

8793

Diag. Cht. No. 4116-2.

NOAA FORM 76-35A	
U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SURVEY	
<p align="center">DESCRIPTIVE REPORT (HYDROGRAPHIC)</p>	
Type of Survey	Hydrographic
Field No.	FF-10-5-63
Office No.	H-8793
<p align="center">LOCALITY</p>	
State	Hawaii
General Locality	Maui Island - South Coast
Locality	Wekea Pt. to Nuu
<p align="center">1963-64</p>	
<p align="center">CHIEF OF PARTY H. J. Seaborg</p>	
<p align="center">LIBRARY & ARCHIVES</p>	
DATE	10-6-70

8793

H-8793

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.

PF-10-5-63

State Hawaii

General locality Maui Island - South Coast

Locality Wekeha Pt. to Nuu
Southcentral coast

Scale 1:10,000

Date of survey May 15, Oct 8-12, 63; Mar 16-19

Instructions dated 25 Oct 1960, amended 14 Mar 1961, supplemented 9 Jan '62, 3 Jan & 17 Dec '63
1964

Vessel USC&GS Ship Pathfinder

Chief of party H.J. Seaborg

Surveyed by H.J. Seaborg, S.L. Hollis, R. Houlder, C. Nixon, M. Geiger, W. Newton

Soundings taken by echo sounder, ~~and by wire~~

Fathograms scaled by Ship's personnel

Fathograms checked by Ship's personnel

Protracted by P.M. Schidrich

Soundings penciled by P.M. Schidrich

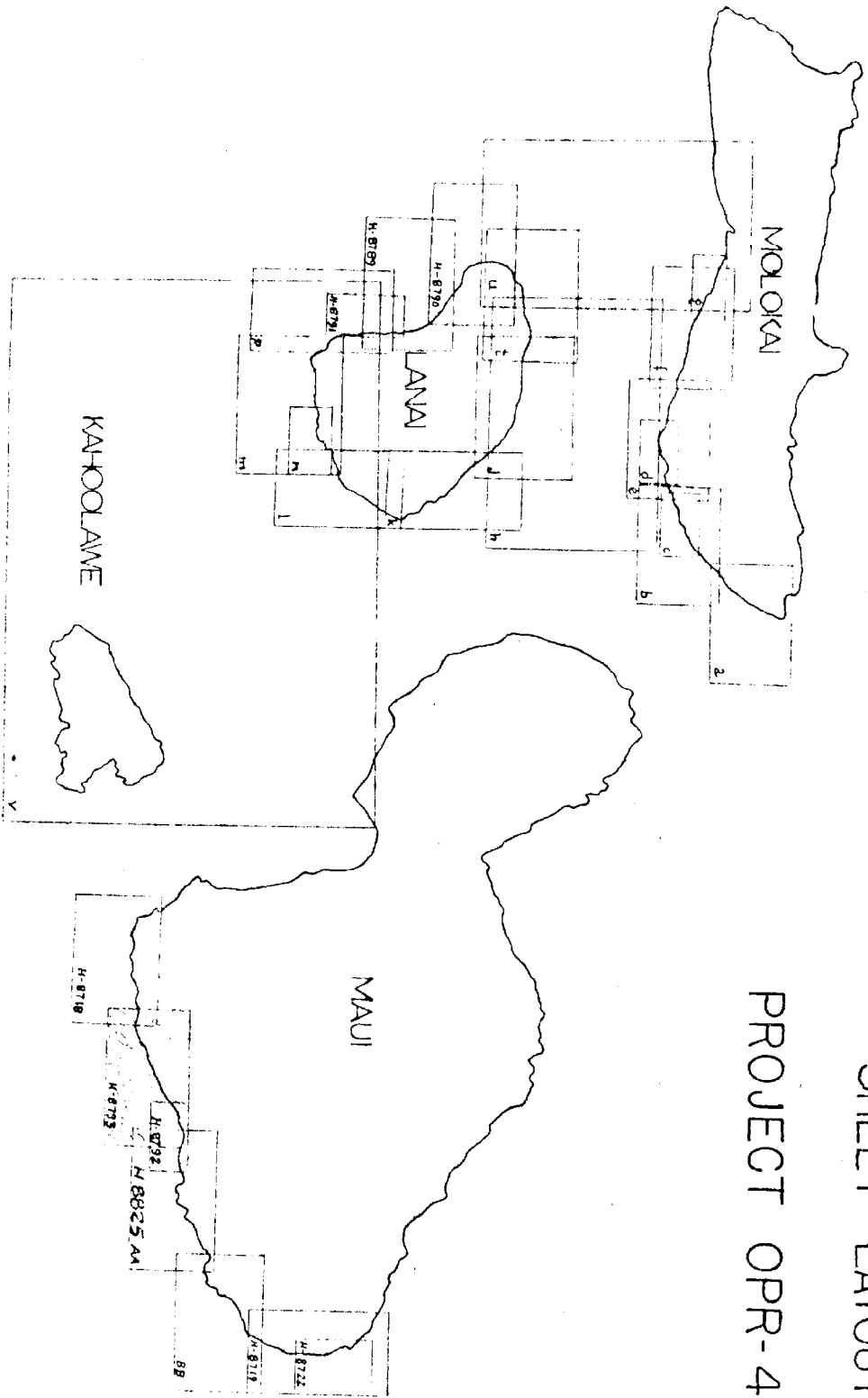
Soundings in fathoms ~~xxx~~ at ~~MLLW~~ MLLW

REMARKS:

XWH 2/17/92

SHEET LAYOUT

PROJECT OPR-419



DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SURVEY H-8793 (PF 10-5-63) 1963-64
SOUTHCENTRAL COAST, MAUI ISLAND, HAWAII

SCALE: 1:10,000
1963-1964

H.J. Seaborg
Captain, USC&GS
Chief of Party

A. PROJECT

This survey is part of Project OPR-419 with original instructions dated 25 Oct. 1960, amended 14 Mar. 1961, and supplemental instructions dated 9 Jan. 1962, 3 Jan. 1963 and 17 Dec. 1963

B. AREA SURVEYED

Sheet PF ^(H-8793) 10-5-63, located on the southcentral coast of Maui island, east of Hanamanioa Light, covers the area between 20-38³-00 N to 20-38-00 N lat. and 156-11-30 W to 156-18-30 W. The work commenced on May 15, 1963, discontinued on that date, began again on Oct. 8, 1963 and finished for the year on Oct. 12, 1963. In 1964 the work began on Mar. 16 and continued till March 19 at which time the sheet was completed.

This sheet junctions with PF 10-1-63 on the west and PF ^{H-8825 (1963-65)} 10-6-63 on the east. Sheet PF ^{H-8718 (1963-66)} 5-2-64 (Nuu Landing) ^{H-8792 (1964)} at 1:5,000 scale is partially within the limits of this sheet (northeast corner), and H-9016 (1969) to the south.

C. SOUNDING VESSEL

	color
Ship Pathfinder	blue upper case letters
Motor Launch #1	blue lower case letters ✓
" " #2	violet lower case letters
" " #3	green lower case letters

D. SOUNDING EQUIPMENT

All depths were obtained using the Raytheon type DE-723 echo sounder in all launches and in conjunction with the ^{EDO-185} PDR on the Pathfinder. ✓

Vessel	Day letter	Fathometer #
Pathfinder	A-F	#557
ML #1	a-c	#143 141
ML #2	a-c	#145 142
ML #3	a-c	#140

Three types of corrections were applied to the soundings obtained. The final fathometer corrections comprised of velocity, initial and draft correction are tabulated on separate pages in the back of this report.

The velocity corrections were determined graphically from information obtained from oceanographic stations observed on March 8 1963 and March 3 1964 using the standard Nansen bottle casts with protected and unprotected thermometers with an assumed calibration velocity of 800 fathoms per second.

The initial of the echo sounders on the launches

D. SOUNDING EQUIPMENT (cont.)

was set at a +0.0 depth. Any fluctuation from this setting was entered in the record volumes as the initial correction. The draft correction was determined from standard bar check data by comparing the actual or measured depth with the depth read on the fathometer. Bar checks were taken either once or twice a day at depths of 1.0, 2.0 and 4.0 fathoms.

E. SMOOTH SHEET

The smooth sheet was ruled in the Washington office on 28 Oct. 1964 and received in the field on 2 Nov. 1964. ✓

The size of the smooth sheet as received aboard was 42" x 60".

F. CONTROL

Visual Control was used exclusively throughout the survey. Photo-hydro stations on 1:10,000^{adv.} manuscripts T-11933, T-11934 were picked directly thru on to a smooth sheet. ✓ Photo-hydro stations on 1:5,000^{adv.} manuscript T-11935 were scaled and replotted on the smooth sheet. The only triangulation station on the sheet is Shore D (HGS). There are no hydrographic stations on the sheet.

G. SHORELINE See Review Par. 2

Approximately 75% of the shoreline was transferred to the smooth sheet using blue line tracing of the 1:10,000^{adv.} manuscripts. ✓

G. SHORELINE (cont.)

The remaining 25% of shoreline on the eastern edge of the sheet was transferred using the ozalid copy of 1:5,000 advanced manuscript T-11935 and the Salzman projector in the processing office of the Seattle Regional office.

The shoreline was verified by means of an inspection carried out in a launch. Close inshore hydrography was accomplished with inshore runs by several launches on two days. Shoreline details were found to be accurate except in several cases, as noted below. A short segment of the high water mark, as noted in the boat sheets, was incorrect and was inked in red dashed lines on the smooth sheet. ^{Changed to solid red during verification.} As noted on the boat sheets, several rocks were found that were not located on the manuscripts. These were plotted on the smooth sheet. Rocks verified by shoreline inspection were inked. No additions or corrections to the foul line as noted in sounding volumes and notes on boat sheets were made on the smooth sheet. Rocks or foul areas noted in sounding volumes as being passed while doing hydrography were not plotted because of the uncertainty of the true course of the launch on the shoreline run.

The low water line was determined as close as possible. This was difficult because of the small range of the tide, the rough characteristic of the shoreline and heavy surf conditions which predominate along shore most of the time. The rocks at the following locations were not found during shoreline inspection.

G. SHORELINE (cont.)

20°-36'-46"N.Lat. }
156°-14'-37"W.Long. } Retain

20°-36'-41"N.Lat. }
156°-14'-~~38~~⁴⁶"W.Long. } Retain

20°-36'-11"N.Lat. ✓
156°-15'-38"W.Long.

20°-36'- 9"N.Lat. ✓
156°-15'-40"W.Long.

20°-35'-54"N.Lat. ✓
156°-16'-~~28~~⁷"W.Long.

20°-35'-54"N.Lat. ✓
156°-16'-28"W.Long. ✓

20°-35'-47"N.Lat. ✓
156°-16'-45"W.Long.

20°-35'-47"N.Lat. ✓
156°-16'-46"W.Long.

H. CROSSLINES

The percentage of crosslines was about 10% of the total amount of hydrography done. The three closest in-shore lines run by the ship cross the launch lines on most of the sheet. ✓

I. JUNCTIONS

Satisfactory agreement was obtained at all junctions with the crosslines run and between launch lines and ship lines. At several junctions there were differences of between 1-2 fathoms but these differences are credited to the irregular bottom and to the large swells that occurred at varying times during the hydrography. ✓

J. COMPARISONS WITH PRIOR SURVEYS

No pre-survey review items were included in the survey area. Prior survey for the area was H-3581 at 1:20,000 scale (1913-1914). ✓

There was wide discrepancy between the prior survey and this survey. Prior survey soundings tended to vary from 2-3 fathoms deeper to 5-6 fathoms shoaler. Due to the larger number of discrepancies no individual discrepancy is listed. These discrepancies were scattered and did not form any particular pattern.

K. COMPARISON WITH THE CHART

This survey was compared with the largest scale chart of the area. C&GS chart 4116 scale 1:250,000 revised 6/11/62 which contained only 15 soundings in the area of the survey. These were in as good agreement with the smooth sheet as can be determined because of the large difference in scale. ✓

L. ADEQUACY OF SURVEY

This survey is complete and adequate to supersede prior surveys for charting. However, some splits do exist, but these are considered insufficient reason to return to the area. ✓

M. AIDS TO NAVIGATION

There were no fixed or floating aids to navigation in the survey area. ✓

N. STATISTICS

The following statistics are for 1963 and 1964 combined. ✓

<u>Vessel</u>	<u>No. of Pos.</u>	<u>Miles of Sdg. line</u>	<u>BTM S.</u>
Pathfinder	410	80.9	26
Launch #1	277	31.6	
Launch #2	274	27.6	
Launch #3	<u>321</u>	<u>36.7</u>	<u>1</u>
totals	1282	176.8	27

O. MISCELLANEOUS

The splits mentioned in section "L" are close in-shore and should not be considered vital for a complete survey. ✓

P. RECOMMENDATIONS

That this survey be accepted and supersede all prior surveys in this area. ✓

Q. REFERENCES TO REPORTS

Seasons Report

Forwarded ✓

Respectfully Submitted

Peter M. Schidrich

Peter M. Schidrich
Lt. (jg) USC&GS

TIDE CORRECTORS: Sheet PF 10-5-63 H-8793

Reference stations: Portable gages at Hana Bay and La Perouse Bay, Maui.

5/15/63		A DAY	SHIP
from	to	corr.	corr.
0700	1100	-0.2	-0.2

10/8/63		B DAY	SHIP
from	to	corr.	corr.
1130	1135	-0.3	-0.4
1135	1600	-0.2	-0.2

10/9/63		C DAY	SHIP
from	to	corr.	corr.
0800	1200	-0.4	-0.4
1200	1400	-0.3	-0.4
1400	1600	-0.2	-0.2

10/10/63		D DAY	SHIP
from	to	corr.	corr.
0600	0715	-0.2	-0.2
0715	0900	-0.3	-0.4
0900	1325	-0.4	-0.4
1325	1515	-0.3	-0.4
1515	1600	-0.2	-0.2

10/11/63		E DAY	SHIP
from	to	corr.	corr.
0600	0630	-0.1	-0.2
0630	0820	-0.2	-0.2
0820	0945	-0.3	-0.4
0945	1435	-0.4	-0.4
1435	1500	-0.3	-0.4

10/12/63		F DAY	SHIP
from	to	corr.	corr.
0700	0735	-0.1	-0.2
0735	0920	-0.2	-0.2
0920	1100	-0.3	-0.4
1100	1500	-0.4	-0.4

3/16/64		a day	L # 2
		b day	L # 1
1500	1520	-0.3	-0.4
1520	1854	-0.4	-0.4

3/17/64		c day	L # 1
		a day	L # 3
0300	0602	-0.4	-0.4
0602	0718	-0.3	-0.4
0718	0840	-0.2	-0.2
0840	1000	-0.1	-0.2
1000	1300	-0.0	-0.0
1300	1400	-0.1	-0.2
1400	1500	-0.2	-0.2
1500	1535	-0.3	-0.4
1535	2025	-0.4	-0.4

3/18/64		b day	L # 2
		b day	L # 3
0700	0830	-0.2	-0.2
0830	1100	-0.1	-0.2
1100	1240	-0.0	-0.0
1240	1420	-0.1	-0.2
1420	1540	-0.2	-0.2
1540	1650	-0.3	-0.4
1650	2115	-0.4	-0.4

3/19/64		c day	L # 2
		c day	L # 3
0000	0800	-0.3	-0.4
0800	0940	-0.2	-0.2
0940	1500	-0.1	-0.2
1500	1630	-0.2	-0.2
1630	1730	-0.3	-0.4
1730	2320	-0.4	-0.4

All correctors are in fathoms.

Note: All tide correctors were applied according to the hydro manual Sec. 5-100.

ABSTRACT OF FATHOMETER CORRECTIONS

H-8793 (PF- 10-5-63)

FATHOMETER CORRECTION	FATH. NO.
+0.3	143
+0.3	"
+0.4	145
+0.4	"
+0.4	"
+0.4	140
+0.3	"
+0.3	"

(SHIP) PATHFINDER DRAFT CORRECTIONS

day letter	date	correction	fathometer No.
A	5-15-63	+0.4	557
B	110-8-63	+0.4	"
C	10-9-63	+0.4	"
D	10-10-63	+0.3	"
E	10-11-63	+0.3	"
F	10-12-63	+0.3	"

USC&GS SHIP PATHFINDER

OSS-30

H. J. Seaborg, Cmdg

VELOCITY CORRECTIONS

Hawaiian Islands

OPR-419

Maui Island

To be applied to all hydrography accomplished during the 1963 season.

RANGE	CORR.	RANGE	CORR.
FROM - TO (fms)	(fms)	FROM - TO (fms)	(fms)
0.0 - 2.9	+0.0	50.0 - 53.5	+2.2
3.0 - 5.3	0.1	54.0 - 58.0	2.4
5.4 - 7.5	0.2	58.5 - 63.0	2.6
7.6 - 9.5	0.3	63.5 - 67.5	2.8
9.6 - 11.6	0.4	68.0 - 72.0	3.0
11.8 - 14.0	0.5	72.5 - 76.5	3.2
14.2 - 16.2	0.6	77.0 - 81.5	3.4
16.4 - 18.4	0.7	82.0 - 86.5	3.6
18.6 - 20.8	0.8	87.0 - 91.5	3.8
21.0 - 23.0	0.9	92.0 - 96.5	4.0
23.2 - 25.2	1.0	97.0 - 102	4.2
25.4 - 27.4	1.1	103 - 114	4.5
27.6 - 29.6	1.2	115 - 128	5.0
29.8 - 31.0	1.3	129 - 144	5.5
31.5 - 36.0	1.4	145 - 172	6.0
36.5 - 40.5	1.6	*174 - 230	7.0
41.0 - 45.0	1.8	232 - 296	8.0
45.5 - 49.5	2.0	298 - 388	9.0

* values from this depth onward are based on values from 1962 velocity curve.

USC&GSS PATHFINDER
OSS-30
H.J. Seaborg, Comdg.

VELOCITY CORRECTIONS
Hawaiian Islands
Maui and Lanai Islands

To be applied to all hydrography accomplished in February and March 1964.

Correction to Depth

+0.0 fm	3.0 fm
0.1	5.5
0.2	7.5
0.3	10.0
0.4	12.0
0.5	14.4
0.6	16.4
0.7	19.0
0.8	21.0
0.9	23.2
1.0	25.4
1.1	27.6
1.2	30.0
1.3	32.0
1.4	36.5
1.6	41.0
1.8	45.5
2.0	50.0
2.2	54.5

Correction to Depth

+2.4 fm	58.5 fm
2.6	63.0
2.8	67.5
3.0	72.0
3.2	76.5
3.4	81.0
3.6	85.5
3.8	90.5
4.0	96.0
4.2	100.0
4.4	104.0
4.5	111.0
5.0	122.0
5.5	144.0
6.0	190.0
7.0	310.0
8.0	366.0
9.0	400.0

LIST OF STATIONS ON H-8793 (PF-10-3-63)

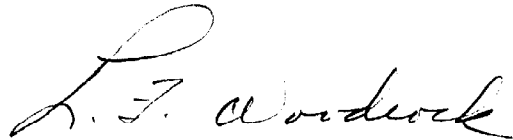
NAME USED IN HYDROGRAPHIC SURVEY	ORIGIN OF STATION
ACE	T-11933
ALP	T-11934
BAG	T-11934
BIL	T-11935
BOX	T-11933
CAB	T-11933
DIP	T-11933
DIX	T-11935
EAT	T-11933
EGG	T-11935
FLY	T-11933
FOG	T-11933
GAS	T-11933
GAY	T-11932
GAD	T-11935
HIS	T-11933
HUT	T-11933
HOP	T-11935
ICE	T-11933
IVY	T-11935
JAP	T-11933
JOY	T-11935
JUG	T-11933
KEY	T-11935
KID	T-11933
LAB	T-11935
LAD	T-11933
LEO	T-11935
MAG	T-11935
MOP	T-11933
NAT	T-11935
NUT	T-11933
OAK	T-11935
ODD	T-11933
POT	T-11933
QUO	T-11933
RIP	T-11933
SAD	T-11933
SHORE* D (HGS) TRIANGULATION	T-11933
TAN	T-11933
USE	T-11933
VAN	T-11933
ZOO	T-11934
YET	T-11934

APPROVAL SHEET

REGISTRY NO. 8793 (PF-10-5-63)

The field work on this sheet was inspected where conditions permitted. The records and smooth sheet have been examined and are approved.

The survey is considered complete and adequate for charting purposes and no additional field work is recommended.



L. F. Woodcock

Cdr., C&GS

Comdg. Ship PATHFINDER

Approval Sheet

The smooth sheet has been inspected and meets the requirements of the Hydrographic Manual. (Note: Exceptions are noted in the verifier's report.)

Examined and Approved

William M. Martin

William M. Martin
Supervisory Carto. Tech.

Approved and Forwarded

K. William Jeffers
K. William Jeffers, CDR, USESSA
Chief, Processing Division, PMC

9/30/70

TIDE NOTE FOR HYDROGRAPHIC SHEET

4/27/65

Seattle Regional Office

~~NOV 1964~~

Plane of reference approved in
9 volumes of sounding records for

HYDROGRAPHIC SHEET H-8793

Locality: Southeast Maui Island, Hawaiian Islands

Chief of Party: H. J. Seaborg

Plane of reference is mean lower low water

Tide Station Used (Form C&GS-681):

La Perouse Bay, Maui Island, Hawaii
Hana Bay, Maui Island, Hawaii

Height of Mean High Water above Plane of Reference is as follows:

La Perouse Bay	1.7 Ft.
Hana Bay	2.0 Ft.

Remarks

J. M. Symons

Chief, Tides and Currents Branch

TIDE NOTE

Corrections for tides were obtained from two portable automatic gages at La Perouse Bay, Maui Island (20° - 36.2 N. Lat., 156° - 25.4 W.Long.) and Hana Bay, Maui Island (20° - 45.5 N.Lat., 155° - 59.1 W.Long). No corrections were made for range or time. Mean lower low water for both gages was at 0.7 water on the tide staffs for the entire time of survey. The tide stations are in the 150 degree time meridian and the hourly heights of the tide were obtained from abstracts taken off the tide gage marigram.

GEOGRAPHIC NAMES

Survey No. H-8793

Name on Survey	Source of Name								U. S. Light List
	A	B	C	D	E	F	G	H	
	On Chart No.	On previous survey No.	On U. S. quadrangle Maps	From local information	On local Maps	P. O. Guide or Map	Rand McNally Atlas	U. S. Light List	
<i>Alenuihaha Channel</i>									1
<i>Huakini Bay</i>									2
<i>Kahawaihapapa Point</i>									3
<i>Maui Island</i>									4
<i>Nakapuu Point</i>									5
<i>Pakowai Point</i>									6
<i>Wekea Point</i>									7
<i>Kiakeana Point</i>								T-11933	8
<i>Nuu</i>	Ch 4115							T-11933	9
									10
									11
									12
									13
									14
									15
									16
									17
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									20
									21
									22
									23
									24
									25
									26
									27

*K. Spence
K. Spence*

PREPARED BY

Frank W. Ricketts
CARTOGRAPHIC TECHNICIAN

APPROVED BY

A. Joseph Wright
CHIEF GEOGRAPHER

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. H-8793 (PF-10-5-63)

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	BOAT SHEETS	2
DESCRIPTIVE REPORT	1	OVERLAYS	0

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES						
CAHIERS	1					
VOLUMES	9					
BOXES						

T-SHEET PRINTS (List)
T-11933, T-11934 & T-11935

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				1282
POSITIONS CHECKED		575	42	
POSITIONS REVISED		20	12	
DEPTH SOUNDINGS REVISED or added		52	28	
DEPTH SOUNDINGS ERRONEOUSLY SPACED		about 2 dozen	4	
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		None	0	
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		4	27	
JUNCTIONS		10	35	
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		12	20	
SPECIAL ADJUSTMENTS		0	75	
ALL OTHER WORK		85	30	
TOTALS		111	187 _{x12}	
PRE-VERIFICATION BY	BEGINNING DATE		ENDING DATE	
VERIFICATION BY <u>Domelin A.J. Pam</u>	Aug 8th 1969		Sept 12, 1969	
REVIEW BY <u>Robert W. Derkazarian</u>	July 8, 1974		Aug 21, 1974	

Insp. Fannie B. Powers 44 hrs 10-7-74
carstens 154r 10/24/74

H-8793

Items for Future Pre-Survey Review

The future surveys should include determination of a least depth on a 3.8-fathom shoal located in lat. 20°35.48', long. 156°17.15', and obtain bottom samples from the shoreline to at least 40 fathoms.

The bottom is apparently rather stable although some shifting of sand probably occurs.

<u>Position Index</u>		<u>Bottom Change</u>	<u>Use</u>	<u>Resurvey</u>
<u>Lat.</u>	<u>Long.</u>	<u>Index</u>	<u>Index</u>	<u>Cycle</u>
203	1562	1	1	50 Years

OFFICE OF MARINE SURVEYS AND MAPS

MARINE CHART DIVISION

HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-8793

FIELD NO. PF-10-5-63

Hawaii, Maui Island, Wekea Point to Nuu

SCALE: 1:10,000

PROJECT NO. OPR-419

SURVEYED: May 15, 1963
October 8 - 12, 1963
March 16 - 19, 1964

SOUNDINGS: DE 723, and EDO 185
Depth Recorders

CONTROL: Visual Fixes on
Shore Signals

Chief of Party H. J. Seaborg
Surveyed by R. H. Houlder
..... R. K. Hanson
..... M. L. Geiger
..... R. A. Rader
..... S. Z. Bezuk
..... W. L. Newton III
..... C. H. Nixon
..... R. R. Williamson
..... K. V. Marovich
..... R. C. Westphall
..... W. J. Cooke
Protracted by P. M. Schidrich
Soundings Plotted by P. M. Schidrich
Verified and inked by C. A. Pauw
Reviewed by R. W. Derkazarian
Date: August 21, 1974
Inspected by F. B. Powers

1. Description of the Area

This is a survey along the south coast of Maui Island. The bottom is irregular in the inshore areas where there are numerous foul areas and rocks. In depths greater than 10 fathoms the bottom slopes evenly to maximum depths of over 300 fathoms approximately 3 miles offshore.

The predominant bottom characteristics are sand, coral, and volcanic ash.

2. Control and Shoreline

The origin of control is adequately covered in Part F of the Descriptive Report.

The shoreline originates with reviewed photogrammetric manuscripts T-11933, T-11934, and T-11935 of 1960-63. Minor shoreline revisions in red were made by the hydrographer. Several islets and rocks awash were also retained from the boat sheet which were readily apparent on the photographs but had not been shown on the topographic surveys.

Several islets and rocks awash on the topographic surveys were discredited by the hydrographer during his investigation. These do not appear on the photographs and are considered to be non-existent. No indication of these are found on our prior surveys or G.S. Quadrangles. They are to be considered in error and should be disregarded. A list of these are included in the Descriptive Report.

3. Hydrography

A. Depths at crossings are in good agreement.

B. The usual depth curves were adequately delineated. The low water line was not developed because of the small range of tide and the foul nature of the inshore area. Several brown curves were added to emphasize important shoal features.

C. The development of the bottom configuration and the investigation of least depths are considered adequate except for the 3.8 fathom shoal found in lat. $20^{\circ}35.48'$, long. $156^{\circ}17.15'$, which was not developed.

D. Bottom samples were not obtained for this survey in the inshore areas, but were transferred from prior surveys H-3519 and H-3581 both of 1913-14. With these additions there still remains a deficiency of bottom samples within the 40-fathom curve to shore.

4. Condition of the Survey

The field work, sounding records, smooth plotting and Descriptive Report conform to the requirements of the Hydrographic Manual except for the items discussed in Paragraph 3 and the items mentioned below:

A. Several stamps in the sounding records were not completed according to the Hydrographic Manual requirements, while some others were left out entirely.

B. The sounding lines were spaced in accordance with the Hydrographic Manual but in some areas additional lines would have been appropriate to give an adequate portrayal of the bottom.

C. The verifier added a positive corrector to survey depths to compensate for a stylus length error where the corrector was necessary.

D. Inaccurate plotting of the inshore sounding line parallel to the shoreline was corrected by the reviewer.

5. Junctions

Adequate junctions were effected with H-8718 (1963-66) on the west, H-9016 (1969) on the south, H-8825 (1963-65) on the east, and H-8792 (1964) on the northeast.

6. Comparison with Prior Surveys

- A. H-3517 (1913) 20,000
H-3519 (1913-14) 60,000

These prior surveys cover small portions on the present survey. A comparison between H-3517 and the present survey reveals no significant changes. A comparison with H-3519 shows some large discrepancies in waters deeper than 40 fathoms. These differences are attributed to inaccuracies in tube soundings on the prior survey.

- B. H-3581 (1913-14) 20,000

This prior survey covers most of the area of the present survey. A comparison between the prior and present survey

depths reveals variable differences. In depths less than 15 fathoms the present depths are as much as 2-3 fathoms shoaler on steep slopes while in deeper water there is generally good agreement. These differences are attributed to the different survey methods.

Several shoal soundings and rocks from the prior survey not adequately developed on the present survey have been carried forward to supplement the present survey information. Numerous bottom characteristics were also brought forward.

With these additions the present survey is adequate to supersede the prior surveys within the common area.

7. Comparison with Chart 4115 (latest print date Oct. 13, 1973)

A. Hydrography

The charted hydrography originates exclusively with the previously discussed prior surveys which require no further consideration.

The present survey is adequate to supersede the charted hydrography within the common area.

B. Aids to Navigation

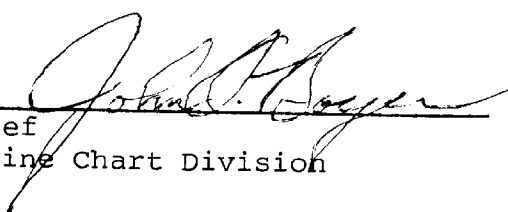
There are no aids to navigation within the limits of this survey.

8. Compliance with Project Instructions

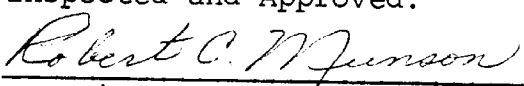
This survey adequately complies with the Project Instructions except as noted in Paragraphs 3 and 4.

9. Additional Field Work

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

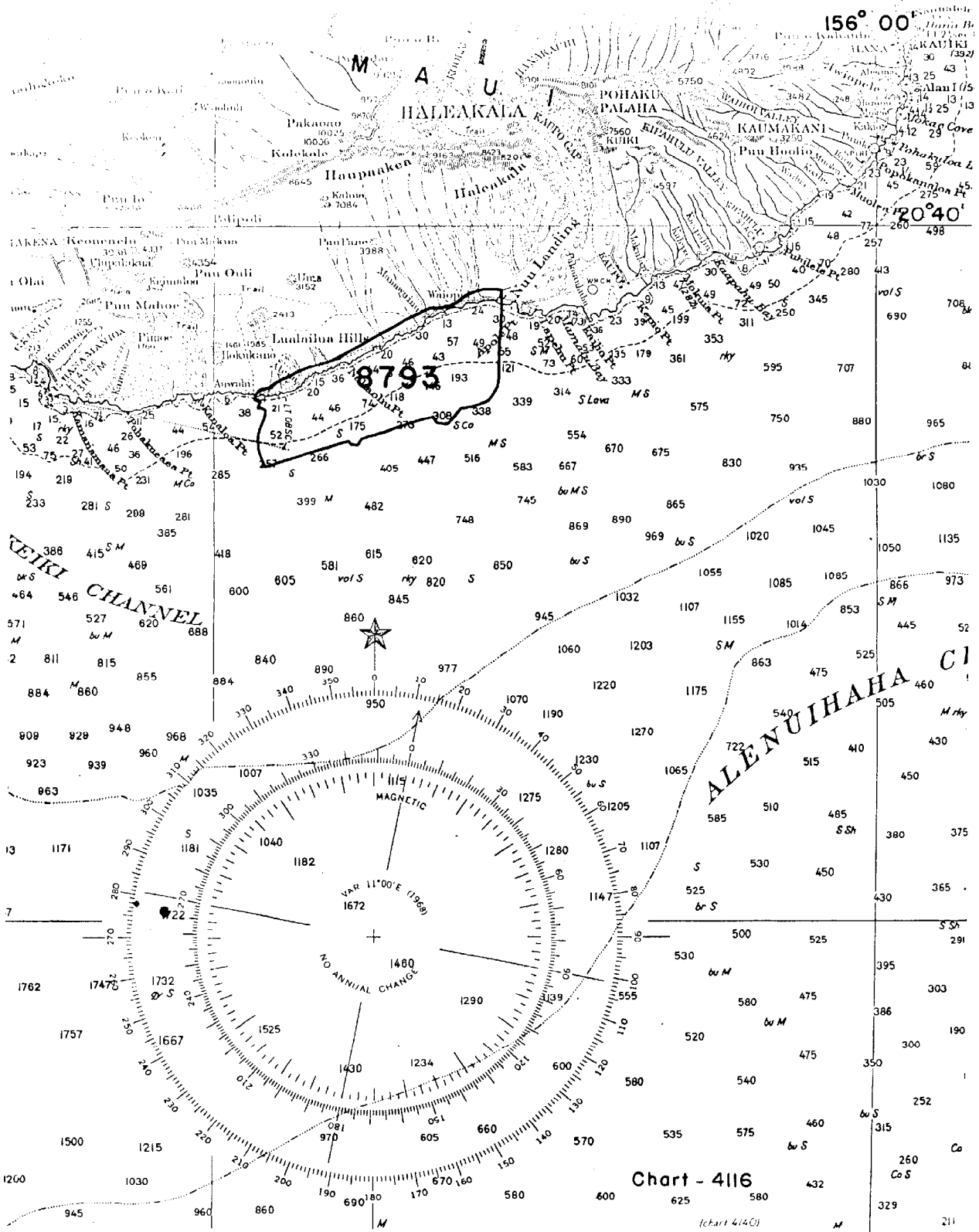

 Chief
 Marine Chart Division

Inspected and Approved:

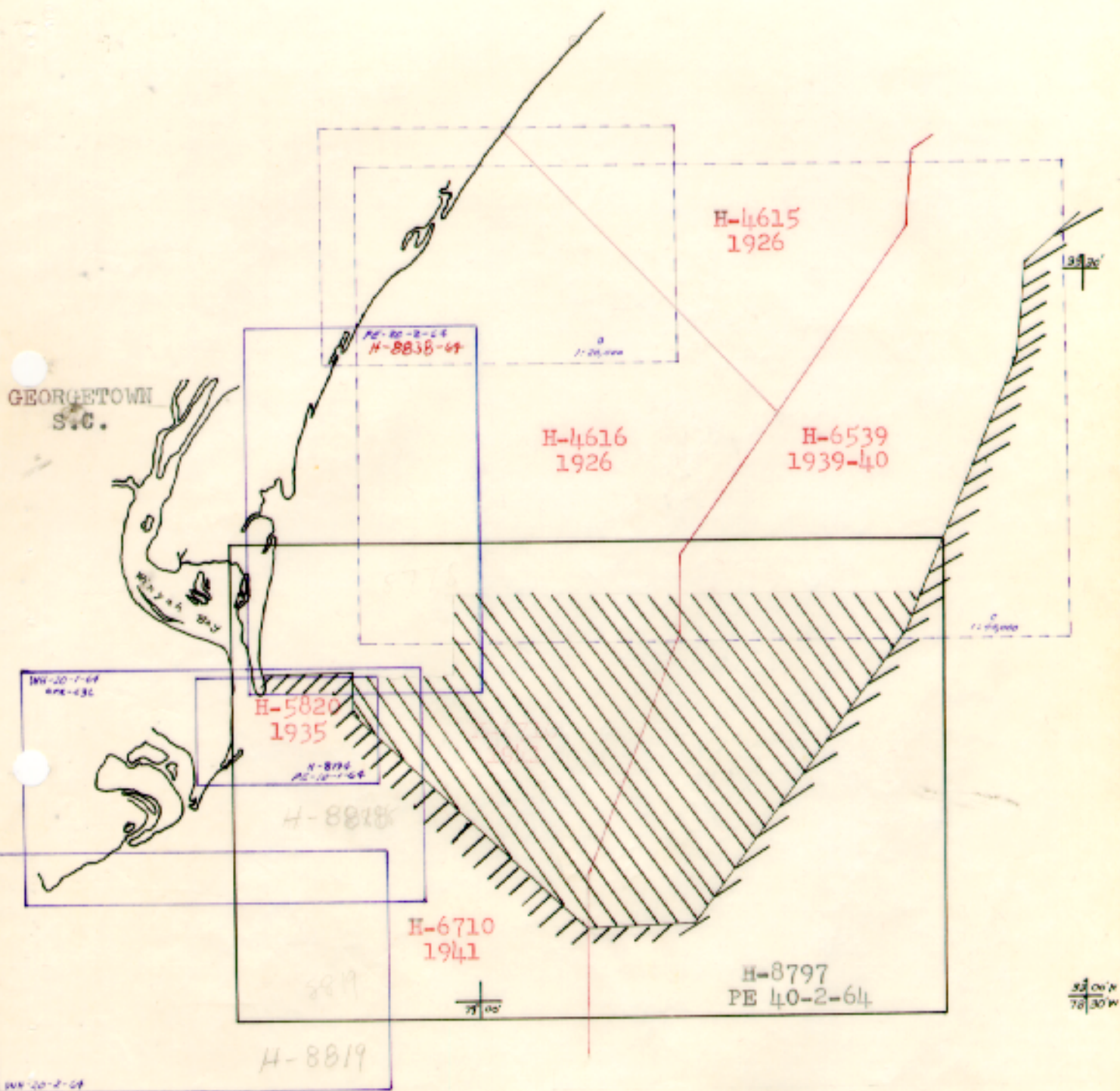

 Associate Director
 Office of Marine Surveys and Maps

156° 00'

120° 40'



INDEX OF SURVEYS



LEGEND

- PRIOR SURVEYS
- CONTEMPORARY SURVEYS
- - - - PROPOSED SURVEYS

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-8793

INSTRUCTIONS

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

1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
4116	4-5-71	J. C. Graham	Full Part Before ^{Before} After Verification Review Inspection Signed Via Drawing No. 16 App'd misc. critical corrections only. Revised 100 fm curve.
4179	5/10/71	S. H. C. Millan	Full Part Before After Verification Review Inspection Signed Via Drawing No. 9 No critical error at this time examined thru 4116 #16
4102	1/27/72	J. Graham	Full Part Before After Verification Review Inspection Signed Via Drawing No. 28 App'd for critical corr. only thru chrt 4116 dwg #16
4180	3/15/72	E. Frey	Full Part Before After Verification Review Inspection Signed Via Drawing No. 11 App'd for critical corrections only thru chrt 4102 dwg # 28
4115	7/20/73	C. S. Farber	Full Part Before ^{Before} After Verification Review Inspection Signed Via Drawing No. Revised 100 fm curve thru 4116, dwg 16
4116	4/23/75	A. J. Borawski	Full Part Before After Verification Review Inspection Signed Via Drawing No. Revised Soundings Thru-out Chart, Revised 100 fm Curve
4115	8/8/75	Naitor	Full Part Before After Verification Review Inspection Signed Via Drawing No. Revised Sndgs, curves thru 4116
4102	8/11/75	Naitor	Full Part Before After Verification Review Inspection Signed Via Drawing No. Revised Sndgs thru 4116
4000	9/4/75	Kanis	Full Part Before After Verification Review Inspection Signed Via Drawing No. EXAMINED thru chart 4102
4179	8/29/75		no corrections
4179	8/1/75	HAUSMAN	Full Part Before After Verification Review Inspection Signed Via Drawing No. Exam thru Chart 4102, No Corr.
4180	4/14/76	KANIS	Part after signature - EXAMINED for critical corrections - No corrections - thru chart 4116
19004 (4102)	3/17/80	Stembel	Fully applied signed survey thru 19340 (4116). Revised soundings and depth curves
(4180) 19013	8/27/80	G. Bailey	Fully appd. thru DWG. 19004 # 33 (4102)
19010	5-2-91	R. R. Forster	Fully applied thru chrt 19013 #18 Dwg 17!
19320	6/5/97	D. M. Potomac	Fully applied to adequately