4331

Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

State: S.E. Alaska

11—5813

DESCRIPTIVE REPORT.

Topographic *Sheet No.* 4331

LOCALITY:

Kuiu
~~Kauai~~ I. and Kupreanof I.

Keku Strait

1927

CHIEF OF PARTY:

H.A. Cotton

4331

DESCRIPTIVE REPORT

to accompany

TOPOGRAPHIC SHEET NO. J 4

SOUTH END OF KEKU STRAIT NARROWS

S. E. Alaska

U.S.S. EXPLORER

Season 1927

Scale 1:10,000

AUTHORITY:

This survey of the south end of Keku Strait Narrows was made in accordance with the Director's instructions of February 18, 1927 to the Commanding Officer of the Steamer EXPLORER.

LIMITS:

This sheet covers Keku Strait from the south end of the Narrows, where it joins Keku Inlet, north for a distance of six miles to a point just south of the Summit. It joins sheet Field Number "I" on the south and sheet Field Number "L" on the north.

CONTROL:

Third order triangulation executed by the EXPLORER'S party furnished the control. There was no previous triangulation in this area. There are twenty-four triangulation stations on this sheet and they furnished close control for all the topography.

ELEVATIONS:

Elevations are the height in feet of the tops of the trees above the level of mean high tide. The trees have an average height of nearly one hundred feet. The notes opposite the numerous rocks and reefs on the sheet regarding the stage of tide that they uncover, etc., refer to lower low water as close as it was able to determine during the course of the work. An inspection of all such points was made during a minus tide.

METHODS:

The topography of this sheet was done with planetable and stadia based on triangulation. Many points were located by graphic triangulation and the shoreline surveyed from them. It was not necessary to run traverse for a distance greater than one-half mile. The most of the rocks and low water line were determined by stadia readings at low water. A small part of it was located by sextant fixes. In the large shallow bays the bottom was so flat that a small variation in the height of the water made a big change in the low water line. At such places the low water line on the topographic sheet was changed to agree with it as developed by soundings. The area around Station "MOUND" was so flat that the planetable determination of low water was not changed.

When surveying the low water line a record was kept of the time so as to determine the height of tide and to

adjust the topography accordingly. Generally however, the height of tide was estimated by the time and the adjustment made while doing the work. This seemed the better way because the slope of the beach was visible and a good estimate of the needed adjustment could be made.

CHARACTER OF SHORELINE:

The shoreline is rocky and in most places it is low and flat. Most of low water area was coarse sand and gravel, with mud in the lowest places in the bights. Some of the low water area was rocky with no gravel. ~~Around Station "WIG" and on the flats south of Station "WAN" large boulders were scattered around.~~ Large boulders are thickly scattered over the areas around Station "WIG" and over the flats south of Station "WAN".

DESCRIPTION OF THE COUNTRY:

The land area when seen from the Strait appears to be entirely wooded and the trees grow to the waters edge but farther back there are many large openings.

One fairly large stream called Tuinehean Creek flows into the strait just east of Station "TAT".

LANDMARKS:

About one mile north of Beacon No. 1 on the west side of the strait is a row of about nine piles.

Projecting out from the eastern shore on a line between Stations "WAN" and "TAT" is a salmon trap made of driven piles and having a small shack on its outer end.

Beck Island is wooded and showsplainly for about a mile in either direction.

For artificial landmarks there are spar buoys numbers 1,2, and 3, and spindles numbers 5 and beacons numbers 1,2,3,7,9,11 and 13.

None of these small landmarks are visible for more than one or two miles miles because of the many turns in the Strait.

A dark wooded hill with a rounded top 1600 feet high, which is indicated on the northeastern part of the sheet is visible over all the area covered by this sheet.

The high land between Stations "DEL" and "WAN" shows from the south as s rounded hill and is visible from well down in Keku Inlet.

Eagle I. is duplicated in Ernest Sd and also in Davidson Inlet-SE Alaska HB.

NAMES:

The names, Beck Island, Eagle Island, and Tunehean Creek, are local. They were obtained from a blueprint of Keku Strait made by the employees of the Lighthouse Service, for their use. Devils Elbow

It is recommended that the name Rocy Pass which is locally used for the whole Strait be retained. No other could be more appropriate.

DANGERS:

At the south end of the Narrows, 360 meters 127° true from Station "ISA" is a rock that is awash at lower low water. It is marked by kelp. There are numerous other rocks and large reefs that bare northeast of this one but they are easily avoided by keeping toward the west shore.

A rock that bares at low water lies 460 meters, 177° from Station "DEL". It is marked by thick kelp.

Two rocks that are awash at lower low water are marked by spar buoy No. 2 and by kelp. Other rocks and reefs lie south and east of these.

A pile of rocks that bares 2 feet at low water lies 1160 meters 151° from Station "WAN". It is surrounded by kelp.

Shoal water extends out from the point on which Station "WAN" is located to spar buoy No. 1.

In the center of the channel about 500 meters northwest of Station "TURN" is a rock that bares at minus tide. It was located by the hydrographic party and does not appear on this sheet. Added to T. 4331 S.P.C.

A low water point extends off the east shore of Eagle Island to Spindle No. 5.

A ledge that is awash at lower low water lies in the center of the channel at the turn in the Devil's Elbow, 200 meters, 140° from Station "DEVIL".

A rock that bares at low water lies close to the south side of the channel 410 meters, 251° from Station "DEVIL". It is marked by kelp.

A rock that bares three feet at low water lies 180 meters, 256° from Signal "BEAK". It is marked by kelp.

Close to the east side of the channel are two rocks that bare at low water. They are 230 meters, 273°, and 420 meters, 289° respectively, from Station "PLAT".

A smaller, lower rock lies between them.

330 S.P.C.

ANCHORAGES:

Small gas boats anchor in all the bights and along the shore at signals TAG and NECK. A good anchorage for large boats is about 400 meters due south from the fish trap.

PLANE TABLE POSITIONS:

The following Plane Table Positions are recoverable and are fully described on Form No. 524.

NAME	LAT.	LONG.	SEC. in METERS	DESCRIPTION
Five	56 37	133 ~~39~~ 40	222 890	Black Beacon #5.
Sev	56 37	133 ~~40~~ 41	1745 146	Black Beacon #7.
Nine	56 38	133 ~~40~~ 41	76 214	Black Beacon #9.
Beak	56 38	133 ~~41~~ 42	277 26	Red Beacon #2.
Was	56 38	133 ~~41~~ 42	1215 ~~1856~~ 656	Top of large cliff boulder.
It	56 38	133 ~~41~~ 42	1622 598	Top of large boulder about 5 ft. high standing 25 m. from H. W. and between High & Low water.
Eleven	56 38	133 ~~41~~ 42	1138 662	Black Beacon #11.
Thirteen	56 39	133 ~~42~~ 43	775 262	Black Beacon #13.
Bus	56 39	133 43	675 30	Coast Survey Bench Mark set in top of pinnacle of rock.
Dum	56 34	133 43	455 673	Top of large boulder

Comparison with T. 4331 shows that there are several errors in above locations

E.O.T.

Mar. 17, 1928

STATISTICS

Statute Miles shore line--high water		54,0
	--low water	42.0
Area square statute miles		14.0
Number of elevations		66
Number of rocks		45
Number of recoverable stations:	Triangulation	24
	Plane Table	10
Positions occupied		114

Examined, approved & forwarded.

Respectfully submitted.

Harold A Cotton
Harold A. Cotton,
H. & G. Engr.,
Commanding EXPLORER.

Philip R. Hathorne.
Philip R. Hathorne,
Jr. H. & G. Engr.,
C. & G. Survey.

Inspected and found adequate. The data for landmarks and plottable positions contained numerous errors. Topography in vicinity of △ Nar differs from that on T. 4330.

E. P. Ellis

May, 1928

SUPPLEMENTAL DESCRIPTIVE REPORT

to accompany

Topographic Sheets 4330 - 4331

The following information is furnished in reply to Director's letter of May 28, 1928 with reference to discrepancies noted on Topographic Sheets Nos. 4330 and 4331.

This information is being furnished after a thorough discussion of details with both Lieut. (j.g.) P. R. Hathorne, topographer for sheet 4331 and Lieut. (j.g.) B. G. Jones, topographer for sheet 4330.

VICINITY OF TRIANGULATION STATION "ISA"

There is really no discrepancy at this point. An apparent discrepancy was caused by each topographer extending topographic symbols somewhat too far beyond the definite end of his work. The actual condition is clearly seen on the bromide which is being returned.

VICINITY OF TRIANGULATION STATION "NAR"

Lieut. Hathorne executed the detailed topography about the small island on which triangulation station NAR is located and his work should be accepted as correct. The actual junction of the topographic sheets is really on the shore line to the eastward of this island. Both indentations referred to in the Director's letter of May 28 actually exist. The smaller (Northern) indentation was rodded in by Lieut. Hathorne while the larger (Southern) indentation was rodded in by Lieut. Jones. Between the two indentations there is a straight shoreline as is shown on the enclosed tracing. This short straight stretch of shore line forms the junction between the two sheets.

FORM LINES - SHEET 4330

The 900 foot form line toward the north end of Conclusion Island is somewhat in error; it should of course run just above the 898 foot elevation. This has been corrected on the bromide being returned.

The other form lines that appear to be in error are really intermediate form lines on which it was neglected to show the elevations. The elevations of all such intermediate form lines have been shown in red ink on the sheet being returned. The correct form of the summits is much better shown by the use of such inter-

mediate form lines . At the time of originally submitting this sheet the desirability of showing these intermediate form lines had been discussed and it had been decided to put them on the sheet with elevations but the placing of the elevations was neglected.

WOODED AREAS

This is really covered by the last paragraph (General appearances of the country) page 4 of the original descriptive report for sheet 4330. The whold area is wooded with the exception of the cliff at the crest of the hill (elevation 1780) in Latitude 56 30' Longitude 133 37', which is bare and of a reddish brown color. This bare area is indicated with hatchures on the topographic sheet.

Respectfully submitted,

Harold A. Cotton,
Commanding Officer,
U.S.C. & G.S.S. EXPLORER.

Form 587a
11—5813

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 4331

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. "J"

REGISTER NO. 4331

State S. E. Alaska

General locality Kuiu and Kupreanof Islands

Locality Keku Strait

Scale 1:10,000 Date of survey Aug. - Sept., 1927.

Vessel U.S.C. & G.S.S. EXPLORER

Chief of Party Harold A. Cotton

Surveyed by P. R. Hathorne

Inked by P. R. Hathorne

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

~~Contour, Approximate contour~~ Form line interval 100 feet

Instructions dated February 18, 1927.

Remarks:

GPO