

8886

Diag. Cht. No. 4116-2.

|  |  |
|--|--|
| Form 504<br>U. S. DEPARTMENT OF COMMERCE<br>COAST AND GEODETIC SURVEY<br><br><b>DESCRIPTIVE REPORT</b> |  |
| <i>Type of Survey</i> <u>HYDROGRAPHIC</u>  |  |
| <i>Field No.</i> <u>PF-10-2-66</u> <i>Office No.</i> <u>H-8886</u>                                     |  |
| <b>LOCALITY</b>  |  |
| <i>State</i> <u>HAWAII</u>   |  |
| <i>General locality</i> <u>LANAI ISLAND</u>  |  |
| <i>Locality</i> <u>SOUTHEAST COAST</u>   |  |
| <u>19.66</u><br><b>CHIEF OF PARTY</b><br>G. L. SHORT   |  |
| <b>LIBRARY &amp; ARCHIVES</b>  |  |
| <b>DATE</b> <u>14 DEC 1970</u>   |  |

USCOMM-DC 5087

8886

4116  
4130

FORM 537  
(8-18-59)

U.S. DEPARTMENT OF COMMERCE  
COAST AND GEODETIC SURVEY

REGISTER NO.

HYDROGRAPHIC TITLE SHEET

H-8886.

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-10-2-66

State Hawaii

General locality Lanai Island

Locality Southeast Coast of Lanai Island

Scale 1:10,000 Date of survey 3/10/66 to 4/28/66

Instructions dated December 6, 1965

Vessel U.S.C.&G.S. Ship PATHFINDER

Chief of party CDR. G.L. Short

Surveyed by G.L. Short, R.H. Allbritton, L.T. Lynch, E.M. Gelb, R.H. Kerley  
and L.M. L-Casanova

Soundings taken by echo sounder, hand lead, wire

Fathograms scaled by Ship Personnel

Fathograms checked by Ship Personnel

Protracted by Ship Personnel

Soundings penciled by Ship Personnel

Soundings in fathoms feet at MLW MLLW

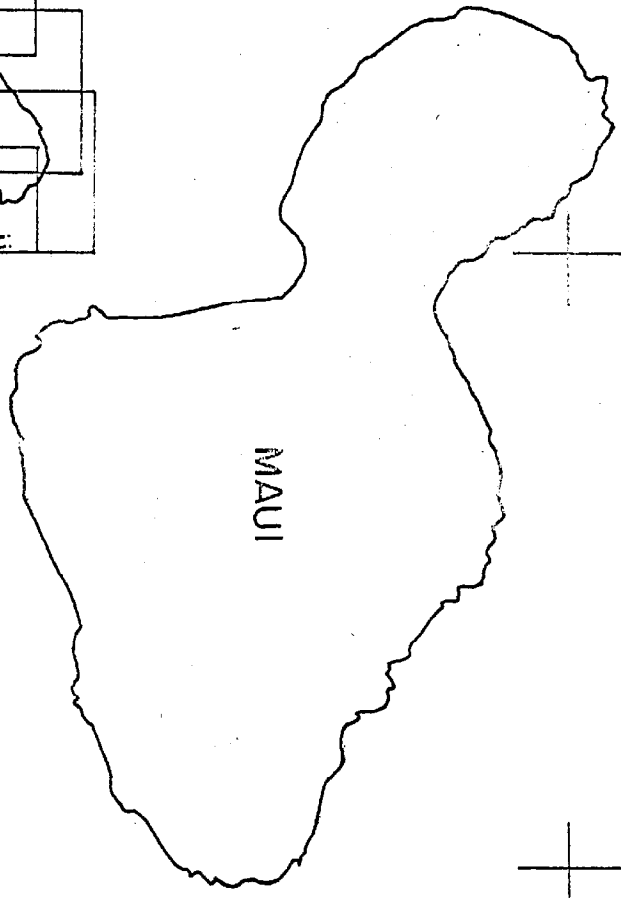
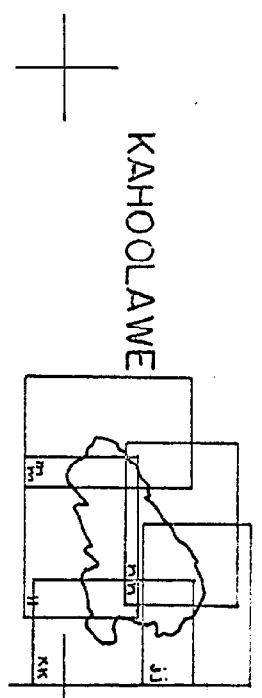
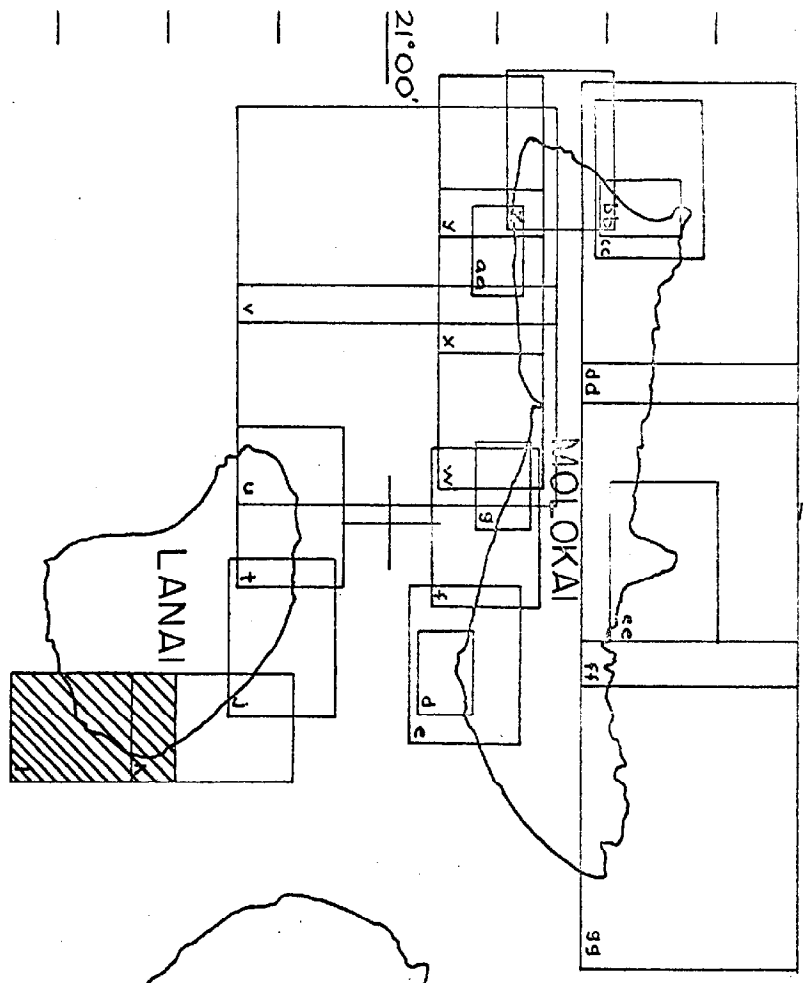
REMARKS: The Geographic Datum <sup>Den</sup> ~~The plane of reference~~ which was used was the Old Hawaiian

Datum Plane.

*DFK*

157°00" 30' 157°00" 30' 156°00"

# SHEET LAYOUT PROJECT OPR-419



21°00' 30' 157°00" 30' 156°00"

Descriptive Report to Accompany  
Hydrographic Survey H-8886  
(Field No. PF-10-2-66)

U.S.C.&G.S. Ship PATHFINDER

CDR. G.L. Short, Comdg.

1966

scale 1:10,000

A PROJECT

The hydrography on this sheet was completed in accordance with the REVISED INSTRUCTIONS: PROJECT OPR-419 HAWAIIAN ISLANDS, dated December 6, 1965.

B AREA SURVEYED

The survey covers the southeastern side of Lanai Island. The hydrography extends from latitude 20 43 07 to 20 49 15 and longitude 156 47 30 to 156 51 00. The survey began on March 10, 1966 and was completed on April 28, 1966.

The prior survey of 1914 (H-3582) has a scale of 1:20,000.

The survey junctions with the following contemporary surveys:

|       | <u>No.</u> | <u>Scale</u> | <u>Year</u> |
|-------|------------|--------------|-------------|
| North | PF-10-2-66 | 1:10,000     | 1966        |
| South | H-8833     | 1:40,000     | 1965        |
| East  | H-8583     | 1:40,000     | 1965        |
| West  | H-8831     | 1:10,000     | 1965        |

C SOUNDING VESSEL.

| <u>Vessel</u>  | <u>Color</u> | <u>Day Letter</u> |
|----------------|--------------|-------------------|
| PATHFINDER     | Blue         | Upper Case        |
| Motor Launch#1 | Blue         | Lower Case        |
| Motor Launch#3 | Green        | Lower Case        |

D SOUNDING EQUIPMENT

The following Model DE-723 Raytheon Fathometers were used on this survey.

| <u>Serial No.</u> | <u>Vessel</u> | <u>Date</u> |           | <u>Max. Depth</u> |
|-------------------|---------------|-------------|-----------|-------------------|
|                   |               | <u>From</u> | <u>To</u> |                   |
| 551               | PATHFINDER    | 3/17        | 4/13      | 130.0fms          |
| 557               | PATHFINDER    | 4/28        | 4/28      | 43.5              |
| 145               | ML#1          | 3/10        | 4/22      | 80.5              |
| 552               | ML#3          | 3/16        | 4/28      | 81.0              |

In addition to the DE-723 Fathometer on the PATHFINDER's bridge, the Precision Fathometer Recorder, serial no. 001, was used to fill in misses in the DE-723 trace.

Corrections to the fathometer soundings were derived from bar checks between one and four fathoms, and temperature and salinity observations taken over the complete range of depths found on this survey. Five oceanographic stations were observed.

E SMOOTH SHEET

Smooth sheets are to be plotted by Ship PATHFINDER personnel. ✓

F CONTROL

Control for this survey was triangulation, hydrographic and photo identified signals as shown on the Advance Manuscripts T-11970 and T-11971 (1:10,000 scale) dated October 1960.

No difficulty with the control was experienced on this sheet. ✓

G SHORELINE

The shoreline details as shown on the manuscripts described in F were found to be appropriately delineated. Coral areas and foul limits were added to the boat sheets along the entire shoreline. The hydrographic survey was carried to the offshore limits of the coral and foul areas. ✓

H CROSSLINES *see note*

Crosslines constituted 8.23% of the total miles of sounding lines run. Good agreement between crossline soundings and soundings on regular lines was found at all crossings except for the following portions of lines: Motor Launch #1 between positions 60a and 61a latitude 20 45 25, longitude 156 49 48 where there is a 2 fathom difference; Motor Launch #3 between positions ✓

✓  
25a and 30a latitude 20 45 48, longitude 156 49 10  
where a 2 fathom difference can be minimized by  
smooth plotting the lines to cross between position  
26a and the first sounding out of that position.

#### I JUNCTIONS

The soundings agree very well with the contemporary survey (H-8889) and (H-8831) on the north and west sides of the boat sheet. The soundings at the junction with the contemporary survey (H-8833) on the south side of the boat sheet differ consistently by about 4 fathoms. The soundings at the junction with the contemporary survey (H-8583) on the east side of the boat sheet compare favorably except for the following portions of lines: Ship PATHFINDER from position 1A to 9A, from position 236A to 238A, and from position 37D to 40D latitude 20 47 15, longitude 156 48 00 where the soundings differ by inconsistent amounts. The differences arise from the fact that the soundings shown on the boat sheet of the junction survey (H-8583) and on the boat sheet of this survey are uncorrected soundings. Good agreement will be reached on the smooth sheet when the velocity and phase corrections are applied to the soundings. ✓

#### J COMPARISON WITH PRIOR SURVEYS

The soundings from the prior survey H-3582 (1:20,000) (1914)

are in general agreement with those on the boat sheet except those soundings on the southern part of the sheet where the soundings taken from the prior survey are anywhere from 6 to 9 fathoms larger. The soundings taken from the prior survey compare favorably with those on this survey in the shoaler areas except for two soundings at latitude 20 45 52, longitude 156 50 00 and latitude 20 47 09, longitude 156 48 30 which differ by almost 10 fathoms. Good agreement will be reached on the smooth sheet once the velocity and phase corrections are applied. The prior survey was completed in 1914 and any differences in the soundings which remain after the corrections are applied may be attributed to the different methods of obtaining the soundings (i.e. lead line as opposed to fathometer).

#### K COMPARISON WITH THE CHART

The chart compared with this survey was U.S.C.&G.S. 4130 (1:80,000), 4<sup>th</sup> edition, August 31, 1964, corrected by Notice to Mariners November 7, 1966 and February 12, 1966. The soundings on the boat sheet compared favorably with the chart. However, the least depths found in this survey at latitude 20 44 15, longitude 156 48 32 and latitude 20 44 47, longitude 156 49 39 were 65 fathoms and 60 fathoms (uncorrected) respectively. This is considerably shoaler than the least depths shown on the chart at these two locations. The change is due to the presence of two small, steep-sided seamounts.



L ADEQUACY OF THE SURVEY

This survey is complete and adequate to supersede all prior surveys for charting.

M AIDS TO NAVIGATION

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

N STATISTICS

| <u>Vessel</u> | <u>N.M. OF SDGL.</u> | <u>NO. OF POS.</u> | <u>SQ. N.M.</u> |
|---------------|----------------------|--------------------|-----------------|
| PATHFINDER    | 65.7                 | 405                |                 |
| ML#1          | 51.9                 | 380                |                 |
| ML#3          | 55.7                 | 390                |                 |
| TOTAL         | 173.3                | 1175               | 12.5            |

A total of twenty-one bottom samples were obtained by the Ship PATHFINDER and motor launches within the limits of this survey.

*M.W. Chalfant*  
M.W. Chalfant  
ENS USESSA

7-10 LIST OF SIGNALS*corrections in  
red by RDL*

List of Stations on H-8886 (PF-10-2-66)

| <u>Signal Name</u> | <u>Origin of Station</u>                          |
|--------------------|---|
| ANI                | <del>PILANI</del><br>(PILANI, 1962) Lith. pg. 116 |
| ANT                | Photo <del>T-11971</del> T-11970                  |
| ARM                | Photo <del>T-11970</del> T-11971                  |
| BAG                | Photo <del>T-11970</del> T-11971                  |
| BOB                | Photo <del>T-11971</del> T-11970                  |
| CAS                | Hydro Vol.3, p.22 ✓                               |
| CON                | Photo <del>T-11971</del> T-11970                  |
| COW                | Photo <del>T-11970</del> T-11971                  |
| DOG                | Photo <del>T-11970</del> T-11971                  |
| EGO                | Photo <del>T-11970</del> T-11971                  |
| FOX                | Photo <del>T-11970</del> T-11971                  |
| GOB                | Photo <del>T-11970</del> T-11971                  |
| HOP                | Photo <del>T-11970</del> T-11971                  |
| IVY                | Photo <del>T-11970</del> T-11971                  |
| JAW                | Photo <del>T-11970</del> T-11971                  |
| KIM                | Photo <del>T-11970</del> T-11971                  |
| LIP                | Photo <del>T-11970</del> T-11971                  |
| MUG                | Photo <del>T-11970</del> T-11971                  |
| NIX                | Photo <del>T-11970</del> T-11971                  |
| OWL                | Photo <del>T-11970</del> T-11971                  |
| PIN                | Photo <del>T-11970</del> T-11971                  |
| QUO                | Photo <del>T-11971</del> T-11970                  |
| RAT                | Photo <del>T-11970</del> T-11971                  |
| ROY                | Photo <del>T-11971</del> T-11970                  |

*corrections in  
rec'd by RPL*

Signal Names

Origin of Station

|     |       |                            |
|-----|-------|----------------------------|
| SAM | Photo | <del>T-11971</del> T-11970 |
| TAX | Photo | <del>T-11971</del> T-11970 |
| USE | Photo | <del>T-11974</del> T-11970 |
| WAD | Photo | <del>T-11971</del> T-11970 |
| YEA | Photo | <del>T-11971</del> T-11970 |
| ZIG | Hydro | Vol.1, p.45 ✓              |

H-8886

TIDE NOTE  
PF 10-2-66

The tide gage for this survey was a portable one, installed on the pier at Kamalo, Molokai.

In 1966 MLLW corresponded to 2.2 feet on the staff (see attached letter C3312-155-CSS 8). The gage operated satisfactorily during the days when hydrography was run. No corrections were applied to observed heights, but times were corrected as necessary to compensate for inaccuracies in the clock. All tides were observed on 150 W time meridan.

*Memorandum*

ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION

The Commanding Officer  
USC&GS Ship PATHFINDER  
1801 Fairview Avenue, East  
Seattle, Washington 98102

DATE: August 11, 1966

In reply refer to:  
C3312-155-CSS 8

FROM : Chief, Tides Section  
Oceanography Division

SUBJECT: Tidal data, OPR-419

Requested hourly heights are enclosed. Honolulu tabulations are furnished in lieu of Kaunakakai observations. The Kaunakakai record showed evidence of a shifting datum and had to be discarded. MLLW, computed from level records, is 1.9 ft. above staff zero.

Mean lower low water at the other stations is:

|            |                        |
|------------|------------------------|
| Kamalo     | 2.2 ft. on staff No. 1 |
| Kaunakakai | 3.2 ft. on staff       |

Reference to new staff at Kamalo and requested July observations at Honolulu will be furnished as soon as possible.

*Martha A. Winn*

Martha A. Winn

Enclosures



BUY U.S. SAVINGS BONDS REGULARLY ON THE PAYROLL SAVINGS PLAN

TIDE NOTE FOR HYDROGRAPHIC SHEET

October 31, 1967

~~XXXXXXXXXXXXXXXXXXXX~~

Pacific Marine Center

Plane of reference approved in  
7 volumes of sounding records for

HYDROGRAPHIC SHEET 8886

Locality: Kamalo Harbor, Molokai, Hawaii

Chief of Party: G.L. Short, 1966

Plane of reference is mean lower low water

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

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

Remarks

  
Chief, Tides and Currents Branch

USC&GSS PATHFINDER  
 G. L. Short, Comdg.  
 1966

Velocity corrections to be applied to all 1966 hydrography on sheets

FF 10-5-65, FF 10-1-66, FF 10-2-66, FF 10-3-66, FF 10-4-66,  
 FF 10-5-66, FF 10-6-66, FF 10-7-66, FF 10-8-66, FF 20-1-66, FF 20-2-66

| TO DEPTH<br>(fms) | CORRECTION<br>(fms) | TO DEPTH<br>(fms) | CORRECTION<br>(fms) |
|-------------------|---------------------|-------------------|---------------------|
| 0.0 - 3.0         | 0.00                | 72.6 - 77.2       | 3.2                 |
| 3.1 - 5.3         | 0.1                 | 77.3 - 82.0       | 3.4                 |
| 5.4 - 7.8         | 0.2                 | 82.1 - 86.7       | 3.6                 |
| 7.9 - 10.0        | 0.3                 | 86.8 - 91.3       | 3.8                 |
| 10.1 - 12.3       | 0.4                 | 91.4 - 95.8       | 4.0                 |
| 12.4 - 14.5       | 0.5                 | 95.9 - 100.5      | 4.2                 |
| 14.6 - 16.8       | 0.6                 | 100.6 - 112       | 4.5                 |
| 16.9 - 19.5       | 0.7                 | 113 - 125         | 5.0                 |
| 19.6 - 21.5       | 0.8                 | 126 - 140         | 5.5                 |
| 21.6 - 23.8       | 0.9                 | 141 - 158         | 6.0                 |
| 23.9 - 26.0       | 1.0                 | 159 - 178         | 6.5                 |
| 26.1 - 28.3       | 1.1                 | 179 - 200         | 7.0                 |
| 28.4 - 31.6       | 1.2                 | 201 - 232         | 7.5                 |
| 31.7 - 36.2       | 1.4                 | 233 - 273         | 8.0                 |
| 36.3 - 41.0       | 1.6                 | 274 - 320         | 8.5                 |
| 41.1 - 45.3       | 1.8                 | 321 - 368         | 9.0                 |
| 45.4 - 50.0       | 2.0                 | 369 - 418         | 9.5                 |
| 50.1 - 54.5       | 2.2                 | 419 - 460         | 10.0                |
| 54.6 - 59.0       | 2.4                 | 461 - 495         | 10.5                |
| 59.1 - 63.5       | 2.6                 | 496 - 527         | 11.0                |
| 63.6 - 68.0       | 2.8                 | 528 - 558         | 11.5                |
| 68.1 - 72.5       | 3.0                 | 559 - 584         | 12.0                |

\*All velocity corrections are positive and to be added

USC&GS SHIP PATHFINDER  
CDR. G.L. Short, Comdg

1966 ECHO CORRECTIONS  
PF 10-2-66

| <u>VESSEL</u> | <u>DATE</u> | <u>DAY</u> | <u>DRAFT CORRECTIONS</u> |                      |
|---------------|-------------|------------|--------------------------|----------------------|
|               |             |            | <u>0&lt;31 fms</u>       | <u>31&gt;101 fms</u> |
| ML#1          | 3/10/66     | a          | +0.2                     | +0.2                 |
| "             | 3/11/66     | b          | 0.3                      | 0.2                  |
| "             | 3/16/66     | c          | 0.3                      | 0.2                  |
| "             | 4/12/66     | d          | 0.3                      | 0.2                  |
| "             | 4/22/66     | e          | 0.4                      | 0.4                  |
| <br>          |             |            |                          |                      |
| ML#3          | 3/16/66     | a          | +0.2                     | +0.2                 |
| "             | 3/17/66     | b          | 0.2                      | 0.2                  |
| "             | 4/13/66     | c          | 0.3                      | 0.2                  |
| "             | 4/28/66     | d          | 0.4                      | 0.4                  |



## SHIP PATHFINDER

OPR 419

| DATE    | DRAFT(ft)<br>mdshps | DRAFT<br>CORRECTIONS |         | FATH. INSTR.<br>CORR. | DRAFT<br>CORR. |
|---------|---------------------|----------------------|---------|-----------------------|----------------|
|         |                     | DRAFT(fms)<br>mdshps | INITIAL |                       |                |
| Feb. 27 | 15.0                | 2.5                  | 2.0     | -0.1                  | 0.4            |
| Mar. 12 | 14.7                | 2.4                  | 2.0     | -0.1                  | 0.3            |
| 13      | 14.5                | 2.4                  | 2.0     | -0.1                  | 0.3            |
| 15      | 14.3                | 2.4                  | 2.0     | -0.1                  | 0.3            |
| 16      | 14.3                | 2.4                  | 2.0     | -0.1                  | 0.3            |
| 17      | 13.9                | 2.3                  | 2.0     | -0.1                  | 0.2            |
| 23      | 15.0                | 2.5                  | 2.0     | -0.1                  | 0.4            |
| 24      | 14.9                | 2.5                  | 2.0     | -0.1                  | 0.4            |
| 26      | 14.8                | 2.5                  | 2.0     | -0.1                  | 0.4            |
| 27      | 14.7                | 2.4                  | 2.0     | -0.1                  | 0.3            |
| 28      | 14.4                | 2.4                  | 2.0     | -0.1                  | 0.3            |
| 29      | 14.2                | 2.4                  | 2.0     | -0.1                  | 0.3            |
| 30      | 14.2                | 2.4                  | 2.0     | -0.1                  | 0.3            |
| Apr. 6  | 15.1                | 2.5                  | 2.0     | -0.1                  | 0.4            |
| 7       | 15.0                | 2.5                  | 2.0     | -0.1                  | 0.4            |
| 8       | 15.0                | 2.5                  | 2.0     | -0.1                  | 0.4            |
| 9       | 14.9                | 2.5                  | 2.0     | -0.1                  | 0.4            |
| 11      | 14.5                | 2.4                  | 2.0     | -0.1                  | 0.3            |
| 12      | 14.4                | 2.4                  | 2.0     | -0.1                  | 0.3            |
| 13      | 14.3                | 2.4                  | 2.0     | -0.1                  | 0.3            |
| 14      | 14.2                | 2.4                  | 2.0     | -0.1                  | 0.3            |
| 21      | 14.7                | 2.4                  | 2.0     | -0.1                  | 0.3            |
| 22      | 14.6                | 2.4                  | 2.0     | -0.1                  | 0.3            |
| 23      | 14.5                | 2.4                  | 2.0     | -0.1                  | 0.3            |
| 24      | 14.4                | 2.4                  | 2.0     | -0.1                  | 0.3            |
| 25      | 14.2                | 2.4                  | 2.0     | -0.1                  | 0.3            |
| 26      | 14.0                | 2.3                  | 2.0     | -0.1                  | 0.2            |
| 27      | 13.8                | 2.3                  | 2.0     | -0.1                  | 0.2            |
| 28      | 13.7                | 2.3                  | 2.0     | -0.1                  | 0.2            |

7-11 APPROVAL SHEET

REGISTRY NO. 8886 (PF 10-2-66)

The records have been examined and approved. The survey is considered complete and adequate for charting purposes and no additional field work is recommended.

G.L. Short

Cdr., USESSA

Comdg. Ship Pathfinder

USC&GSS PATHFINDER  
OPR. 419  
PF 10-2-66

SMOOTH PLOTTER'S REPORT

The projection grid and triangulation stations were plotted by the electronic digital plotter at Pacific Marine Center.


Smooth plotting of positions was completed by Ens. S.M. Erickson, USESSA, and were in good order.

The signals were checked with the overlays by Ens. Mike Chalfant, USESSA, and found to be in good agreement.

Signals ZIG and CAS were checked by sextant cuts to determine the congruity of their position on the boat sheet as well as the photograph. They were verified and found to be in good agreement.

With all correctors applied, crosslines were in good agreement. I found that the statement in the descriptive report under letter H, crosslines, motor launch #1, positions 60a through 61a did in fact agree with bottom contour.

Crossline as stated in part H, under crosslines, 25a to 30a, latitude 20 45 48, longitude 156 49 10, where a 2 fathom difference was observed, reductions in soundings, fathograms and phase comparisons were checked and as a result I comported it to a rapidly changing bottom.

  
Bruce H. Gunnels  
Asst. Survey Tec.  
Ship Pathfinder

GEOGRAPHIC NAMES  
Survey No. H-8886

| Name on Survey       | Source of Name |   |   |   |   |   |   |   |   |  |  |    |
|----------------------|----------------|---|---|---|---|---|---|---|---|--|--|----|
|                      | A              | B | C | D | E | F | G | H | K |  |  |    |
| Auau Channel         |                |   |   |   |   |   |   |   |   |  |  | 1  |
| Kamaiki Point        |                |   |   |   |   |   |   |   |   |  |  | 2  |
| Kealaikahiki Channel |                |   |   |   |   |   |   |   |   |  |  | 3  |
| Kikoa Point          |                |   |   |   |   |   |   |   |   |  |  | 4  |
| Lanai Island         |                |   |   |   |   |   |   |   |   |  |  | 5  |
|                      |                |   |   |   |   |   |   |   |   |  |  | 6  |
|                      |                |   |   |   |   |   |   |   |   |  |  | 7  |
|                      |                |   |   |   |   |   |   |   |   |  |  | 8  |
|                      |                |   |   |   |   |   |   |   |   |  |  | 9  |
|                      |                |   |   |   |   |   |   |   |   |  |  | 10 |
|                      |                |   |   |   |   |   |   |   |   |  |  | 11 |
|                      |                |   |   |   |   |   |   |   |   |  |  | 12 |
|                      |                |   |   |   |   |   |   |   |   |  |  | 13 |
|                      |                |   |   |   |   |   |   |   |   |  |  | 14 |
|                      |                |   |   |   |   |   |   |   |   |  |  | 15 |
|                      |                |   |   |   |   |   |   |   |   |  |  | 16 |
|                      |                |   |   |   |   |   |   |   |   |  |  | 17 |
|                      |                |   |   |   |   |   |   |   |   |  |  | 18 |
|                      |                |   |   |   |   |   |   |   |   |  |  | 19 |
|                      |                |   |   |   |   |   |   |   |   |  |  | 20 |
|                      |                |   |   |   |   |   |   |   |   |  |  | 21 |
|                      |                |   |   |   |   |   |   |   |   |  |  | 22 |
|                      |                |   |   |   |   |   |   |   |   |  |  | 23 |
|                      |                |   |   |   |   |   |   |   |   |  |  | 24 |
|                      |                |   |   |   |   |   |   |   |   |  |  | 25 |
|                      |                |   |   |   |   |   |   |   |   |  |  | 26 |
|                      |                |   |   |   |   |   |   |   |   |  |  | 27 |

PREPARED BY

*Frank W. Fickett*  
CARTOGRAPHIC TECHNICIAN

APPROVED BY

*A. Joseph Wright*  
CHIEF GEOGRAPHER

HYDROGRAPHIC SURVEY STATISTICS  
HYDROGRAPHIC SURVEY NO. H-8886

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

| RECORD DESCRIPTION  |               | AMOUNT               | RECORD DESCRIPTION |            | AMOUNT        |                            |
|---|---------------|----------------------|--------------------|------------|---------------|----------------------------|
| SMOOTH SHEET  |               | 1                    | BOAT SHEETS        |            | 1             |                            |
| DESCRIPTIVE REPORT  |               | 1                    | OVERLAYS           |            | 0             |                            |
| DESCRIPTION   | DEPTH RECORDS | HORIZ. CONT. RECORDS | PRINTOUTS          | TAPE ROLLS | PUNCHED CARDS | ABSTRACTS/SOURCE DOCUMENTS |
| ENVELOPES   |               |                      |                    |            |               |                            |
| CAHIERS   | 1             |                      |                    |            |               |                            |
| VOLUMES   | 7             |                      |                    |            |               |                            |
| BOXES   |               |                      |                    |            |               |                            |
| T-SHEET PRINTS (List) <u>T-11970</u> <del>T-11971</del> ? |               |                      |                    |            |               |                            |
| 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                               |                                 |              |                           | 1115   |
| POSITIONS CHECKED                                |                                 | 537          |                           |        |
| POSITIONS REVISED                                |                                 | 30 33        |                           |        |
| DEPTH SOUNDINGS REVISED                          |                                 | 87           |                           |        |
| DEPTH SOUNDINGS ERRONEOUSLY SPACED               |                                 | about 120    |                           |        |
| SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED       |                                 | None         |                           |        |
|  | TIME (MANHOURS)                 |              |                           |        |
| TOPOGRAPHIC DETAILS                              |                                 | 9            |                           |        |
| JUNCTIONS  |                                 | 25           |                           |        |
| VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS   |                                 | 38           |                           |        |
| SPECIAL ADJUSTMENTS <i>styles Am length cor.</i> |                                 | 3            |                           |        |
| ALL OTHER WORK                                   |                                 | 70           |                           |        |
| TOTALS   |                                 | 145          |                           |        |
| PRE-VERIFICATION BY                              | BEGINNING DATE                  |              | ENDING DATE               |        |
| VERIFICATION BY <i>Cornelius A.J. Pauw</i>       | BEGINNING DATE<br>March 22 1968 |              | ENDING DATE<br>May 9 1968 |        |
| REVIEW BY  | BEGINNING DATE                  |              | ENDING DATE               |        |

VERIFIER'S REPORT  
HYDROGRAPHIC SURVEY, H 8886

(PF 10-2-66)

**INSTRUCTIONS** - This form serves to identify items of a check list in verification together with items which are separately reported to the Reviewer. The form is not to be forwarded to the Reviewer. A report, which is prepared for the Reviewer, should identify items by number and letter and will be filed in the Descriptive Report until the survey is reviewed.

**CL - Check List Items:** should be checked as having been completed during the verification processes.

**R - Report Item:** This column refers to those items reported to the reviewer and is used to indicate the items discussed.

| Part I - DESCRIPTIVE REPORT  | CL       | R | Part III - JUNCTIONS (Continued)   | CL  | R      |
|--|----------|---|--|---|--------|
| <p><b>Note:</b> The verifier should first read the Descriptive Report for general information and problems.</p> <p>1. The Descriptive Report was consulted, paragraphs checked if found satisfactory, and notations were made in soft black pencil regarding action taken.<br/>Remarks Required: -- None</p> | ✓        |   | <p>10. Junctions with contemporary surveys were satisfactory except as follows:<br/>Remarks Required: -- Consider conditions after adjustments have been made; note adjustments made. Make special notes of Butt junctions and areas which are <b>SUPERSEDED</b>.</p>                                | ✓   |        |
| <p>2. Soundings originating with the survey and mentioned in the Descriptive Report have been verified and checked in soft black pencil, including latitude and longitude, together with position identification.<br/>Remarks Required: -- None</p>  | ✓        |   | <p><b>Part IV - VOLUMES</b></p> <p>11. All items affecting the plotting of the survey which are entered in the remarks columns of the sounding records were noted and check marked. In all cases appropriate action was taken and exceptions noted in the volumes.<br/>Remarks Required: -- None</p> | ✓   |        |
| <p>3. All reference to survey sheets mentioned in the Descriptive Report should include registry number and year.<br/>Remarks Required: -- None</p>  | ✓        |   |  | <p>12. Condition of sounding records was satisfactory except as follows:<br/>Remarks Required: -- Mention deficiencies in completeness of notes or actions for the following:</p> <p>(a) rocks <span style="float:right">ok</span><br/>(b) line turns <span style="float:right">✓</span><br/>(c) position values of beginning and ending of lines <span style="float:right">✓</span><br/>(d) bar check or velocity correctors <span style="float:right">✓</span><br/>(e) time recording <span style="float:right">ok</span><br/>(f) notes or markings on fathograms <span style="float:right">✓</span><br/>(g) was reduction of soundings accurately done? <span style="float:right">mostly</span><br/>(h) was scanning accurate? <span style="float:right">yes</span><br/>(i) were peaks at uneven intervals missed? <span style="float:right">few</span><br/>(j) were stamps completed? <span style="float:right">mostly</span><br/>(k) references to adjacent features <span style="float:right">None</span></p> |        |
| <p><b>Part II - SHORELINE AND SIGNALS</b></p> <p>4. Source of shoreline signals<br/>Remarks Required: -- List all surveys</p> <p>a. Give earliest and latest dates of photographs ?<br/>b. Field inspection date ?<br/>c. Field Edit date ?<br/>d. Reviewed-Unreviewed ?</p>                                 | ✓        |   | <p><b>Part V - PROTRACTING</b></p> <p>13. All positions verified instrumentally were check marked in color in the sounding records, and verifier initialed the processing stamp.<br/>Remarks Required: -- None</p>   | ✓   |        |
| <p>5. The transfer of contemporary topographic information was carefully examined and reconciled with the hydrography.<br/>Remarks Required: -- Discuss remaining differences.</p>   | See Note |   |  | <p>14. The protracting and plotting of all unsatisfactory crossings were verified.<br/>Remarks Required: -- None</p>  | Yes    |
| <p>6. The plotting of all triangulation stations, topographic stations and hydrographic signals has been checked and noted in processing stamp No. 42 on the smooth sheet.<br/>Remarks Required: -- None</p>   | ✓        |   | <p>15. All detached positions locating critical soundings, rocks, buoys, breakers, obstructions, kelp, etc., were verified and the position numbers are legible.<br/>Remarks Required: -- None</p>   | None  |        |
| <p>7. Objects on which signals are located and which fall outside of the high-water line have been described on the sheet.<br/>Remarks Required: -- List those signals still unidentified.</p>   | None     |   |  | <p><b>Part III - JUNCTIONS</b></p> <p><b>Note:</b> Make a cursory comparison preliminary to inking soundings in area of overlap.</p> <p>8. All junctions of contemporary or overlapping sheets were transferred in colored ink and overlapping curves were made identical.<br/>Remarks Required: -- None</p> <p>The notation in slanted lettering "JOINS H---- (19 )" was added in colored ink for all verified contemporary adjoining or overlapping sheets. Those not verified are shown in pencil.<br/>Remarks Required: -- None</p>   | ✓<br>✓ |

| Part V - PROTRACTING (Continued)   |  | CL                                     | R | Part VIII - AIDS TO NAVIGATION  |  | CL                         | R |
|--|--|--|---|---|--|----------------------------|---|
| 16. The protracting was satisfactory except as follows:<br>Remarks Required: -- Refers to protracting in general except for specific faults repeated often, or faults in control information, which required considerable replotting or adjustments.   |  | None                                   |   | 26. All fixed aids located together with those on the contemporary topographic sheets, have been shown on the survey.<br>Remarks Required: -- Conflicts of any nature listed.                           |  | None                       |   |
| 17. The protractor has been checked within the last three months.<br>Remarks Required: -- Date of check, type of protractor and number.<br>KE 1205 ✓ March 22, 1968  |  | ✓                                      |   | 27. All floating aids listed in the Descriptive Report should be verified and checked in soft black pencil, including latitude and longitude and position identification.<br>Remarks Required: -- None  |  | None                       |   |
| Part VI - SOUNDINGS<br>18. All soundings are clear and legible, and critical soundings are a little larger than adjacent soundings.<br>Remarks Required: -- None   |  | ✓                                      |   | Part IX - BOAT SHEET<br>28. The boat sheet was constantly compared with the smooth sheet with reference to notes, position of sounding lines and supplemental information.<br>Remarks Required: -- None |  | ✓                          |   |
| 19. Sounding line crossings were satisfactory except as follows:<br>Remarks Required: -- Discuss adjustments.  |  | Satisfactory                           |   | 29. Heights of rocks awash were correctly reduced and compared with topographic information.<br>Remarks Required: -- Note excessive conflicts with topographic information.                             |  | ✓                          |   |
| 20. The spacing of soundings as recorded in the records was closely followed;<br>Remarks Required: -- None   |  | ✓                                      |   | Part X - GENERAL<br>30. All information on the sheet is shown in accordance with figures 82 and 83 in the Hydrographic Manual (Pub. 20-2).<br>Remarks Required: -- None                                 |  | ✓                          |   |
| 21. The scanning, reduction, spacing, plotting of questionable soundings have been verified.<br>Remarks Required: -- None  |  | ✓                                      |   | 31. Unnecessary pencil notes have been removed from the sheet.<br>Remarks Required: -- None   |  | ✓                          |   |
| 22. The smooth plotting of soundings was satisfactory except as follows:<br>Remarks Required: -- Refer to legibility, errors in spacing, and errors in numbers - but not to errors in scanning.  |  | many sounding were out-sized All minor |   | 32. Degree, minute values and symbols have been checked; also electronic distance arcs have been properly identified and checked on the smooth sheet.<br>Remarks Required: -- None                      |  | ✓                          |   |
| Part VII - CURVES<br>23. The depth curves have been inspected before inking.<br>Remarks Required: -- By whom was the penciled curves inspected. OR Lehman  |  | ✓                                      |   | 33. The bottom characteristics are adequately shown.<br>Remarks Required: -- None   |  | ✓                          |   |
| 24. The low-water line and delineation of shoal areas have been properly shown in accordance with the following:<br>a. From T-Sheet in dotted black lines<br>b. From soundings in orange<br>c. Approximate position of sketched curve is dashed orange<br>d. Approximate position of shoal area not sounded in black dashed<br>Remarks Required: -- None |  | Not shown<br>Not surveyed              |   | Part XI - NOTES TO THE REVIEWER<br>34. Unresolved discrepancies and questionable soundings.   |  | None                       |   |
| 25. Depth curves were satisfactory except as follows:<br>(This statement should not refer to the manner in which the curves were drawn).<br>Remarks Required: -- Indicate areas where curves could not be drawn completely because of lack of soundings. For some inshore areas a general statement is sufficient.                                       |  | Satisfactory                           |   | 35. Notation of discrepancies with photogrammetric survey inserted in report of unreviewed photogrammetric survey or on copy.   |  | 2                          |   |
|  |  |  |   | 36. Supplemental information.   |  | None                       |   |
| Verified by <i>Cornelius A. J. Pann</i>  |  |  |   |   |  | Date<br><i>May 9, 1968</i> |   |

VERIFIER'S NOTES

H-8886

(PF 10-2-66)

JUNCTIONS: To south with H-8833 has been checked against a print of unverified smooth sheet. The agreement in depths is very good - line spacing is very wide.

To west with H-8831. Neither smooth sheet (nor print) available. But report indicates that no junction problems are expected - see Section I, first paragraph of the report.

To north with H-8889. Complete and inked. N. B. on Survey H-8889 the label joins H-8886 in pencil - needs to be inked using purple ink. *Non Anglicized Latin abbreviation meaning "take notice." Unnecessary and out of context in a hydrographic survey report.*

To east with H-8583. All junction work completed.

SHORELINE: The transfer of the shoreline to the smooth sheet was abominably poorly done. None of the rocks and reefs were inked, many were missed, some misplaced. The high-water line had to be erased about 1/4 of the distance and re-inked to attain minimal standards of accuracy and acceptability of presentation.

*Cornelius A. J. Paul*

*RD Lynn  
11/24/70*



VERIFIERS REPORT

PF-10-2-66

OPR-419

H-8886

K. COMPARISON WITH THE CHART

This survey was compared with C&GS Chart #4130 (6th Ed., Feb. 10, 1969) and it was noted that there were many uncorrected soundings added to this chart from the boat-sheet. After all corrections had been applied to the smooth sheet soundings the difference is considerable. These changes are all in depths greater than 18 fms so that no dangers to navigation exist.

The bottom samples on the smooth sheet are not in agreement with those in the chart. Whereas the chart shows volcanic sand to be characteristically predominant. This survey seems to indicate that brown muddy sand now prevails. *See attached chart section!*

Respectfully submitted,



Richard D. Lynn  
Carto. Tech.

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.)

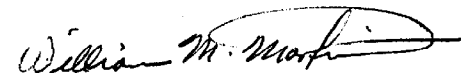
Examined and Approved

Approved for Forwarding

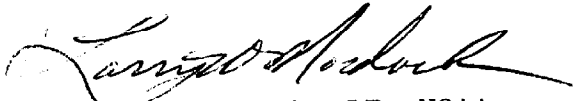
Richard D. Lynn  
Cartograph Technician



Approved and Forwarded



William M. Martin  
Supervisory Cartograph Tech.



Larry W. Mordock, LT, NOAA  
Acting Chief, Processing Division  
Pacific Marine Center

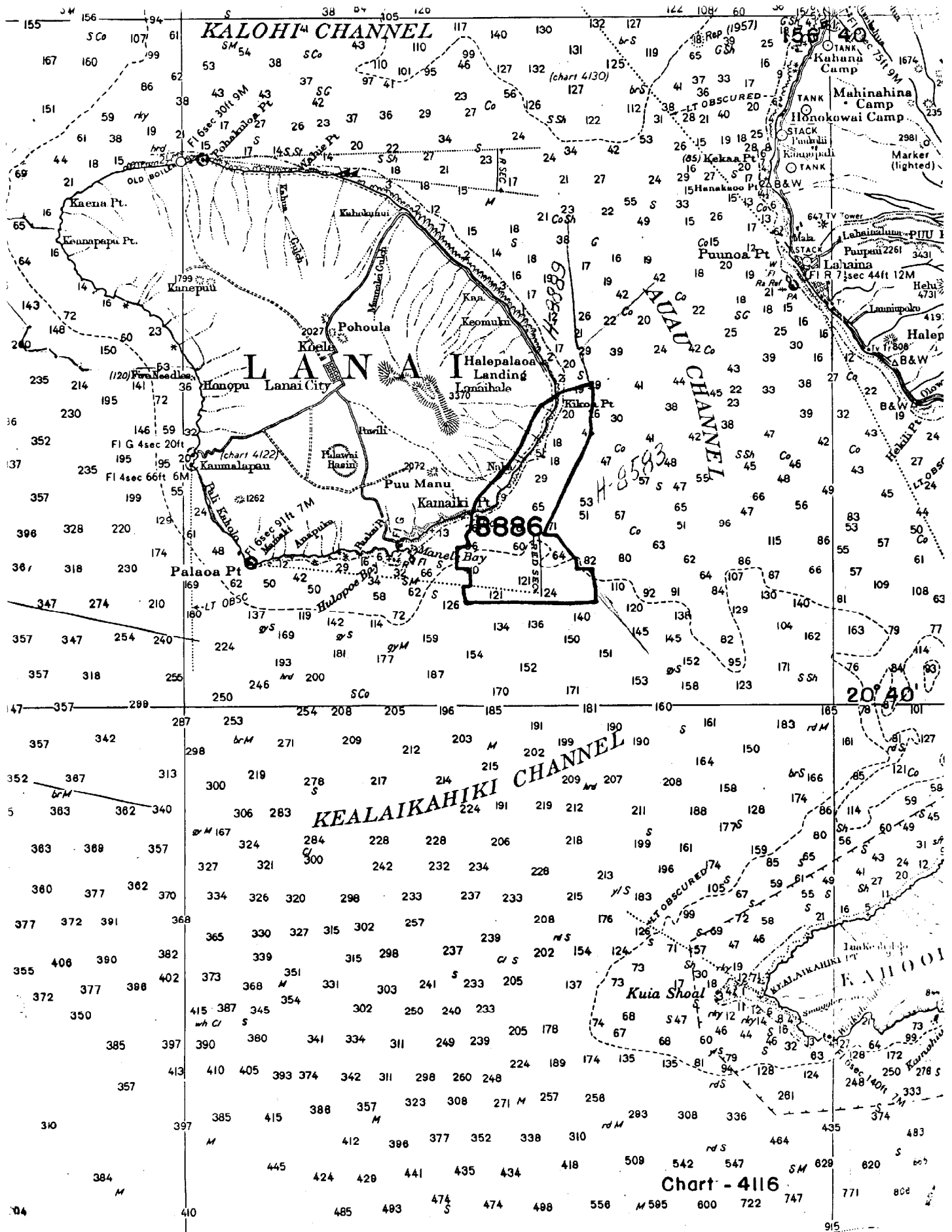
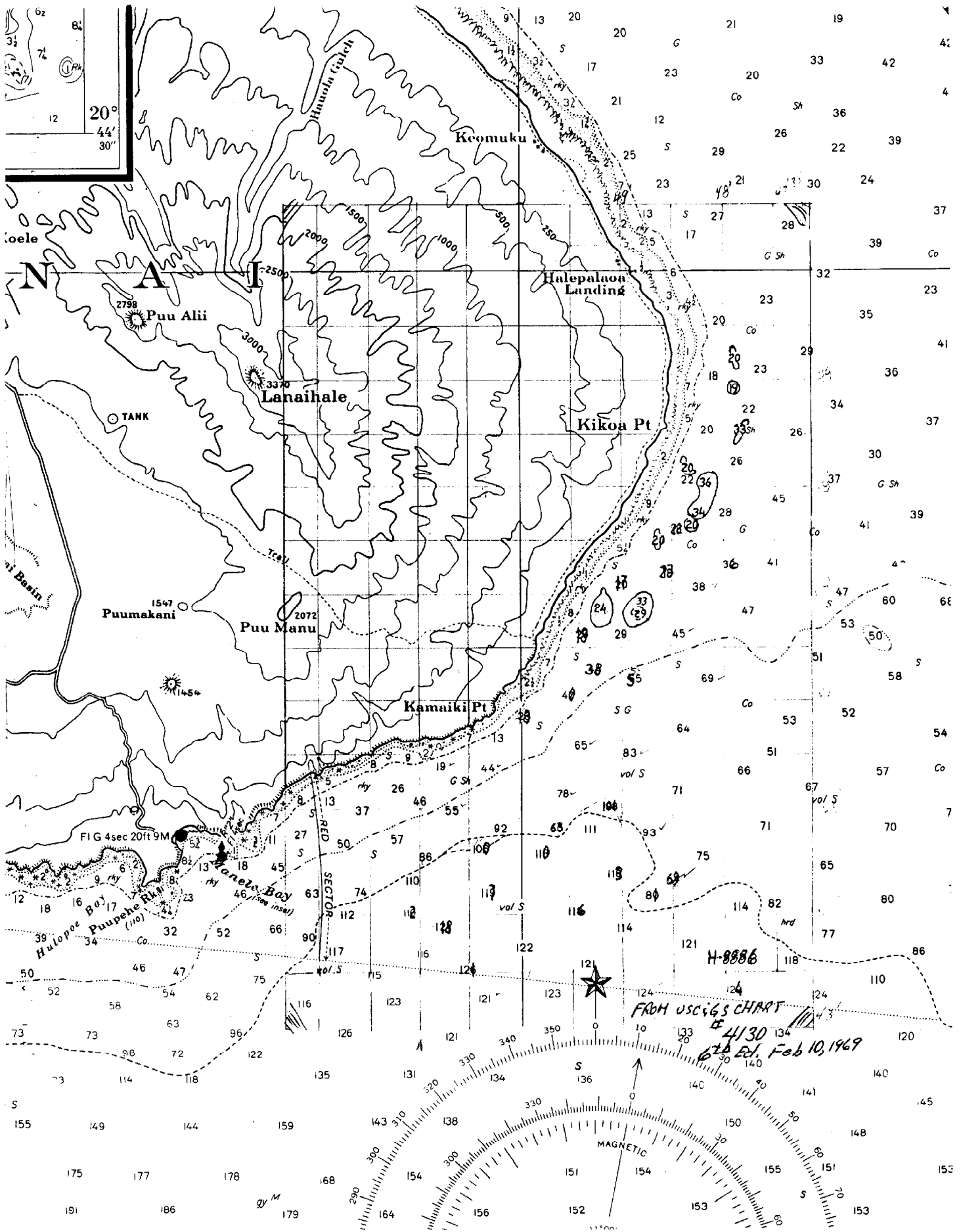


Chart - 4116

20 40



RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-8886

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  |
|-------|---------|---------------------|--|
| 4130  | 1-12-71 | E. Frey             | <del>Full Part Before</del> <sup>Before</sup> After Verification Review Inspection Signed Via Drawing No. <i>Added one sounding. Critical corr. only</i>             |
| 4116  | 4-15-71 | <i>A. Graham</i>    | <del>Full Part Before</del> <sup>Before</sup> After Verification Review Inspection Signed Via Drawing No. <i>16 App'd misc corrections thru chart 4130 draw #14x</i> |
| 4179  | 5/10/71 | <i>J. H. Millan</i> | <del>Full Part Before</del> After Verification Review Inspection Signed Via Drawing No. <i>9 No critical corr at this time</i>                                       |
| 4130  | 3/28/75 | <i>M. D. Lane</i>   | <del>Full Part Before</del> <sup>thru 4116 #16</sup> After Verification Review Inspection Signed Via Drawing No. <i>EXAMINED for reef AREA ONLY</i>                  |
| 19013 | 4-29-91 | <i>KR. Foster</i>   | Full <del>Part Before</del> After Verification Review Inspection Signed Via Drawing No. <i>18 Adequately Applied Cat I</i>   |
| 19010 | 4-30-91 | <i>KR. Foster</i>   | Full <del>Part Before</del> After Verification Review Inspection Signed Via Drawing No. <i>17 Adequately Applied Cat I</i>   |
| 19340 | 5/24/94 | <i>Kull, Bull</i>   | <sup>Adequate</sup><br>Full <del>Part Before</del> After Verification Review Inspection Signed Via Drawing No. <i>26 CAT I Pencil Thru 19347</i>                     |
|       |         |                     | Full Part Before After Verification Review Inspection Signed Via Drawing No.   |
|       |         |                     | Full Part Before After Verification Review Inspection Signed Via Drawing No.   |
|       |         |                     | Full Part Before After Verification Review Inspection Signed Via Drawing No.   |
|       |         |                     | Full Part Before After Verification Review Inspection Signed Via Drawing No.   |