

4745

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

State: T. Hawaii
11-5613

DESCRIPTIVE REPORT.

Topographic Sheet No. 4745

LOCALITY:

Hawaiian Islands

West Coast of Lanai Island

1931-32

CHIEF OF PARTY:

O. W. Swainson

Applied to compilation Chart 4120 - Feby. 25, 1941 - J.W.

DESCRIPTIVE REPORT
TO ACCOMPANY

TOPOGRAPHIC SHEET "F"

West Coast Lanai

AUTHORITY The area covered in this work was done in accordance with instructions dated August 19, 1930 for Project 69.

LIMITS This survey consists of the shore line from Cape Kaea to a junction with the southern part of T 4304 A, Kamalapau Harbor, and from a junction with the northern part of T 4304 A to a junction with T 3434, on the north side of Lanai. The scale used was 1 : 20,000.

GENERAL DESCRIPTION The coast line around Cape Kaea consists of low rocky bluffs behind which the land rises in steep slopes to the table land above. North of the Cape the bluffs rise rapidly to an elevation of approximately one thousand feet along Kaholo Pali, which is a dark, rocky, precipitous bluff and very prominent from offshore. A narrow beach, covered with boulders extends along the base of the bluff. From the Pali northward the bluff gradually diminishes in height until Kaumalapau Harbor is reached. This harbor affords an indifferent anchorage for small coasting vessels.

North of Kaumalapau the shoreline becomes more rugged with numerous indentations and bights. The bluffs are rocky and low, varying in height from fifty to two hundred feet until Five Needles are reached. The Five Needles are a group of detached pinnacle rocks, the highest of which is one hundred ten feet. They lie close to shore and are difficult to distinguish from offshore on account of the higher bluff behind them. Just inshore from the Needles is a prominent gulch.

For about three miles northwest of the Needles the rocky bluffs are of fairly uniform height, gradually diminishing until they do not exist.

From Keanapapa Point to Kaena Point the shore line is very rugged with numerous rocks lying close to shore. Kaeap Point is low and rocky and hard to distinguish from the other points in the vicinity.

From Kaena Point eastward the bluffs gradually become lower until only a few feet high, and at a distance of about one mile from the point there extends a narrow stretch of sand beach. Back of the beach the land rises gently to the table land. North of A Kaena the coral reef that fringes the shore line along the north coast ends.

LANDMARKS The most prominent landmark on the southwest side of the island is the dirt and rock slide at the base of Kaholo Pali. Topographic station "Fun" marks the base of this slide. A Kaholo is on the highest point of the bluff above.

↑ (See Link of Plane Table Hts. for Dm. & H.P.)

About a mile south of Keanapapa Point is a prominent greyish slide along the face of the bluff which is plainly visible offshore. This is marked by
○ Slide.

CHARACTER OF CONTROL, The usual method of traverse was used wherever possible, tying in to established triangulation stations. In a few places between Δ Kaapa and Keanapapa Point it was found necessary to locate signals and set-up places by cuts taken on the ship, using a three point fix on triangulation stations, inasmuch as traverse was hardly possible along the base of the bluffs.

From Δ Kaena, a traverse was run to Δ Coe. An azimuth line was drawn on the sheet to Wireless pole at Kaunakakai, Molokai Island, and used for orientation.

CLOSING ERRORS OF TRAVERSE All closing errors of the traverse run were within the allowable error. The following list shows the amount of errors which were errors in distance and adjusted proportionally. Due to large distortion of the sheet, readings had to be corrected while traversing.

Δ Kau	- Δ Kaea	Closing error 15 meters
Δ Manui	- Δ Nana	" " 5 "
Δ Nana	- Δ Lost	" " 0 "
Δ Lost	- \odot Be (Located by ship)	" " 5 "
\odot Be	- Δ Nob	" " 10 "
Δ Kaena	- Δ Coe	" " 20 "
Δ Coe	- Δ Nob	" " 0 "

JUNCTIONS WITH OTHER SURVEYS This survey joined properly with previous surveys. It will be noted that no form lines have been shown on the sheet. Only elevations were taken to the top of the bluffs, as it would have been necessary to draw the form lines from offshore. However, numerous elevations and form lines as shown on the Geological Survey map of Lanai were verified from offshore; which indicated that the Geological Survey map was very complete.

LIST OF NEW NAMES No new names were assigned. All the names shown on the sheet were taken from the topographic map of Lanai by the U. S. Geological Survey.

LIST OF PLANE TABLE POSITIONS

	Lat.	Meters	Long.	Meters	Ht.	Remarks
Moku Naio	20° - 44'	800	156° - 58'	510	28	Island (Top. sta. La)
\odot Fun	20° - 45'	660	156° - 59'	35	-	Dirt and rocky slide at base of Kaholo Pali
\odot Slide	20° - 52'	810	157° - 03'	256	-	Greyish slide

Respectfully submitted,

Percy L. Bernstein
Percy L. Bernstein,
Jr. H. & G. Engineer.

Approved and forwarded:

O. W. Swainson
O. W. Swainson,
Chief of Party, C. & G. S.

REVIEW OF TOPOGRAPHIC SURVEY No. 4745

Title (Par. 56) *West Coast of Lanai, Hawaiian Islands*Chief of Party *W. Swainson* Surveyed by *P.L. Bernstein* Inked by *P.L. Bernstein*Ship *Pioneer* Instructions dated *Aug 19, 1930* Surveyed in *Dec. 1931 Feb. 1932*

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.)

*Elevations of bluffs along shore line are shown, no other elevations are shown.*5. The delineation of -contours-formlines- is satisfactory. (Par. 49, 50.) *No contours/formlines are shown*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. Reference is made to "topographic map of Lanai by the U.S. Geological Survey."*

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.)~~ *No interior elevations are shown on the sheet, reference is made to the Geological Survey work on this island*

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. ^{No} The descriptions of recoverable stations and references to shore line were accomplished on Form 524. (Par. 29, 30, 57, 67 except scaling of IMs and DPs, 68.)
16. ^{No} list of landmarks for charts was furnished on Form 567 and plotting checked. (Par. 16d, e, 60.) *Landmarks covered by Desc. Report.*
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, 66k.) ✓
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*, Nov. 22, 1933

Examined and approved:

L.O. Polk

Chief, Section of Field Records

W. H. P. ...
Chief, Division of Charts

J. H. Borden

Chief, Section of Field Work

G. H. ...
Chief, Division of Hyd. and Top.

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REG. NO. 4745

TOPOGRAPHIC TITLE SHEET

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. F

REGISTER NO. 4745

State ~~Territory of~~ Hawaiian Is.

General locality Lanai ~~Island~~

Locality West Coast

Scale 1:20,000 Date of survey Dec. - Feb., 192 31, 1932.

Vessel U.S.C. & G.S.S. PIONEER

Chief of Party O. W. Swainson

Surveyed by Percy L. Bernstein

Inked by Percy L. Bernstein

Heights in feet above H. W. to ground ~~to tops of trees~~

Contour, Approximate contour, Form line interval _____ feet

Instructions dated August 19, 192 30

Remarks: _____