DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
R.S. Patton, Director

State: Hawaii

DESCRIPTIVE REPORT 4758

LOCALITY
Hanauma Bay and Vicinity
Oahu, Hawaii

19.31.

CHIEF OF PARTY
Hubert A. Paton, Lieut.
Descriptive Report

to accompany

Sheet M1

Hanauma Bay
and vicinity

Cahu, Hawaii

INSTRUCTIONS:

The work on this sheet was done in cooperation with the U.S. Army and in accordance with verbal instructions from the Department Engineer, Hawaiian Department, and his representatives. The Army wished to expedite the work as much as possible and to develop only those places suitable for landing troops.

This area had been surveyed by Lieut. E. R. Hand in 1928. On account of the excessive distortion in the photostat copy of his sheet (#4377) furnished this party, it was necessary to resurvey the entire shoreline, while locating the new hydrographic signals. A good many of the old signals were recovered and the same names given to them. See Sheet H2 for the remainder of the area on Sheet # 4377.

7-4759

CHARACTER OF CONTROL:

Seven triangulation stations were used to control this survey. A scheme of graphic triangulation was expanded into Hanauma Bay and toward Koko Head, using signals PIPE, JAP, PIL, and two un-named signals southwest and northwest of PIL.

CLOSING ERRORS:

A traverse was started at signal TRI, it being located by one shot from the graphic scheme. The traverse to the west could be run as far as signal ULT. The connection with the topography on Sheet "L" was sketched in, a distance of 120 meters, for an actual closure could not be made on account of the steep cliffs. The shore line was accurately located for 220 meters east of signal TRI.

A three point problem was used at signal CAT and a traverse extended to the west which closed without error.

The entire shore line in Hanauma Bay was located by intersections and three point problems. From signal JAP to Triangulation Station Blow, a traverse was run which had zero closure.
CHANGES:

There have been no apparent changes in the shore line since the last survey. The sand beach in the vicinity of signal LEN changes slightly after each storm but after a short time it resumes its former appearance.

CHARACTER OF SHORELINE:

Lava deposits in this area have produced a precipitous and dangerous shoreline. There is but little protection from the Northeast trade winds and a heavy surf pounds on the shore most of the time. An occasional swell, larger than the average, sometimes sweeps over the projecting points causing the death of the fishermen. Recently small concrete warning signs have been erected along the shore.

METHODS & EQUIPMENT:

Standard Coast Survey methods and equipment were used.

Respectfully submitted,

[Signature]
Hubert A. Paton,
<table>
<thead>
<tr>
<th>Object and description</th>
<th>Lat.</th>
<th>D.M.</th>
<th>Long.</th>
<th>D.F.</th>
<th>Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tall Mast, R.C.A. radio station</td>
<td>21°17'</td>
<td>412</td>
<td>157°042'</td>
<td>87</td>
<td></td>
</tr>
<tr>
<td>Taller Mast, &quot; &quot; &quot;</td>
<td>21 17</td>
<td>507</td>
<td>157 41</td>
<td>1543</td>
<td></td>
</tr>
<tr>
<td>Observation post, center of tower</td>
<td>21 16</td>
<td>6</td>
<td>157 42</td>
<td>692</td>
<td>30'</td>
</tr>
<tr>
<td>Pil, rock cairn &amp; post set in conc.</td>
<td>21 16</td>
<td>138</td>
<td>157 41</td>
<td>1367</td>
<td>8</td>
</tr>
<tr>
<td>Warning sign.</td>
<td>21 16</td>
<td>497</td>
<td>157 41</td>
<td>1698</td>
<td>7</td>
</tr>
<tr>
<td>Cor, SE cor. of pavilion.</td>
<td>21 16</td>
<td>913</td>
<td>157 41</td>
<td>1677</td>
<td></td>
</tr>
<tr>
<td>If, lone boulder, 50 meters NE of sand beach</td>
<td>21 16</td>
<td>1011</td>
<td>157 41</td>
<td>1560</td>
<td>6</td>
</tr>
<tr>
<td>Pipe, cable support, top of cliff.</td>
<td>21 16</td>
<td>1010</td>
<td>157 41</td>
<td>1570</td>
<td>7</td>
</tr>
<tr>
<td>B.M.3, Standard bench mark.</td>
<td>21 16</td>
<td>1034</td>
<td>157 41</td>
<td>1464</td>
<td></td>
</tr>
<tr>
<td>Bil, warning sign.</td>
<td>21 16</td>
<td>1022</td>
<td>157 41</td>
<td>1399</td>
<td>7</td>
</tr>
<tr>
<td>Hole in buttress, black rock.</td>
<td>21 16</td>
<td>982</td>
<td>157 41</td>
<td>1336</td>
<td></td>
</tr>
<tr>
<td>Jep, post set in concrete.</td>
<td>21 16</td>
<td>681</td>
<td>157 41</td>
<td>914</td>
<td>8</td>
</tr>
<tr>
<td>Blow Hole</td>
<td>21 17</td>
<td>227</td>
<td>157 40</td>
<td>1296</td>
<td></td>
</tr>
<tr>
<td>Pipe</td>
<td>21 16</td>
<td>1240</td>
<td>157 41</td>
<td>1029</td>
<td>2</td>
</tr>
<tr>
<td>Warn, warning sign.</td>
<td>21 17</td>
<td>257</td>
<td>157 40</td>
<td>1304</td>
<td></td>
</tr>
<tr>
<td>Cul, south end of covert pipe, middle one of three.</td>
<td>21 17</td>
<td>373</td>
<td>157 40</td>
<td>1264</td>
<td></td>
</tr>
<tr>
<td>Ard, NE end of guard blocks.</td>
<td>21 17</td>
<td>437</td>
<td>157 40</td>
<td>1223</td>
<td></td>
</tr>
</tbody>
</table>
The following determined objects are prominent, can be readily distinguished from seaward from the description given below, and should be charted.

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>POSITION</th>
<th>METHOD OF DETERMINATION</th>
<th>CHARTS AFFECTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>House</td>
<td>21 16 5' 157 42 692</td>
<td>1930 Stand. Toho</td>
<td>4151</td>
</tr>
<tr>
<td>Tall Mast</td>
<td>21 17 412 157 42 87</td>
<td>&quot; &quot; &quot; &quot; &quot; &quot;</td>
<td>&quot; &quot; &quot; &quot; &quot; &quot;</td>
</tr>
<tr>
<td>Tailor Mast</td>
<td>21 17 507 157 41 1545</td>
<td>&quot; &quot; &quot; &quot; &quot; &quot;</td>
<td>&quot; &quot; &quot; &quot; &quot; &quot;</td>
</tr>
</tbody>
</table>

A list of objects which are of sufficient prominence for use on the charts, together with a description of the same, must be furnished in a special report on this form, and a copy of such report must be attached by the Chief of Party to his descriptive report. The selection, determination, and description of these points are of primary importance.

The description of each object should be short, but such as will identify it; for example, standpipe, water tower, church spire, tank, tall stack, red chimney, radio mast, etc. Generally, flagstaffs and like objects are not sufficiently permanent to chart.
REVIEW OF TOPOGRAPHIC SURVEY No. 4758

Title (Par. 5c) Hanauma Bay and vicinity, S.E. coast of Oahu, Hawaiian Islands

Chief of Party H A Paton Surveyed by H A Paton Inked by H A P
Ship / Shore party Instructions dated July 14, 1931 Surveyed in Dec. 1931

1. The survey and preparation for it conform to the requirements of the Topographic Manual. (Par. 7, 8, 9, 13, 16.)

2. The character and scope of the survey satisfy the instructions.

3. The control and closures of traverses were adequate. (Par. 12, 29.)

4. The amount of vertical control that the Manual specifies for contours-formlines- was accomplished. (Par. 18, 19, 20, 21, 22, 23.)

   None

5. The delineation of -contours-formlines- is satisfactory. (Par. 49, 50.)

   None

6. There is sufficient control on maps from other sources that were transmitted by the field party to enable their application to the charts. (Par. 28.)

   None submitted

7. High water line on marshy and mangrove coast is clear and adequate for chart compilation. (Par. 16a, 43, 44.)

8. The representation of low water lines, reefs, coral reefs and rocks, and legends pertaining to them is satisfactory. (Par. 36, 37, 38, 39, 40, 41.)

9. Rocks and other important details shown on previous surveys and on the chart were verified. (Par. 25, 26, 27.)

10. The span, draw and clearance of bridges are shown. (Par. 16c.)

11. Locations and elevations of summits are given. (Par. 19, 51.)

12. The tree line was shown on mountains. (Par. 16g.)

NOTE: Strike out paragraphs, words or phrases not applicable and modify those requiring it. Paragraph numbers refer to those in the Topographic Manual. Use reverse side for extending remarks.
13. The descriptive report covers all details listed in the Manual, in so far as they apply to this survey. (Par. 64, 65, 66, 67.)

14. The descriptive report also contains additional information required in aero-topography relative to type of photographs, method of compilation and type of ground control.

15. The descriptions of recoverable stations and references to shore line were accomplished on Form 524. (Par. 29, 30, 57, 67 except scaling of DMs and DPs, 68.) and plotting checked apt.

16. A list of landmarks for charts was furnished on Form 567 and plotting checked. (Par. 16d, e, 60.)

17. The magnetic meridian was shown and declination was checked. (Par. 17, 52.)

18. The geographic datum of the sheet is *Old Hawaiian* and the reference station is correctly noted. (Par. 34.)

19. Junctions with contemporary surveys are adequate.

20. Geographic names are shown on the sheet and are covered by the Descriptive report. (Par. 64, 65k.)

21. The quality of the drafting is good. (Par. 31, 32, 33, 35, 36, 37, 38, 39, 40, 41, 42, 45, 46, 47, 48, 49, 50.)

22. No additional surveying is recommended.

23. The Chief of Party inspected and approved the sheet and the descriptive report, after review by

24. Remarks:

Reviewed in office by R.J. Christman, Feb. 14, 1934

Examined and approved:

LO: Holst
Chief, Section of Field Records

J.E. Brodie
Chief, Division of Hyd. and Top.

LO: Holst
Chief, Division of Charts
The Topographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. ...Mq........

REGISTER NO. 4758

State........................................Hawaiian Is.

General locality. St. E. Coast of Oahu

Locality................................Hanama Bay and Vicinity

Scale 1:5000 Date of survey December 1931

Vessel Inshore Hydrographic Survey of Oahu

Chief of Party Hubert A. Paton, Lieut.

Surveyed by H.A. Paton and L.A. Wirtz, Sgt., U.S.A.

Inked by Hubert A. Paton

Heights in feet above high water to ground

Contour, Approximate contour, Form line interval

Instructions dated July 14, 1931

Remarks: Surveyed in cooperation with the U. S. Army, to re-
locate signals for Hydrographic Survey - See Sheet No. 4377...