

4630

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Form 504

U. S. COAST AND GEODETIC SURVEY
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey *Hydrographic*
 Field No. *4630* Office No. *4632*

LOCALITY

State *Territory of Hawaii*
 General locality *Kaula to*
 Locality *Niihau and*
Niihau to Kaula
1926

CHIEF OF PARTY
G. S. Garner

LIBRARY & ARCHIVES

DATE

14

4630 and 4632

4630 and 4632

Form 504

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

C. & G. SURV. & A.
APR 19 1927
Acc. No.

~~State~~ Territory of Hawaii.

11-5613

DESCRIPTIVE REPORT.

Hydrographic Sheet No. ~~8~~ 11 & 14
4630 4632

LOCALITY:

Kauai to Niihau Islands, and

Niihau to Kaula Islands. P.H.

1926

CHIEF OF PARTY:

Lieut. Comdr. Clem L. Garner.

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DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO.
4630

HYDROGRAPHIC TITLE SHEET

Prepared in the Office

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. 11

REGISTER NO. **4630**

State Hawaiian Is.

General locality Kaulakahi Channel

Locality Kauai to Niihau and around Niihau-Offshore

Scale 60,000 Date of survey May 25 ~ Oct. 19, 1925

Vessel Discoverer

Chief of Party C. L. Garner

Surveyed by C. L. Garner

Protracted by Field Party J. B. Reed - Buckley - H

Soundings penciled by " "

Soundings in fathoms ~~feet~~

Plane of reference M. L. L. W.

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated Nov. 23, 1925

Remarks:

GPO

Applied to chart 4181 Aug. 24, 1940 JKS

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 4632

HYDROGRAPHIC TITLE SHEET

Prepared in the Office

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. 14

REGISTER NO. 4632

State Hawaiian Islands

General locality Niihau to Kaula

Locality Approaches to Kaula

Scale 60,000 Date of survey Sept. 22~Oct. 13, 1926

Vessel Discoverer

Chief of Party C. L. Garner

Surveyed by " " "

Protracted by Field Party J. B. Reed

Soundings penciled by " " " "

Soundings in fathoms ~~feet~~

Plane of reference H. L. L. W.

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated Nov. 23, 1925

Remarks:

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SHEETS NOS. 11 AND 14,

KAUAI TO NIIHAU, AND NIIHAU TO KAULA, T.H.

Surveyed by the Str. DISCOVERER, C.L.Garner, Comdg.

1926.

Commanding Officer's Instructions dated Nov. 23, 1925.

LIMITS: This single report accompanies the adjoining sheets Nos. 11 and 14 (field designation). Sheet No. 11 covers the deep sea hydrography from Kauai to Niihau; sheet No. 14 includes the hydrography from Niihau to Kaula. The work is done on a scale of 1:60,000. The hydrography on sheet No. 11 extends from Latitude $21^{\circ} 40'$ N. and Longitude $159^{\circ} 35'$ W. to Latitude $22^{\circ} 15'$ N. and Longitude $160^{\circ} 23'$ W, respectively. Sheet No. 14 connects with sheet No. 11 on the east and extends west to Longitude $160^{\circ} 41'$ W. In general this hydrographic survey covers the deep sea soundings of Kaulakahi Channel, between Kauai and Niihau and also the channel between Niihau and Kaula, with a close development of the bank extending northwestward from Kaula

GENERAL DESCRIPTION OF COAST, LANDMARKS, ETC. This subject is covered in the descriptive reports accompanying the hydrographic and topographic sheets of

this region, on a scale of 1:20,000. Kaula is a small crescent-shaped rocky islet about 600 feet high, lying about 19 miles southwestward of Niihau. The coast line is steep and rugged and the summit is grass covered. This bold islet makes a prominent landmark as far as visible. It is a large bird rookery.

DANGERS: An extensive 35 fathom bank about $3\frac{1}{2}$ miles in width makes out $5\frac{1}{2}$ miles northwestward of Kaula. A coral head of very small extent with a least depth of $6\frac{1}{2}$ fathoms exists 3.8 miles (nautical) $283\frac{1}{2}^{\circ}$ (true) from the highest point of Kaula. No indication of the three 30 foot pinnacle rocks reported to lie about 4 miles west of Kaula were found and their existence in such deep water is quite improbable. It is believed likely that those reports all refer to the rock found above.

ANCHORAGES: While engaged in the survey of Kaula the DISCOVERER anchored on the west side of the island about 400 meters from shore in 26 fathoms water, rocky bottom. This anchorage, in the lee of Kaula Island, affords fair protection from Northeasterly trades. For anchorages on Kauai and Niihau also for description of inshore dangers refer to Descriptive Reports accompanying inshore hydrographic sheets of this region also reports accompanying topographic sheets.

SURVEY METHODS AND CONTROL: The control for the hydrographic work was obtained from recovered triangulation stations on Kauai and Niihau, established by the Hawaiian Territorial Survey and by the U. S. Geological Survey, which positions are based on the Independent Hawaiian Datum. Because of an apparent discrepancy in the old triangulation on Niihau and Lehua, the connection between Kauai and Niihau was re-observed towards the end of the season. A considerable error was actually found to exist, necessitating revision of the triangulation and the plane table positions on Niihau and Lehua Islands. Hence, on the boat sheets, ^(all only) the hydrography is erroneous as to position. All work, however, is correctly plotted on the smooth sheets from control based on the Independent Hawaiian Datum. In addition to triangulation signals, objects determined by a plane table survey or by sextant cuts were also used for the control which objects are shown in their distinctive symbols on the smooth sheets. In executing the hydrography around Kaula three point fixes were in places impossible to obtain, hence, such angles and bearings as were available were observed and used in the determination of position. It was the only possible method.

All soundings on sheets Nos. 11 and 14 were made from the DISCOVERER by means of vertical casts, with the exception of a few lines of soundings inside of the 100 fathoms curve and run parallel to the shore, on the west side of Niihau and also off the west coast of Kauai, which hydrography was done from the ship, using Rude-Fischer pressure tubes and hand lead. Also, the development work around Kaula was done with pressure tubes and hand lead. Detachable sounding shot were used in depths over 800 fathoms. Bottom specimens were obtained frequently and sufficient bottom samples were preserved for an oceanographic study of this region. These samples were forwarded to the Scripps Institution, California. Automatic tide gauges were operated at Waimea, Kauai and at Nono-papa, Niihau, during the period of operations.

Respectfully submitted


Lieut. Jack Senior.

Approved and forwarded:


Lieut. Comdr. Clem L. Garner,
Commanding Ship DISCOVERER.

See further data attached
C.L.G.

MEMORANDA REGARDING THE SURVEY OF KAULA ISLAND,
AND HYDROGRAPHY.

Kaula? OKC 19

Due to difficult landing conditions at ~~Niihau~~, where little could be done even if a landing had been made, no attempt was made to show light or heliotrope from the island. The location of the top of Kaula is therefore from intersections from the north and south ends of Niihau, thus securing the best intersection available, and the station is not marked but is merely the highest point of the island as best it could be observed from the stations involved. Stations LEHUA and HOA were used in the computation and are best, for though observations were made from triangulation station KAL, it was only an approximate pointing and was not carefully observed. At stations HOA and LEHUA the observations were made for the one purpose of computing the position of the highest point of the island and care was exercised in the observations. At Lehua, however, the distance is too great to secure good visibility. The island was not very distinct at the time of observations.

The location of NO and SO is described herewith, a copy of which was also attached to the triangulation computation.

No topography was attempted as a great amount of delay in making landings would have resulted. The island was sketched on the boat sheet of scale 60,000 while working around the island and has been supplemented by photographs which were furnished by the U. S. Army Air Service. These photographs are attached and have the positions of stations shown on them. It is probable that the topography can be improved in the Office. As will be noticed from the pictures the west coast is very precipitous while the east side inside the crescent contains a narrow shelf just above the water's edge. On the northwest end of the island there is a very prominent cave leading well under the island. It is shown in one of the photographs.

Due to poor control and the fact that Kaula is of little commercial importance a great amount of sounding close inshore was not done. The indications, however, are that the shores are bold all around and contain no dangers. The DISCOVERER manouvered very close in-shore on all sides, and kept a careful watch for dangers.

With further reference to the $6\frac{1}{2}$ fathom rock, 3.8 miles $283\frac{1}{2}$ degrees from the highest point of Kaula, it should be explained that this rock is not more than 60 meters in length, being longest in the northwest and southeast direction, and has only a small amount of coral or sand on it, making it difficult to see.

Search was made for the three 30 foot pinnacles reported (from the Coast Pilot) to be 4 miles west of the island. Due to poor control this work was not entirely satisfactory, yet is the best that is possible and justifies the doubt as to the existence of the pinnacles. There is deep water (300 fathoms) at the reported position but the south end of the bank is only about one mile to the north and is plainly marked by the color of the water though only the depths shown on the sheet were found. Several miles of parallel courses were run with the ship in the vicinity of these reported shoals as the conditions were very favorable for seeing shallow water but nothing was seen. It is possible that the one shoal accounts for all the reports, though difficult to see how it could be mistaken for more than one pinnacle

A few sounding lines more than called for by the instructions were run southwest of Kauai in order that when corrected charts might show complete soundings for the channel between Kauai and Niihau, ^{which channels} quite often used by ships bound to Japan.

Clem L. Garner

Clem L. Garner, Lieut. Comdr.,
Commanding Officer,
Str. DISCOVERER.

COMPUTATION OF "NO" AND "SO".

The positions of these points are computed from one direction with theodolite from triangulation station HOA on each tangent of the island and a corrected compass bearing from the ship. Tangents from Lehua could not be used as due to curvature of the earth it was not certain that the true tangents were observed.

The ship was maneuvered near SO and NO, each of the points, in turn and so placed that the points of tangency from triangulation station HOA were in range with triangulation station KAULA on which azimuths were taken from the Standard Compass. Azimuths were also taken as near simultaneously as possible on triangulation station HOA thus securing corrections to the Standard Compass. These corrections were applied to the bearings of the range. The difference in angle at triangulation station KAULA between the azimuth to HOA (from triangulation) and to the ship (by compass) (which as already explained was successively on each of the lines formed by the tangential points and KAULA) were accepted as the true angles at KAULA and computations made accordingly.

It is realized that an error of as much as twenty meters in position may result from this method of determination due to a possible error of not more than twenty degrees in compass bearing due to some motion of ship. This is accurate for all purposes of the chart in this vicinity however, and is in reality about the only practicable way of mapping the island. Most of the west shore of the island is a cliff and not accessible while it is very difficult to land on the east shore and much time would have been lost in such a useless attempt. The elevation was determined by sextant angles.

Triangulation station KAULA is the highest point of the island fairly distinct and it is believed that this position is correct within 15 or 20 meters. No attempt was made to establish a station on the island as a light or heliotrope would have been necessary and landings were entirely too uncertain for such purposes. Under fair conditions landings can be made on the southwest side where the lighthouse service has established iron bolts in the side of the bluff extending up to a wooden ladder which reaches to the top of the cliff.

C.L.G.

ANALYSIS OF COMPUTATION:

	<u>SO</u>	<u>NO</u>
Computation ^{ass} Azimuth to HOA from near	56° 00'	-----
True azimuth to HOA as measured from projection -	66° 30'	-----
Computation ^{ass} azimuth to HOA from LENUA	-----	41° 00'
True azimuth to LENUA as measured from projection	-----	49° 00'
Compass correction at plus <u>10° 30'</u> → + 10° 30' plus		8° 00'
Bearings on range SO-KAULA	299° 00'	-----
Bearings on range NO-KAULA	-----	193° 00'
True bearing on	309° 30'	201° 00'
True bearing to HOA from Kaula (See computation, Kaula)	248° 09'	248° 09'
Angles at KAULA between △ HoA and	61° 21'	47° 09'

COMPUTATION OF ELEVATION OF KAULA.

Distance - 9630 m. 31594 feet

Angle of Elevation - $1^{\circ}-06'-05''$

Dip of Hor. (H.I. 33 ft) - $06'-00''$

True angle of EL. $1^{\circ}-00'-05''$

Log 31594 ----- 4.4996146

Log tan $1^{\circ}-00'-05''$ - 0.2425244

552.2 ----- 2.7421390

----- 552.2

H.I. ----- 33.

Corv. ----- 20

600. -Elevation of
KAULA

The position is a poor one and the distance is rather uncertain. For this reason the elevation may have an error of about 20 feet.

STATISTICS TO ACCOMPANY SHEETS

No. 11 and 14.

KAUAI TO NIIHAU.

(Date-1926)	(Letter)	(Volume)	(Positions)	(Soundings)	(miles stat.)	(Vessel)
May 25	B	1	54	145	25.0	DISCOVERER
26	C	1	24	24	25.3	"
27	D	1	39	39	20.0	"
June 11	E	1	47	249	24.0	"
14	F	2	18	18	23.0	"
16	G	2	13	13	13.8	"
17	H	2	31	31	25.5	"
18	J	2	26	66	12.5	"
19	K	2	21	21	36.0	"
July 26	L	2	16	16	16.0	"
Aug. 12	M	2	14	14	24.1	"
16	N	2	6	6	12.1	"
25	P	2	10	10	16.7	"
Sept 9	Q	2	20	20	25.3	"
21	R	2	19	19	43.7	"
22	S	2	7	7	9.8	"
24	T	2	15	15	15.0	"
Oct. 5	U	2	20	20	37.4	"
12	V	3	9	9	22.5	"
14	W	3	20	20	52.9	"
15	X	3	47	128	54.0	"
16	Y	3	78	250	33.3	"
19	Z	4	53	278	37.5	"
Totals:			607	1418	617.9 605.7	
Area - 930 Sq. Mi.						

NIIHAU TO KAULA

Sept. 22	A	1	14	14	17.8	"
23	B	1	71	223	46.0	"
24	C	1	16	16	23.0	"
Oct. 5	D	1	2	2	3.5	"
6	E	1	25	25	27.6	"
7	F	1&2	65	197	39.9	"
8	G	2	48	156	34.7	"
12	H	2	6	6	14.3	"
13	J	2	19	15	40.3	"
Totals:			266	654	247.1	
Area - 393.3 Sq. Miles.						

(11)

May 16, 1927.

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in
3 volumes of sounding records for

HYDROGRAPHIC SHEET 4630

Locality: **KAUAI ISLAND to NIIHAU ISLAND, HAWAIIAN ISLANDS.**

Chief of Party: **G. L. Garner in 1926.**

Plane of reference is **M L L W**

2.2 ft. on tide staff at **Honopapa, Niiha Island.**

3.5 ft. ----- do ----- **Honolulu, Oahu Island.**

2.0 ft. ----- do ----- **Waimea, Kauai Island.**

Condition of records satisfactory except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of each day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks.

G. L. Garner

Chief, Division of Tides and Currents.

May 11, 1927.

(11)

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in
2 volumes of sounding records for

HYDROGRAPHIC SHEET 4632

Locality: NIIHAU ISLAND TO KAULA ISLAND, HAWAIIAN ISLANDS.

Chief of Party: C. L. Garner in 1926.

Plane of reference is M L L W

3.5 ft. on tide staff at Honolulu, T. H.

Condition of records satisfactory except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of each day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks.

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Chief, Division of Tides and Currents.

Report of Hydrographic Sheet # 4630, Survey in 1926

Chief of Party C. L. Garner

Profiles and Soundings plotted by T. B. Reed

Verified and inked by J. G. Ladd

1. The records conform to the requirements of the general instructions
2. The plan and character of the development satisfies the requirements of the general instructions.
3. The usual depth curves could be drawn
4. The sounding line crossings seem to be adequate
5. The field plotting was complete to the extent prescribed in General Instructions; and no drafting had to be done over by the office drafter
6. The area seems to be fully developed.
7. The field drafting was very neat and accurate.

John G. Ladd

DEPARTMENT OF COMMERCE

AND REFER TO NO. 11-DRM

U. S. COAST AND GEODETIC SURVEY

WASHINGTON August 1, 1928.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4630

Kaulakahi Channel, Hawaiian Islands

Surveyed in 1926

Instructions dated November 23, 1925 (DISCOVERER)

Chief of Party, C. L. Garner.

Surveyed by C. L. G.

Protracted and soundings plotted by T. B. Reed, H. Brickey.

Verified and inked by J. G. Ladd.

1. The records conform to the requirements of the General Instructions.
2. The plan and character of development conform to the requirements of the General Instructions. What appears to be an incomplete development off the northwest coast of Niihau Island between the 20 and 200 fathom curves has been taken care of by the inshore sheets.
3. The extent of the survey satisfies the specific instructions. No detailed instructions were given as to spacing of lines.
4. The usual depth curves could be drawn from the information on this sheet and the inshore sheets.
5. The usual field plotting was completed by the field party and was accurately done.
6. The junction with H. 4632 on the west is satisfactory.

The junctions with the inshore sheets will be taken up when those sheets are reviewed.

This survey agrees generally with the soundings shown on the present chart.

7. Attention is called to the following two soundings on the sheet that appear somewhat doubtful:

- a. A 57 fathom sounding in lat. $22^{\circ} 07 \frac{1}{4}'$, long. $159^{\circ} 46 \frac{1}{4}'$ in surrounding depths of 10 to 16 fathoms. This sounding is a tube sounding and is marked O.K. in the record. As there is an inshore sheet in this area that has not yet been reviewed in the office, final disposition of this sounding will be deferred until the inshore work is studied. } This sounding retained. See Review H-4719. A.L.S.
- b. A 174 fathom sounding in lat. $21^{\circ} 47 \frac{1}{2}'$, long. $160^{\circ} 05 \frac{1}{4}'$ should be investigated. The record notes "lost lead" at this sounding, and it may be that bottom was not obtained. However, the previous sounding on this line shows an indication of shoaling, so that the 174 may actually exist.
8. No further surveying is necessary except an investigation of the 174 fathom sounding mentioned above.
9. Character and scope of surveying - excellent.
Field drafting - excellent.
10. Reviewed by A. L. Shalowitz, November, 1927.

Approved:

Chief, Section of Field Records (Charts)

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

Verifiers Report on Hyd. Sheet No. 4632.

Location: Nihoa to Kaula, I. of H.

Chief of Party: C. L. Garner.

Scale: 1:60,000

Date Sept. and Oct. 1926.

The records and notes were clear and complete. ✓

The shoreline of Kaula Island was changed to agree with a reduced aerial photograph of ~~the Island~~ which accompanied the descriptive report. This shoreline was then oriented to agree with the points No and So which were computed and replotted. Triangulation station Kaula was shifted slightly to agree with office computations. Due to the replotting of Kaula Island and the fact that the records referred to left tangents and right tangents in locating about 80% of the sounding positions it was necessary to replot the entire sheet and change at least 90% of the positions as formerly plotted. The positions ^{were} shifted in a few places as much as 1/2 miles. ✓

The development appears to be

sufficient although it is just possible
that other shoals than the $6\frac{1}{2}$ fathom
one might be present.

The sheet was clear and legible and
the drafting conformed to the General
Instructions for field work.

J. C. Mac Nab.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

WASHINGTON

June 28, 1927.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4632

Vicinity of Kaula, Hawaiian Islands

Surveyed in 1926

Instructions dated November 23, 1925 (DISCOVERER)

Chief of Party, C. L. Garner.

Surveyed by C. L. G.

Protracted and soundings plotted by T. B. Reed.

Verified and inked by J. C. MacNab.

1. The records conform to the requirements of the General Instructions.
2. The plan and character of the survey satisfy the requirements of the General Instructions.
3. The extent of the survey satisfies the specific instructions. No detailed instructions were given as to spacing of lines.
4. The usual depth curves could be drawn.
5. The usual field plotting was completed by the field party. Owing to a recomputation in the office of Δ Kaula, the positions of \odot No and \odot So were changed. The shoreline of the island was also changed to agree with the reduced aerial photograph which shoreline was oriented to agree with the replotted positions of Kaula, No and So. Since the great majority of the ship's positions were dependent on the tangents to Kaula Island, all this work had to be replotted, causing a shift in some cases of as much as 1 1/2 miles. This was agreed to by the Chief of Party.
6. The junction with H. 4630 on the east will be taken up in the review of that sheet.

See
Note to
Compiler
at end of
Review.

7. While the existence of the 6 2/6 fathom shoal has been proved, there is no assurance that the least water has been determined. A light wire drag swept over the rock would have definitely established this. It should be noted that lines run very close to the rock showed practically no indication of its existence. In view of this and also of the fact that 3 pinnacle rocks with a depth of 30 feet have been reported about 4 miles west of Kaula Island (see Coast Pilot, page 53), it would seem that perhaps the spacing of the lines should have been much closer than were run in order to assure that no other dangerous shoals exist on the bank. *
8. Character and scope of surveying - very good.
Field drafting - excellent.
9. Reviewed by A. L. Shalowitz, June, 1927.

Approved:

** As the spacing of lines in this area is too great additional work must be done to improve effectiveness of these reported rocks. x^o*

Chief, Section of Field Records (Charts)

L. O. Collett

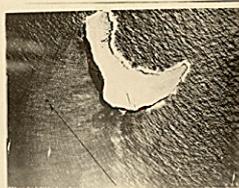
Chief, Section of Field Work (H. & T.)

Note to Compiler

On account of the stronger control on H-4958 for this area, the work on H-4632 that ~~is~~ is covered by H-4958 should be superseded by that sheet.

A.L.S. (7-25-'33)

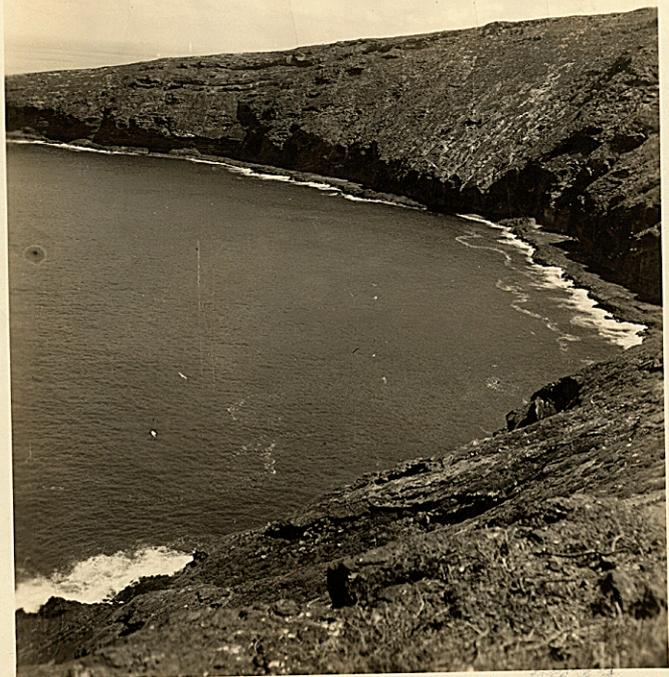
L. O. Collett





125

4632



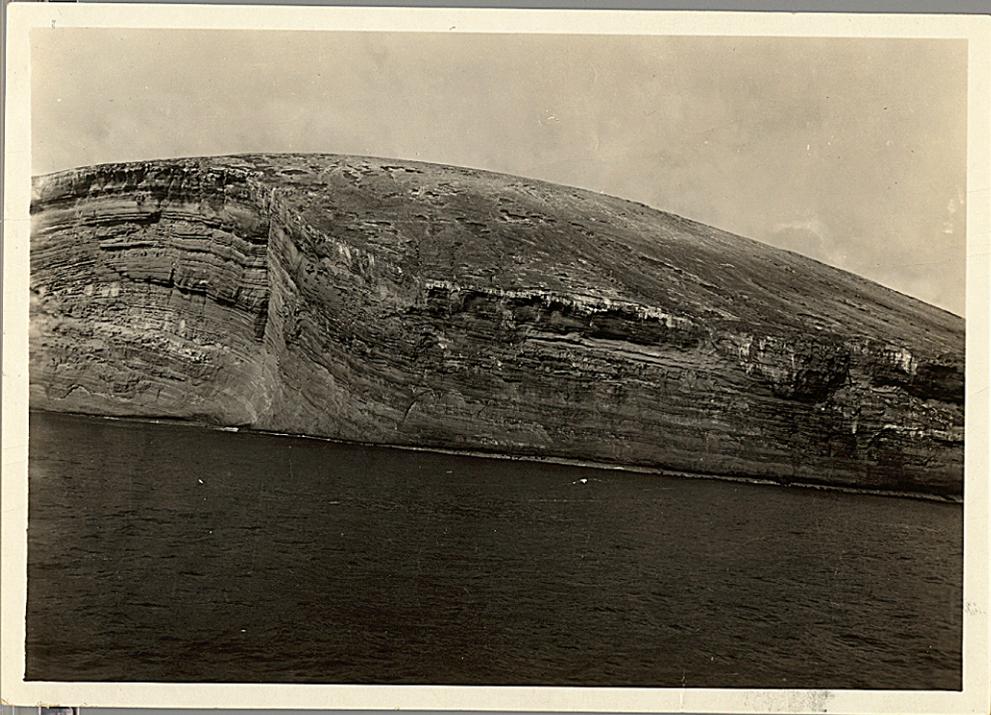
Kaula

By J. A. ² July 1924

Kaula Crescent from
the west end of the
island. (Lighthouse Service).

4632

33



Kaule

July 1925
742.

West Side of Kaule
(Lighthouse Service).

4632



11TH PHOTO SEC. B-2343. KAULA ROCK, T. H. FROM E. 4,000 FT. 7-10-24.

1532

11th PHOTO SECTION A.S.
Lake Field, Hawaii

23



△ Kaula

No

Cave

11TH PHOTO SEC. B-2341. KAULA ROCK, T.H. FROM W. 4,000 FT. 7-10-24.

U.S. AIR FORCE
LITTLE ROCK, ARKANSAS
AUG 1954

4C32

25



4632

W.P. Photo 5643 2355-1. Kaula Rock
USPS R 2355 (7-10-24) (SCALE 1:11040) KAULA ROCK SW OF NIHAU ISLAND, T.H.

4632

21th PHOTO SECTION A S
Lake Falls, Wis.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

WASHINGTON

OFFICIAL BUSINESS

PENALTY FOR PRIVATE USE TO AVOID
PAYMENT OF POSTAGE, \$300.

4632

6 Photos

Kaule

4632

applied to chart 4100

C.R.W. 11/7/58

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