

4437

Form 504	
DEPARTMENT OF COMMERCE	
U. S. COAST AND GEODETIC SURVEY	
E. Lester Jones, Director	
<div>U. &amp; G. SURVEY L. &amp; A JUL 22 1929 Acc. No.</div>	
State Ter. of Hawaii.	
DESCRIPTIVE REPORT	
Topographic <del>Hydrographic</del>	Sheet No. "B" 4437
LOCALITY	
0.6 mile East of	
To	
1.0 mile West of	
Kukuihaele Landing, Hawaii, T. H.	
192 9	
CHIEF OF PARTY	
K. T. Adams.	

GOVERNMENT PRINTING OFFICE

4437

DESCRIPTIVE REPORT

TO ACCOMPANY TOPOGRAPHIC SHEET

NO. "B"

SCALE 1:2,500

NORTH COAST OF HAWAII ISLAND

SURVEYED NOVEMBER 1928 TO JANUARY 1929

K. T. Adams, H. & G. Engineer, Chief of Party.

George W. Lovesee, Aid, Topographer.

LIMITS:

The work on this sheet covers the coast line from  $\frac{3}{4}$  mile east of Kukuihaele Landing to 1 mile west of Kukuihaele Landing, Hawaii, T. H. The warehouse and lift buildings at the landing only were located. The area from the top of the cliff along shore line to the high water line was located and contour lines determined as accurately as possible. Off shore and sunken rocks were also located by cuts, but it was impossible to obtain rod readings on them because of heavy swells sweeping in from the Pacific Ocean.

CONTROL:

The control consists of various triangulation stations established by E. R. Hand in 1913.

The following triangulation stations were recovered and used; Lift 1913, U.S.L.H. 1913, Kukuihaele Light 1913, and Anuenue 1913. Station Stack Kukuihaele has been destroyed. This was the stack on the Kukuihaele Sugar Mill. The mill buildings and all machinery was sold to a company in Japan several years ago and everything but the concrete foundations have been removed.

METHOD:

The plane table traverse method was used on the entire sheet. There are only 3 triangulation stations on the sheet and they are only 300 meters apart. A fourth station, Anuenue was located about  $2\frac{1}{2}$  miles inland and a signal built here. Azimuths to this station were then laid off on the sheet from each of the three triangulation stations. These stations were then occupied in turn and the table oriented by sighting on station Anuenue.

Small signals for inshore hydrographic work were built well above high water line in advance of the plane table work and were located by rod readings with check readings. All topographic signals along the shore line are of white wash on either rock cairns, large rocks and boulders or on the cliff.

High water line was rodged in when possible but at times vertical cliffs and heavy swells and breakers made it necessary to cut in even the high water line. The elevation and location of the top of cliff was determined by rod readings and cuts. The pack trail along side of cliff west from the landing was rodged in. The pack trail winding up the face of cliff near the western limit of the sheet was sketched in. The mooring buoys were located by cuts taken at the triangulation stations.

TRAVERSE CLOSURES:

The traverse from station U.S.L.H. to station Kukuihaele Light, error 0.0 meters.

The traverse from station U.S.L.H. to station Lift, error 0.0 meters.

GENERAL DESCRIPTION OF LOCALITY:

The area east from the landing consists of nearly vertical cliffs from the 20 foot contour line to an elevation of from 40 to 250 feet. West from the landing the cliff rises more gradually to an elevation of nearly 600 feet at the western limit of the sheet. The area west of the landing and back of the 30 foot contour line is covered with a dense growth of tall grass and Lauhala trees. Sugar cane grows practically to the edge of the cliff, being so close in places that there is not even room for a foot trail.

There is no sand beach on this sheet. Most of the high water line is made up of huge rocks and boulders which have fallen from the cliff above. These rocks vary in size from one and two feet to 10 feet in diameter.

There is a small breakwater near the western limit of the sheet, as shown. It is possible to land behind this breakwater in a small boat when the sea is calm. However if there is a moderate swell it is impossible to land in a small boat even here as the swells break over this entire shore line.

Signal Top is a permanent plantation signal build of heavy timbers with a tripod and center pole. It is on the top of cliff at an elevation of about 400 feet.

PROGRESS:

Work was begun on January 25th and completed on January 29, 1929.

REMARKS:

Kukuihaele landing is used as a shipping point by the Honokaa Sugar Company. At present all of their sugar is shipped from and supplies received here.

The sugar is transferred from the warehouse at the top of the cliff to the ship by a cable lift. The lift building has an elevation of 290 feet and from the warehouse to the ship the cable is 826 feet long.

STATISTICS:

Statute miles of high water line -----	2.3
Statute miles of low water line -----	0.0
Area in square statute miles -----	0.2

All work was done by a shore party stationed at Honokaa Sugar Plantation.

APPROVED, *K. T. Adams*  
K. T. Adams,  
H. & G. E., Chief Of Party

RESPECTIVELY SUBMITTED,  
*George W. Lovess*  
George W. Lovess,  
Aid, C. & G. Survey.

DEPARTURES OF THE MERIDIAN & PARALLEL FOR TOPOGRAPHIC SHEET AT KUKUIHAELE, HAWAII.

SIGNAL	LATITUDE	LONGITUDE	ELEVATION	DESCRIPTION OF SIGNAL
	(456)	(925)		
Top	20° 07' 1389	155° 34' 818	390'	A permanent tripod & center pole on top of cliff used as a signal by the Sugar Co. plantation.

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

WASHINGTON

April 24, 1930.

SECTION OF FIELD RECORDS

Report on Topographic Sheet No. 4437

Kukuihaele Landing, Hawaii

Surveyed in 1929

Instructions dated October 28, 1928 (GUIDE)

Chief of Party, K. T. Adams.

Surveyed and inked by G. W. Lovesee.

1. The plan and character of the survey conform to the instructions in the Topographic Manual.
2. The survey complies with the specific instructions, except that it extends only one-half mile eastward of the landing instead of "at least one mile on each side of the landing" as directed.
3. The junctions with the previous survey are adequate, and no additional work is required.
4. The character of the surveying and field drafting are excellent.
5. Reviewed by E. P. Ellis, April, 1930.

Approved:

*C. K. Green*

Chief, Section of Field Records (Charts)

*J. B. Borden*

Chief, Section of Field Work (H. & T.)

*L. O. Solbert*

Chief, Div. of Hydrography and Charts

*Charts*

*G. H. de*

Chief, Division of Hydrography and Tides

IN REPLY ADDRESS THE DIRECTOR  
U. S. COAST AND GEODETIC SURVEY  
AND NOT THE SIGNER OF THIS LETTER

DEPARTMENT OF COMMERCE

AND REFER TO NO. 11-DEM

U. S. COAST AND GEODETIC SURVEY

WASHINGTON

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Approved:

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Chief, Section of Field Records (Charts)

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Chief, Section of Field Work (H. & T.)

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

REG. NO.  
4437

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. "B"

REGISTER NO. 4437

State Territory of Hawaii.

General locality North Coast of Hawaii Island.

Locality Kukuihaele Landing

Scale 1 - 2,500 Date of survey January, 1929

Vessel U. S. C. & G. S. S. GUIDE.

Chief of Party K. T. Adams

Surveyed by G. W. Lovesee

Inked by G. W. Lovesee

Heights in feet above MTL to ground ~~to tops of trees~~

~~Contours~~ Approximate contour, Formline interval ~~Formline interval~~ 10 feet

Instructions dated October 8, 1928

Remarks: