Form 504
U. S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

<table>
<thead>
<tr>
<th>Type of Survey</th>
<th>SHORELINE (PHOTOGRAMMETRIC)</th>
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<tbody>
<tr>
<td>Field No.</td>
<td>Ph6012</td>
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<tr>
<td>Office No.</td>
<td>T-11931</td>
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<table>
<thead>
<tr>
<th>LOCALITY</th>
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<tr>
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<tr>
<td>General locality</td>
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<table>
<thead>
<tr>
<th>CHIEF OF PARTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>H. J. Seborg, Honolulu District Office</td>
</tr>
<tr>
<td>W. E. Randall, Baltimore District Office</td>
</tr>
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<table>
<thead>
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<th>LIBRARY &amp; ARCHIVES</th>
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1962-1960-1963
DESCRIPTIVE REPORT - DATA RECORD
T-11931

PROJECT NO. (I): PH-6012
(21034)

FIELD OFFICE (III):
Honolulu, Hawaii

CHIEF OF PARTY
H. J. Seaborg

PHOTOGRAMMETRIC OFFICE (III):
Baltimore, Maryland

OFFICER-IN-CHARGE
W. E. Randall

INSTRUCTIONS DATED (III) (III):
14 November 1960
28 November 1960
13 June 1961
16 January 1962

METHOD OF COMPILATION (III):
Kelsh Plotter

MANUSCRIPT SCALE (III):
1:5,000

STEREOSCOPIC PLOTTING INSTRUMENT SCALE (III):
1:5,000

DATE RECEIVED IN WASHINGTON OFFICE (IV):

DATE REPORTED TO NAUTICAL CHART BRANCH (IV):

APPLIED TO CHART NO.:

DATE:

DATE REGISTERED (IV):

GEOGRAPHIC DATUM (III):
Old Hawaiian

VERTICAL DATUM (III):
MGL

MEAN SEA LEVEL EXCEPT AS FOLLOWS:
Elevations shown as (F) refer to mean high water
Elevations shown as (G) refer to sounding datum
i.e., mean low water or mean lower low water

REFERENCE STATION (III):
FUU O KALOA (HT 1929), 1931

LAT.: 20° 36' 21.117”

LONG.: 156° 25' 15.908”

ADJUSTED

UNADJUSTED

PLANE COORDINATES (IV):

X = 583,986.69 FT

STATE
Hawaii

ZONE
2

ROMAN NUMERALS INDICATE WHETHER THE ITEM IS TO BE ENTERED BY (I) FIELD PARTY, (III) PHOTOGRAMMETRIC OFFICE,
OR (IV) WASHINGTON OFFICE.
WHEN ENTERING NAMES OF PERSONNEL ON THIS RECORD GIVE THE Surname AND INITIALS, NOT INITIALS ONLY.
**DESCRIPTIVE REPORT - DATA RECORD**

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<th>FIELD INSPECTION BY (III):</th>
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<td>J. C. Lajoie</td>
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<tr>
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<td>11/30/60</td>
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<tr>
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<td>D. M. Brant</td>
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| REMARKS: | |
|---------| |
| Field Ed. 1963 | |
### DESCRIPTIVE REPORT - DATA RECORD

**Camera (Kind or Source) (III):**

*NW* Camera

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### TIDE (III)

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<td>1.2</td>
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### ORDINATE STATION: Makena, Hawaii

<table>
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<tr>
<th>SUBORDINATE STATION:</th>
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### WASHINGTON OFFICE REVIEW BY (IV):

Leo F. Beugnet, Norfolk Regional Office  Oct. 1965

### PROOF EDIT BY (IV):

DATE:

### NUMBER OF TRIANGULATION STATIONS SEARCHED FOR (III):

None

### NUMBER OF BM(S) SEARCHED FOR (III):

None

### NUMBER OF RECOVERABLE PHOTO STATIONS ESTABLISHED (III):

None

### NUMBER OF TEMPORARY PHOTO HYDRO STATIONS ESTABLISHED (III):

3

### REMARKS:
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<td>March 1962</td>
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SUMMARY TO ACCOMPANY
DESCRIPTIVE REPORT T-11931

Shoreline manuscript T-11931 is one of forty-nine similar maps in this project and covers a part of the coastline of Maui Island. This was a Kelsh project in advance of hydrographic surveys in the area. The field operations preceding compilation included recovery and identification of horizontal control and field inspection. The Kelsh compilation was at 1:5,000 from 1:25,000 scale photography obtained October 2, 1960 and 1:15,000 scale obtained January 19, 1962. A cronaflex positive showing shoreline, alongshore detail and shoreline pass points was furnished for preparation of the hydrographer's boat sheet and the location of hydrographic signals. 1:5,000 scale ratio prints were furnished for hydro support and field edit purposes. The compilation manuscript is a vynilite sheet 1 minute 52.5 seconds in latitude by 1 minute 52.5 seconds in longitude from which the smooth sheet was drafted and reproduced on cronaflex. One cronar positive and one cronar negative are provided for record and registry.
2. AREAL FIELD INSPECTION:

The area covered by this report encompasses the whole of the Island of Maui, second largest of the Hawaiian Islands. It is formed by two mountains with a fertile valley devoted to the cultivation of sugar cane and pineapple. The island is shaped like a Shinto priest in prayer with the head at the western end formed by the West Maui range of mountains and the body at the eastern end formed by Mt. Haleakala which rises over 10,000 feet above sea level.

The climate varies from the tropical rain forest at the eastern end of the island near Hana, to the barren lava fields along the south slopes of Mt. Haleakala. Rain seldom falls on the south coasts and thus the disintegration of the lava is a slow process.

Shoreline conditions vary from the stark lava cliffs around Mt. Haleakala and on the east side of the West Maui Range, to the sandy beaches along the valley between the mountains and on the western or lee shores of the island.

The area is cooled by trade winds from the north and east accentuated by the Venturi effect caused by the valley between the mountains and, in the exposed areas, waves beat continuously on the rocky cliffs. On the western shores around Lahaina and on Ma'alaea Bay, only a "kona" or southerly storm infrequently disturbs this peaceful area.

Kahului is the principal port on the island. It is protected by a breakwater and serves as a port of call for large ocean going
vessels which bring in freight and load out processed pineapple and raw sugar. It is also the port of call for tug and barge service from Honolulu.

Photography was adequate for the identification of control and for field and shoreline inspection. In some areas which were cloud covered in the 1960 photography, 1962 relight photographs which were furnished to the hydrographic party were secured and the shoreline and interior inspected and inked on those photos.

Shoreline inspection along the lava fields at the south side of the east portion of the island is somewhat sketchy. Areas that were impassable due to broken lava, large crevases, or lack of trails, were left to be inspected from a launch when one becomes available. The shoreline may be delineated at the edge of the lava but additional hydrographic signal sites must be selected from the seaward side.

Shoreline inspection in the beach areas was accomplished by walking along the high waterline, and delineating the waterline supported by measurements from prominent objects. Where it was possible, as in the case of low bluffs, the shoreline was inspected from the top of the bank. In the areas of high rocky bluffs and cliffs, it was not possible to get anywhere near the shoreline and inspection was carried out by leaning over the precipitous bluffs, which descend almost vertically to the high water line. In every area except the sandy beaches mentioned, and even in the lava fields at the south portion of the island, the high waterline lies at the base of bluff and is confused by along shore rocks and breaking surf, and offshore reefs.
3. HORIZONTAL CONTROL

(a) The following marked or recoverable intersection stations were located by triangulation as nautical aids, aeronautical aids, or as additional photogrammetric control:

- Kanului Harbor Entrance East Breakwater Light d.n.m.
- Kanului Harbor Entrance West Breakwater Light d.n.m.
- Kanului Harbor Entrance Range, Front Light d.n.m.
- Kanului Harbor Entrance Range, Rear Light d.n.m.
- Kanului Airport Control Tower, Beacon d.n.m.
- V O R OGG d.n.m.
- Lahaina Lighthouse d.n.m.
- E (USN) d.m.
- EAST POINT d.m.
- WEST POINT d.m.

The following temporary stations were established for supplemental control of aerial photographs and were not marked:

- Apple (temp)
- Camp (temp)
- Ditch (temp)
- Malay (temp)
- State (temp)
- Grove (temp)
- Pau (temp)
- Pater (temp)

Pau and Pater were established to determine a position for Lahaina Lighthouse.

The following hydrographic signals were located by theodolite cuts either to establish signals in obscured areas or to provide a check on signal sites established by photogrammetric methods:

- Hydro Sig. 2301
- Hydro Sig. 2303
- Hydro Sig. 2305
- HOL
- CAN
- MAY
(b) There were no datum adjustments made by the field party.

c) All control was either established by the Coast and Geodetic Survey or was tied to Coast Survey control by previous surveys.

d) All stations required by the project diagram were recovered and identified except where specific permission was received from the Washington Office to substitute one station for another.

e) Control adjacent to the shoreline and that within the area of photogrammetric coverage was searched for and Form 526 has been submitted for all stations. Stations outside the area covered by the photographs were not searched for due to heavy brush and undergrowth in the interior of the island.

(f) Control station identification cards were submitted for all stations required by the project diagrams.

4. VERTICAL CONTROL

Tidal beach marks at Kahului, Lahaina, Mala Wharf, Kihei, and Makaha were searched for and recovered.

Tidal beach marks at Hana were searched for but due to changes in the area, they were not recovered.

No vertical points were required for stereoscopic mapping.
5. CONTOURS AND DRAINAGE

The area below the 15 foot contour on sheet T-11906 was contoured as required by the project instructions. The area was contoured using the photograph, a Wild T-2, and topo rod. Elevations for the contouring were established by closed loops from the tidal bench marks at Kauluhi Harbor.

Drainage is all intermittent. Natural drainage patterns have been interrupted by various drainage canals, reservoirs, and catch basins to supplement the irrigation systems of the various plantations. Only overflow water runs occasionally in the natural drainage gullies.

6. WOODLANDS

The woodland cover over the major part of the island is low brush although in the dry areas, keawe trees are clumped along the shore. Monkey pod, an ornamental tree, line the roads occasionally.

In the area covered by sheet T-11906 and easterly to sheet T-11909, which is in the rainy portion of the island, trees grow profusely. Types are eucalyptus, kokui, koa, mango, coconut and kamane with a heavy tropical undergrowth of guava and other brush.

7. BEACH AND MODERN BEACH

(a) The mean high waterline was delineated on the photographs where it was possible to visit it. In areas of high bluff, inspection was done by viewing the area from the top of bluff. As in most cliff areas, there are many along shore rocks and high surf.

(b) The low waterline was not inspected
(c) The foreshore in the bluff areas is confused due to many along shore rocks. The continuous surf along the north, east and south sides of the islands served to confuse the high waterline on the photographs. In the sandy areas of the western and northern shore, the beach is protected by a coral reef which was found by the hydrographer, and which is visible on the photograph. In the Kinei area, offshore rock piles, the remains of old fish pond walls, are visible on the photographs. Offshore rocky reefs are found in some areas and, where seen, were noted on the field photographs.

(d) Bluffs and cliffs form the largest portion of the shoreline, although Maui is represented as having more beach area than any other of the Hawaiian Islands. From a few miles north of Kahului to Honolua Bay the shore is composed of high cliffs and low rocky bluffs. From Honolua Bay, through Lahaina and slightly south of Kapalua the shore is low with sandy beaches between rocky headlands. From the beginning of the cliffs at the south end of the West Maui Range to McGregor Point, the shore is again rocky and precipitous. At Maalaea, and continuing south past Makena to about a mile south of Puu Olai, the shore is protected and sandy with a few rocky projections which act as groins to hold the sand.

From the recent lava flow south of Puu Olai and continuing south and east toward Hana, the shoreline is rocky with bluffs ranging from 10 to 150 feet. In the area near Kaupo, Kipahulu, and Puuiki High vertical bluffs predominate. The only sand beach in the ontiro area is located several miles southeast of the village of Hana.
From Hana west to Kuau, or into sheet P-11903 the vertical cliffs range from 50 to 200 feet in height and there are no beach areas and no place to approach the high waterline from the beach side except at Keanae or Nahiku except by descending the vertical bluffs by ropes.

(e) Kahului Harbor, as mentioned in the Areal Description, is the principal and only commercial port in the island. It has recently been dredged, is well jettied and has wharves and facilities for ocean going vessels.

Hana Harbor is partially protected by natural rock projections but is open to some trade directions. It was used as a stop for interisland steamer traffic, and prior to World War 2, when the sugar plantation at Hana was under cultivation, cargo was loaded out of this port. Since the discontinuing of steamer traffic between the islands, only an occasional fuel barge or fishing boat uses the large concrete pier located here.

Mala Wharf, located a few miles north of Lahaina, was used to load sugar and pineapple during the days of steamer traffic but the large concrete wharf is in poor repair and has been closed by the Board of Harbor Commissioners.

Lahaina, once the seat of the Hawaiian kings, and the oldest town in the island, is the site of a protected small boat harbor. Fuel, food, and housing are available here.

Maalaea is the site of a small boat harbor used mainly by fishing boats. It is well jettied and fuel and supplies are available.

In the olden days, when steamers made the rounds of the island
and water transportation was at its height, there were other places where cargo was unloaded by boom and where whaleboat landings were made. Principal among these were Nuu Landing, Kaupo, and Nahiku. These have now been abandoned and only the remains of the old concrete foundations and the old mooring bolts remain.

(f) There are no overhead or submarine cables in the area covered by the project.

(g) There are no other shoreline structures.

8. OFFSHORE FEATURES

No offshore rocks were actually visited by the photogrammetric party. It was noted on the field photographs that the hydrographic party should be asked to determine the heights of offshore rocks. Where heights were indicated on the photographs, they were estimated from shore.

9. LANDMARKS AND AIDS.

Landmarks, nautical and aeronautical aids in Strips 1 to 7 were listed on Form 567 and forwarded with the field inspection photos. Other landmarks should be reported by the hydrographic party.

10. BOUNDARIES, MONUMENTS and LINES.

Investigation of boundaries, monuments and lines were not included in the instructions for the project.

11. OTHER CONTROL

No recoverable topographic stations were established. Where hydrographic or photogrammetric control by geodetic methods was required, only temporarily marked stations were used.

In areas which were inaccessible to the field party, hydro signal sites were not selected. It was requested that the hydrographic
party make a launch available to the photogrammetrist for the inspection of shoreline and the selection of hydro signal sites in these areas.

12. OTHER INTERIOR FEATURES

Roads within the area adjacent to the shoreline were classified as dfl, dd1 and sdl. Class 1 structures were not noted. Class 2 structures, churches and public buildings were noted.

The principal airport, Kahului Airport, is located about 3 miles east of Kahului Harbor. There is a paved airstrip at Hana used by DC3 and small private aircraft. A small dirt strip is located at Keanae, about 6 miles north of Lahaina and is used by small private aircraft. The abandoned Naval Airstrip at Puu Wen is not used.

There are no bridges or cables over navigable waters. No trace was found of the shore ends of any submarine cables.

13. GEOGRAPHIC NAMES

No geographic names investigation was required by the project instructions.

14. SPECIAL REPORTS AND SUPPLEMENTAL DATA

There were no special reports, or supplemental data.

Respectfully submitted

John C. Lajoye

8 September 1962
<table>
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<th>STATION</th>
<th>SOURCE OF INFORMATION (INDEX)</th>
<th>DATUM</th>
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<th>DISTANCE FROM GRID IN FEET, OR PROJECTION LINE IN METERS FORWARD (BACK)</th>
<th>DATUM CORRECTION FORWARD (BACK)</th>
<th>N.A. 1927-DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD (BACK)</th>
<th>FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD (BACK)</th>
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THERE IS NO HORIZONTAL CONTROL OF THIRD-ORDER ACCURACY OR HIGHER WITHIN THE LIMITS OF THIS MANUSCRIPT.
PHOTOGRAMMETRIC PLOT REPORT
ISLAND OF MAUI (EAST HALF)
HAWAII

Project PH-6212
February 1962

21. AREA COVERED

T-11905 through T-11911; T-11929 through T-11939;
T-11989 through T-11992

22. METHOD

Six stereoplanigraph bridges, designated as strips #8
through #13, were run in order to provide pass points for
use in Kelsh compilation of the project. Additional
points along the shoreline were provided, for possible use
in conjunction with hydrographic surveys in the area.

This project covers the entire eastern half of the island
of Maui, and adjoins a similar project of March 1961,
which covers the western half of the island. On that
earlier phase, the numbers assigned to the stereoplanigraph
bridges were #1 through #7.

Strip #13 was adjusted on a linear basis. All other strips
in this project (eastern half of the island) were adjusted
by a least-squares solution on the IBM 650 computer. Numer-
ous ties between strips were used as checks on adjustments.
A pass point from strip #9 was used in the adjustment of
strip #11. Where strip #11 duplicates the coverage of
strip #9, the former should be used in compilation.

Satisfactory ties with the project of March 1961, were made
on both the north and the south coasts. Also, satisfactory
adjustments were obtained for all strips in this part of the
Maui Island project.

23. ADEQUACY OF CONTROL

The horizontal control provided complied with project in-
structions, and was adequate. The following control failed
to hold in bridging: Δ PUHILELE, 1950-SUB. A; Δ Makaalae,
1950-SUB. B; Δ Puuhinai 2, 1950-SUB PTS. 1, 2, and 3. They
are to be disregarded in compilation. The problem with
PUHILELE-SUB A is entirely one of interpretation. In strip #3, two different possible positions for the point were read, one of which held in bridging, and the other failed to hold. In strip #9, the single position read for the point failed to hold. The number and geographical location of other control in this area is such that this station may be disregarded.

No specific cause has been found for the failure of MAKAALAE-SUB B to hold. Its companion sub. pt. held, and therefore, SUB B may be disregarded.

The sub. pts. of PUUHINAI 2 had a questionable starting azimuth due to the lack of agreement among several solar azimuth observations. The sub. points did not hold in the adjustment.

24. SUPPLEMENTAL DATA

None

25. PHOTOGRAPHY

The photography used in bridging was adequate in all respects.

Submitted by

Robert E. Fuechsel

Robert E. Fuechsel

Approved

Everett H. Ramey, Chief
Aerotriangulation Section
COMPILATION REPORT MAP MANUSCRIPT
T-11931

31. **DELINEATION**

The Kelsh Plotter was used for delineation with photography taken in 1960 and 1962.

32. **CONTROL**

Adequate supplemental control, based on field identified horizontal control, was established by aerotriangulation in the Washington office.

33. **SUPPLEMENTAL DATA**

None

34. **CONTOURS AND DRAINAGE**

Contours are inapplicable.

Drainage was compiled by the Kelsh operator.

35. **SHORELINE AND ALONGSHORE DETAILS**

The shoreline and alongshore details were delineated with the Kelsh Plotter using field inspection notes and by analogy.

36. **OFFSHORE DETAILS**

There are no offshore details.

37. **LANDMARKS AND AIDS**

There are no landmarks, fixed aids to navigation or aeronautical aids within the limits of this survey.

38. **CONTROL FOR FUTURE SURVEYS**

None established.
39. JUNCTIONS

Satisfactory junctions were made with T-11930 on the west and with T-11932 on the east. There is no contemporary surveys on the north or south.

40. HORIZONTAL AND VERTICAL ACCURACY

Please refer to the Photogrammetric Plot report bound with T-11894.

46. COMPARISON WITH EXISTING MAPS

Comparison was made with U.S.G.S. Makena, Hawaii 7½ minute quadrangle.

47. COMPARISON WITH NAUTICAL CHARTS

Comparison was made with Chart 1116, 12th edition, dated August 17, 1964.

ITEMS TO BE APPLIED TO CHARTS IMMEDIATELY

None

ITEMS TO BE CARRIED FORWARD

None

Submitted:

[Signature]

Donald M. Brant
Carto. (Photo.)

Approved:

[Signature]

Capt. C&GS
Norfolk Regional Office
GEOGRAPHIC NAMES
Ph 6012
T-11931
T-11932

Alalakeiki Channel
Cape Hanamaioa
Cape Kinau
Halua Pond
Hanamanioa Light
Kalaeloa Point
Kalulu Point
Kamanamana Point
Kanahena
Kanahena Point
Kanaloa Point
Kauhioaiakini Pond
Keawakapu
Keonekio
Kinau
La Perouse Bay
Makena
Maluaka Point
Na’una
Pohakuuea Point
Pohaku Paea
Puu o Kanaola
Puu Olai

Names on Makena Quadrangle not separated by T number.

All Names Approved by Office of Geography

Approval
A. J. Wright
1-20-66

* Names appear on T-11931
49. **NOTES TO THE HYDROGRAPHER**

Three photo-hydro signals, identified by the field inspection party, were located during compilation.

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<td>3102</td>
<td>Flag at N.E. corner of old foundation</td>
<td>60 W 2285</td>
</tr>
<tr>
<td>3103</td>
<td>S.E. corner of rock wall</td>
<td>60 W 2285</td>
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</table>
**PHOTOGRAMMETRIC OFFICE REVIEW**

**U.S. DEPARTMENT OF COMMERCE**
**COAST AND GEODETIC SURVEY**

<table>
<thead>
<tr>
<th>1. PROJECTION AND GRIDS</th>
<th>2. TITLE</th>
<th>3. MANUSCRIPT NUMBERS</th>
<th>4. MANUSCRIPT SIZE</th>
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<tr>
<th>5. HORIZONTAL CONTROL STATIONS OF THIRD-ORDER OR HIGHER ACCURACY</th>
<th>6. RECOVERABLE HORIZONTAL STATIONS OF LESS THAN THIRD-ORDER ACCURACY (TOPOGRAPHIC STATIONS)</th>
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<td>DMB</td>
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<tr>
<th>7. PHOTO HYDRO STATIONS</th>
<th>8. BENCH MARKS</th>
<th>9. PLOTTING OF SEXTANT FIXES</th>
<th>10. PHOTOGRAMMETRIC PLOT REPORT</th>
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<tr>
<th>11. DETAIL POINTS</th>
<th>12. SHORELINE</th>
<th>13. LOW-WATER LINE</th>
<th>14. ROCKS, SHOALS, ETC.</th>
<th>15. BRIDGES</th>
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<thead>
<tr>
<th>16. AIDS TO NAVIGATION</th>
<th>17. LANDMARKS</th>
<th>18. OTHER ALONGSHORE PHYSICAL FEATURES</th>
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<th>19. OTHER ALONGSHORE CULTURAL FEATURES</th>
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<tr>
<th>20. WATER FEATURES</th>
<th>21. NATURAL GROUND COVER</th>
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<th>22. PLANE TABLE CONTOURS</th>
<th>23. STEREOSCOPIC INSTRUMENT CONTOURS</th>
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<th>24. CONTOURS IN GENERAL</th>
<th>25. SPOT ELEVATIONS</th>
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<th>26. OTHER PHYSICAL FEATURES</th>
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<tr>
<th>27. ROADS</th>
<th>28. BUILDINGS</th>
<th>29. RAILROADS</th>
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<th>30. OTHER CULTURAL FEATURES</th>
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<th>31. BOUNDARY LINES</th>
<th>32. PUBLIC LAND LINES</th>
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<th>33. GEOGRAPHIC NAMES</th>
<th>34. JUNCTIONS</th>
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<tr>
<th>35. LEGIBILITY OF THE MANUSCRIPT</th>
<th>36. DISCREPANCY OVERLAY</th>
<th>37. DESCRIPTIVE REPORT</th>
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<tr>
<th>38. FIELD INSPECTION PHOTOGRAPHS</th>
<th>39. FORMS</th>
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</table>

**SIGNATURE OF REVIEWER:**

**FOR:** D.M. Brand

**SIGNATURE OF SUPERVISOR:**

**REVIEW SECTION OR UNIT:**

**SOMETHING:**

**SIGNATURE OF COMPILER:**

**USE REVERSE SIDE FOR REMARKS**

**FIELD EDITS:**

**NO CORRECTIONS REQUIRED**

**SIGNATURE OF SUPERVISOR:**

**USE REVERSE SIDE FOR REMARKS**

**FIELD EDITS:**

**NO CORRECTIONS REQUIRED**
FIELD EDIT REPORT
T-11931

No formal Field Edit Report was received. Please refer to the letter pertaining to the field edit of manuscripts on Maui Island which is the following page of this report.
TO:
The Director  
Coast and Geodetic Survey  
U.S. Department of Commerce  
Washington 25, D.C.

FROM: Commanding Officer  
USCGS Pathfinder  
761 Federal Office Building  
Seattle, Washington

SUBJECT: Field Edit Report - CGS-419

DATE: 8 July 1963

During the first half of the 1963 field season, Pathfinder personnel field edited the manuscripts listed below for accuracy and completeness. All recommended changes have been noted on the blackline impressions in red and green ink. In general, the manuscripts were found to be very reliable with only minor discrepancies being noted.

Four manuscripts with noted changes are being forwarded to the Washington Office on July 9. These manuscripts with no recommended changes have been noted below. The remaining manuscripts will be forwarded as soon as we have had an opportunity to compare them with the boat shots now in Washington for photography.

T-11995 Edited - No changes
T-11996 Edited - Will be forwarded later
T-11997 Edited - Will be forwarded later
T-11998 Edited - Will be forwarded later
T-11999 Edited - Will be forwarded later
T-11900 Edited - Will be forwarded later
T-11901 (Edited - No recommended changes)
T-11902 Edited - No recommended changes
T-11903 Edited - No recommended changes
T-11904 Forwarded 9 July
T-11905 Forwarded 9 July
T-11906 Forwarded 9 July
T-11907 Forwarded 9 July
T-11908 Edited - Will be forwarded later
T-11909 Edited - Will be forwarded later
T-11910 Edited - Will be forwarded later
T-11911 Edited - Will be forwarded later
T-11912 Edited - Will be forwarded later

It is requested that these manuscripts be returned to the Ship as soon as practical as they will be needed for smooth plotting.

[Signature]

H. L. Schneid
Captain, USCGS
61. GENERAL STATEMENT

See summary accompanying Descriptive Report.

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS

Comparison was made with a copy of Registered Planetable Survey No. 3276, 1:20,000 scale, made in 1912 and approved March 30, 1914. Because of the differences in scales of the two maps only a visual comparison was made. No major discrepancies between the two surveys were noted although the general shape of the shoreline on the planetable manuscript is necessarily somewhat generalized.

Map manuscript T-11931 supersedes the planetable survey and should be used for all future chart construction.

63. COMPARISON WITH MAPS OF OTHER AGENCIES

Comparison was made with U.S.G.S. Quadrangle Makena, Hawaii, 1:24,000 scale, edition of 1954. The shoreline of the U.S.G.S. Quadrangle is generalized and does not show all of the offshore rocks and foul areas.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS

Comparison was made with a copy of boat sheet H-8718 (PF-10-1-63). The shoreline of the boat sheet was apparently taken from a cronoflex reduction of the map manuscript and no discrepancies are evident.

65. COMPARISON WITH NAUTICAL CHARTS

Comparison was made with Nautical Chart 4116, 1:250,000 scale, 12th edition, August 17, 1964.
Adequacy of Results and Future Surveys

This survey complies with instructions and meets the National Standards of Map Accuracy.

There are no items to be verified by future surveys.

Reviewed by:

Leo F. Beugnet

Approved by:

J. Hall, CAPT., USESSA
Director, Atlantic Marine Center

Approved by:

Chief, Cartographic Branch

Chief, Photogrammetry Division

Chief, Chart Division

Chief, Operations Division
### INSTRUCTIONS

A basic hydrographic or topographic survey supercedes 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.

<table>
<thead>
<tr>
<th>CHART</th>
<th>DATE</th>
<th>CARTOGRAPER</th>
<th>REMARKS</th>
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