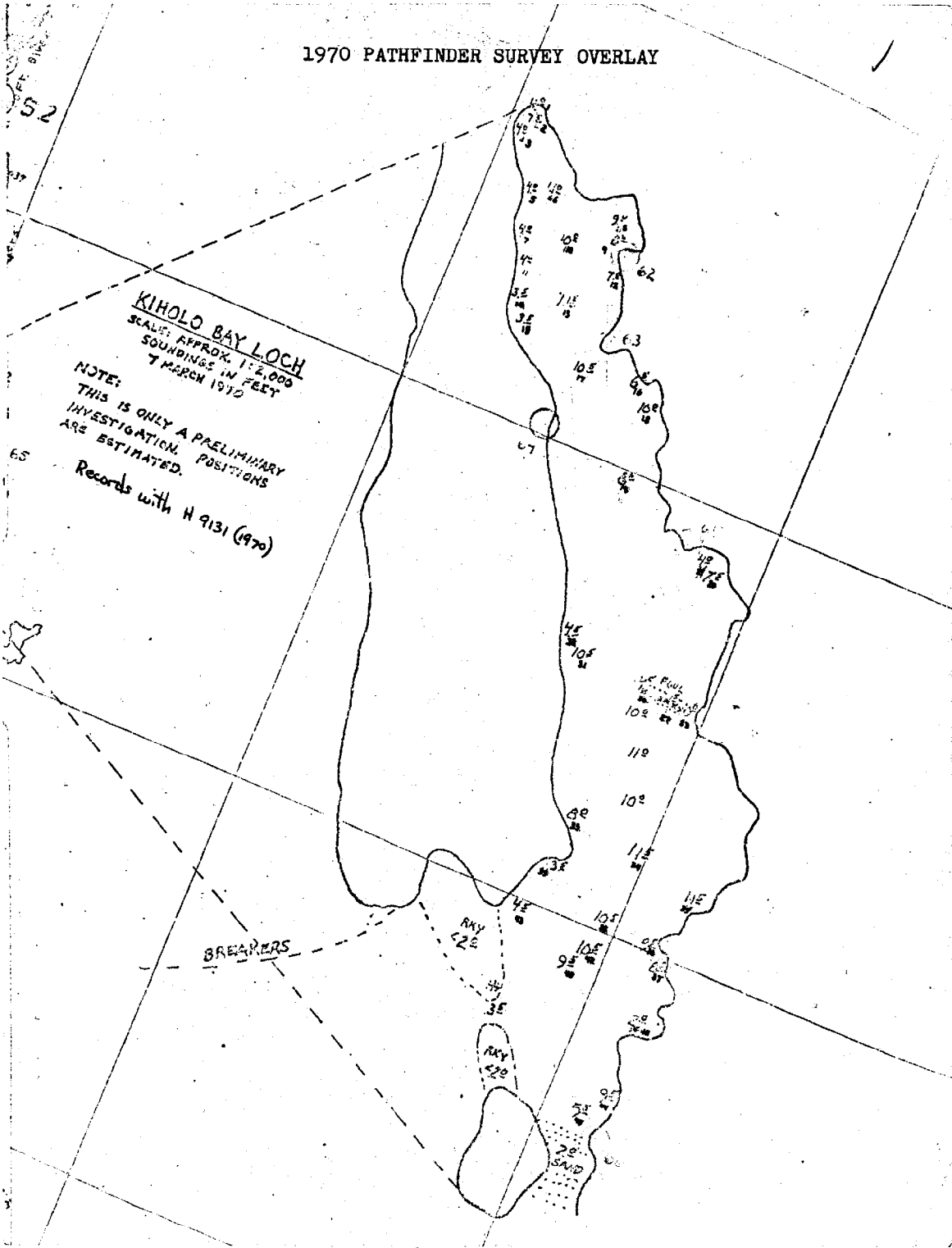
FA 5-2-71 H-9235

FA-5-3-71 H-9236

Phase Corrections for Fathometer Ser. #533

Phase correction for Fathometer Ser. # 561

1970 PATHFINDER SURVEY OVERLAY



KIHOLO BAY LOCH
SCALE: APPROX. 1" = 2,000'
SOUNDINGS IN FEET
7 MARCH 1970

NOTE:
THIS IS ONLY A PRELIMINARY
INVESTIGATION. POSITIONS
ARE ESTIMATED.

Records with H 9131 (1970)

BREAKERS

RY
22

RY
20

70
SAND

LE FOU
102

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TIDE NOTE

Two portable Bristol bubbler tide gages were installed and operated in connection with launch hydrography during the survey. A 0-10 foot bubbler gage was installed at Kawaihae Harbor, Hawaii Island, Hawaii (latitude $20^{\circ}02.30'$ N., longitude $155^{\circ}49.85'$ W.) on 27 September 1971 and was removed on 18 November 1971. A similar bubbler gage was installed at Kailua, Hawaii Island, Hawaii (latitude $19^{\circ}38.52'$ N., longitude $155^{\circ}59.97'$ W.) on 29 September 1971 and was removed on 18 November 1971. Hourly heights were scanned and checked by ship's personnel for both gages and the data was forwarded with the marigrams to C33, Rockville, Maryland, for analysis.

3/6/74

U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Pacific Marine Center

Hourly heights are approved for Form 362

Tide Station Used (NOAA Form 77-12): Kawaihae Harbor, Hawaii Is.

Period: 28 September - 18 November 1971

HYDROGRAPHIC SHEET: H-9236

OPR: 419

Locality: West Coast of Hawaii

Plane of reference (mean lower low water): 2.1 feet

Height of Mean High Water above Plane of Reference is 1.6 feet

Remarks: Zone direct.

 THURLOW

Chief, Tides Branch

GEOGRAPHIC NAMES

Survey No.

Name on Survey

On Chart No. ✓
 On previous survey
 On U. S. Quadrangle Maps
 From local information
 On local Maps
 P. O. Guide or Map
 Rand McNally Atlas
 U. S. Light List ✓


	A	B	C	D	E	F	G	H	K	
Hou Point ✓										1
Kiholo ✓										2
Waiacopi ✓										3
Kiholo Bay ✓										4
Hawaii ✓										5
Pacific Ocean										6
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Approved
 Chan. E. Harrington
 Staff Geographer
 6 Feb 1975

APPROVAL SHEET

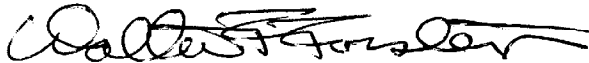
The smooth sheet has been inspected, is complete, and meets the requirements of the General Instructions for automated surveys and the Hydrographic Manual. (Note: All exceptions are listed in the Verifier's Report)

Examined and approved,



James S. Green
Supervisory Cartographic Technician

Approved and forwarded,



Walter F. Forster, Cdr., NOAA
Chief, Processing Division
Pacific Marine Center

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. H-9236

RECORDS ACCOMPANYING SURVEY: To be completed when survey is registered.

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET & PNO	1 ✓	BOAT SHEETS	1 ✓
DESCRIPTIVE REPORT	1 ✓	OVERLAYS	7 ✓

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES			1 ✓			
CAHIERS	1 ✓					
VOLUMES	2 ✓					
BOXES						

T-SHEET PRINTS (List)

~~1 copy of Enlargement of Advance of 10528~~

SPECIAL REPORTS (List)

OFFICE PROCESSING ACTIVITIES

The following statistics will be submitted with the cartographer's report on the survey

PROCESSING ACTIVITY	AMOUNTS			
	PRE-VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				323
POSITIONS CHECKED		315	43	
POSITIONS REVISED		4	—	
DEPTH SOUNDINGS REVISED		193	39	
DEPTH SOUNDINGS ERRONEOUSLY SPACED		0	5	
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		0	—	
	TIME (MANHOURS)			
Verification of Control	8		2	
Verification of Positions		24	3	
Verification of Soundings		19	7	
Smooth Sheet Compilation		26	—	
ALL OTHER WORK		3	38	
TOTALS		72	50	
PRE-VERIFICATION BY For <i>J. L. Stringham</i> James L. Stringham	BEGINNING DATE 10/12/73	ENDING DATE		
VERIFICATION BY For <i>J. L. Stringham</i> James L. Stringham	BEGINNING DATE 11/19/73	ENDING DATE 10/11/74		
REVIEW BY <i>D.E. Neumann</i>	BEGINNING DATE 8-5-75	ENDING DATE		

Insp. R.W. Derkavian / Carstens 36r 11/19/76 117hrs 9-10-76

REGISTRY NO. H-9236

The Computer and Excess Sounding Cards for this survey have not been corrected to reflect the changes made to the Computer Card and Excess Card Printouts at this time of the review.

When the cards have been updated to reflect the final results of the survey, the following shall be completed:

CARDS CORRECTED

DATE _____ TIME REQUIRED _____ INITIALS _____

REMARKS:

REGISTRY NO. _____

The magnetic tape containing the data for this survey has not been corrected to reflect the changes made during evaluation and review.

When the magnetic tape has been updated to reflect the final results of the survey, the following shall be completed:

MAGNETIC TAPE CORRECTED

DATE _____ TIME REQUIRED _____ INITIALS _____

REMARKS: Significant information transferred from the inset on H-9131(1472) to the present survey should be digitized and added to the ~~data bank~~ magnetic tape containing the data for H-9236

H-9236

Items for Future Presurvey Reviews

The development of bottom configuration on the present survey is considered adequate.

<u>Position Index</u>		<u>Bottom Change Index</u>	<u>Use Index</u>	<u>Resurvey Cycle</u>
<u>Lat.</u>	<u>Long.</u>			
195	1555	2	1	50 years

OFFICE OF MARINE SURVEYS AND MAPS
MARINE SURVEYS DIVISION
MODIFIED HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-9236

FIELD NO. FA-5-3-71

Hawaii, West Coast of Hawaii, Kiholo Bay

SURVEYED: October 29 through November 1, 1971

SCALE: 1:5,000

PROJECT NO.: OPR-419

SOUNDINGS: DE 723 Depth Recorders
and Pole Soundings

CONTROL: Sextant Fixes on
Shore Signals

Chief of Party	R. H. Houlder
Surveyed by	E. G. Wood
.....	F. B. Arbusto
Automated Plot by	Gerber Digital Plotter (PMC)
Verified by	H. E. Clark
.....	J. L. Stringham
Reviewed by	D. E. Neumann
.....	Date: August 15, 1975
Inspected by	R. W. DerKazarian

1. Control and Shoreline

The source of control is adequately given in part F of the Descriptive Report.

The shoreline originates with unreviewed Class 1 map T-12538 (1963-1970), modified by the hydrographer's changes in red. The mean high water line is shown for guidance only; the true position is shown on the topographic survey previously mentioned.

2. Hydrography

A. Depths at crossings are in good agreement.

B. The usual depth curves were adequately delineated. Dashed depth curves have been added to emphasize lesser depths in areas of deeper soundings.

C. The development of bottom configuration and investigation of least depths are considered adequate except for the following:

	<u>Latitude</u>	<u>Longitude</u>
(1) 14-foot sounding	19°51.75'	155°56.05'
(2) 5 RK	19°51.57'	155°55.97'
(3) 5 RK	19°51.65'	155°55.77'

3. Condition of Survey

The field work, various sounding printouts, smooth plotting, and Descriptive Report are adequate and conform to the requirements of the Hydrographic Manual supplemented by the Instruction Manual - Automated Hydrographic Surveys, except for the following:

A. Rescanning of fathograms by the reviewer in many instances was required to provide better bottom configuration, location of pinnacle rocks, and deletion of strays caused by a dirty stylus needle.

B. The descriptions of all the bottom samples were corrected and their positions replotted during review.

C. Numerous foreshore features such as rock awash elevations, foul limits, etc., not adequately transferred or reduced from the topographic manuscript, volumes, or raw data source were revised during review.

D. In several instances, soundings originating from fathometer traces in the initial, were deleted during review.

E. In some instances least depths were not determined by hand lead or drift soundings.

F. Sextant locations for signals 57 and 63 were not accomplished in accordance with the Hydrographic Manual; two sextant cuts were used with no check angles and signal 57 was used to locate 63.

G. The distortion point was labeled at the time of review; also, the distortion points should be at a right angle to one another to determine the dimensional stability in both directions.

4. Junctions

An adequate junction was effected with H-9131 (1970) to the west.

5. Comparison with Prior Surveys

H-5006 (1929) 1:20,000

This prior survey covers the area of the present survey. In general, depths are 1-3 feet shoaler on the present survey. This difference is attributed to surveying methods. A sunken rock at latitude 19°51.84', longitude 155°55.56' and several soundings and coral bottom characteristics were brought forward from H-5006.

With the addition of the aforementioned items, the present survey is adequate to supersede the prior survey within the common area.

6. Comparison with Chart 19043 (formerly C&GS 4140), latest print date
December 29, 1973

A. Hydrography

The charted hydrography originates with the previously discussed prior survey which needs no further consideration, supplemented by partial application of the boat sheet and verified smooth sheet of the present survey.

The present survey is adequate to supersede the charted information in the common area.

B. Aids to Navigation

There are no aids to navigation on the present survey.

7. Compliance with Instructions

This survey adequately complies with the Project Instructions.

8. Additional Field Work

This is a good basic survey and no additional field work is recommended.

Examined and Approved:

 a. g. Pateil
Chief
Marine Surveys Division

 R. H. Marshall
Associate Director
Office of Marine Surveys
and Maps

