

4837

Diag. Cht. Nos. 8502-2 & 8552

Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

E. Lester Jones *Director*

State: Alaska

DESCRIPTIVE REPORT

Topographic } Sheet No. 11 **4837**
Hydrographic }

LOCALITY

Kenai Peninsula

Harris Bay

1928

CHIEF OF PARTY

R. R. Lukens

GOVERNMENT PRINTING OFFICE

4837

Hydrographic Sheet No. 11

Note by Chief of Party:

Shore line of Fire Cove The northern shore line of Fire Cove as shown on H-3427 was found to be in error. The shore line on this sheet was sketched by the hydrographic party from 3-point fixes on topographic signals. The shores are so bold that the launch was practically on the shore when at the ends of the lines.

The shore line of the islands just south from Fire Cove was also sketched by the hydrographic party using cuts to tangents. It appears that the old work in this vicinity was done without sufficient control.

Tidal Data Most of the soundings on this sheet were reduced from the Seward gauge. The tide gauge in Two Arm Bay was dismantled about the middle of September when the camp party was taken aboard. Due to the small differences in time and range, it was thought that the Seward gauge would give satisfactory reducers.

Methods Most of the work on the sheet was done by two of the ships launches working from the ship while the ship was engaged in offshore hydrography and triangulation.

Crater Bay is the only good anchorage in this vicinity. There is sticky mud bottom here although the sounding records do not indicate it. I have seen this mud come up on the anchor of the SURVEYOR. It is recommended that a mud symbol be shown on the chart in the position indicated in pencil on the smooth sheet.

R.R. Lukens, Chief of Party.

DESCRIPTIVE REPORT

to accompany

Hydrographic Sheet No. 11, Harris Bay, Alaska.

Sjr. SURVEYOR

R.R. Lukens, Chief of Party

Director's instructions dated Feb. 18, 1928.

SURVEY METHODS:

The major portion of the sounding done on this sheet was accomplished with two of the SURVEYOR'S launches, No. 4 and the Motor-sailer. Each of these launches was equipped with a power sounding machine and vertical casts were taken, except in depths of less than 15 fathoms. In less than 15 fathoms hand lead was used. All of the inshore work was done with the two launches mentioned.

The central part of the bay was sounded with the Str. SURVEYOR using visual fixes and fathometer soundings. No unusual methods were used in the survey shown on this sheet,

Attention is called to the soundings in the cove on the west side of Granite Island just east of triangulation station MID. The positions of these soundings is only approximate since no fixes were available. These soundings were not recorded in the sounding volume but their positions and depth were plotted on the boat sheet as the work was done.

DISCREPANCIES:

The islands in the vicinity of Lat. $59^{\circ} 38'$ Long. $149^{\circ} 45'$ were found to be wrong in position. The shoreline of these islands was located by estimated distances and directions from hydrographic fixes and cuts to tangents of the islands. All of these islands were sketched from the launch while doing the hydrography. The former positions of these islands were taken from photostat H 3421, Entrance to Aialik Bay, scale 1 : 40,000 .

The shoreline of Granite Island and Fire Cove were found to be in error also. For new position of this shoreline see Descriptive Report of Topographic Sheet J, Harris Bay.

DANGERS:

No offshore dangers were found. All inshore dangers are clearly shown on the sheet.

CHANNELS:

The west entrance to Harris Bay between Harris Point and Granite Island is clear and free from dangers. The bay may also be entered on the east side of Granite Island thru Granite Passage. In the narrowest part of this passage is a ridge with a least depth of six and two-sixths fathoms. This sounding is in Lat. $59^{\circ} 39'$ plus 390 meters Long. $149^{\circ} 48'$ plus 185 meters. See position No. 21 d, Vol. 2, page 7. About three hours was spent in doing hydrography and searching for the shoal. About twenty minutes was spent in drifting over the shoal and sounding for the least depth with a hand lead.

CHANNELS: (continued)

To avoid the shoal favor the Granite Island side of the passage. This ridge affords a convenient anchorage in any but heavy weather.

NAMES:

Names assigned by the survey party are given in the Descriptive Report of Topographic Sheet J. Harris Bay.

ANCHORAGES:

Crater Bay is a large bay lying about one mile northward from the north end of Granite Island. An excellent anchorage will be found in the bight just eastward of the projecting point on the south shore, in 25 fathoms (46 m.) sticky mud bottom. In sounding this anchorage the lead was examined on each sounding and found to be clean thus indicating a rocky bottom. However the SURVEYOR anchored here often during the season and found that the bottom was sticky mud. The fact that rocky bottom was found with the lead was probably due to the mud being washed off before the lead reached the surface of the water. This anchorage is well protected and is the best in this section of the coast. In the southerly cove at the head of Crater Bay there is a stream where fresh water can be obtained handily.

Enter the bay in mid-channel and round the projecting point on the south shore at a distance of one-fourth mile. Anchor with this point just shutting out the northern entrance point to Crater Bay.

About one and one-half miles southeastward from the northern point of Granite Island and along the west shore, is a remarkable little land-locked basin with depths of 16 to 19 fathoms (30 to 36 meters) which forms ideal shelter for small launches and gas boats. The entrance is narrow with a rock 5 feet high (1.6 meters) in the middle of it. The better entrance is on the south side of the rock with a least depth of $3\frac{1}{2}$ fathoms (6.6 meters) in a channel 30 yards wide. Once inside there is plenty of room. On account of the narrow channel this entrance is hazardous in rough weather.

Cup Cove is a small indentation just eastward from Harris Point. There are depths of from 7 to 9 fathoms (12.8 to 16.5 meters) with mud bottom, and it affords a good anchorage for small craft except that it is exposed to easterly winds.

Approved and forwarded,


Jr. H. & G.E.

Chief of Party

STATISTICS

Hydrographic Sheet No. 11

March, 13, 1929

Report on H 4837

Survey in Sept. 1928

Chief of Party - R.R. Lubens

Survey by - R.R. Lubens, S.B. Greenell, J.C. Partington.

Protracted and penciled by - P.L. Bernstein.

Verified and Inked by - John S. Ladd.

1. The records conform to the requirements of the General Instructions.
2. The plan and character of development fulfill the requirements of the General Instruction, except for the area around the islands at sta. Foam and the island at $149^{\circ}45'$, $-59^{\circ}38'$. The development here is insufficient to properly draw in the depth curves.
3. The sounding line crossings are adequate and check very well.
4. ~~The~~ usual depth curves could be drawn.
5. No part of the work had to be done over by the office draftsman, the field work being very accurate and carefully done.
6. The soundings taken on "A" day were gotten with fathometer. A few V.C.'s were taken for comparison and the V.C.'s were in every case accepted and inked in on the smalt sheet for a study of comparisons see Vol 5, A day. John S. Ladd

(For files Section of Field Records)

E.A.R.

Division of Hydrography and Topography:

March 6, 1929.

Division of Charts:

Tide Reducers are approved in
5 volumes of sounding records for

HYDROGRAPHIC SHEET 4837

Locality: Harris Bay, S. W. Alaska

Chief of Party: R. R. Lukens in 1928
Plane of reference is Mean lower low water, reading
2.6 ft. on tide staff at Seward, Alaska
~~2.6 ft. below B. M.~~

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 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,

Paul C. Whitney

Chief, Division of Tides and Currents.

Section of Field Records.

Sheet # 4837

Surveyed in 1928.

Chief of Party - R.R. Lukens

Instructions dated - Feb. 18, 1928.

Surveyed by - R.R. Lukens, S.B. Grenell, J.G. Partington

Protected by - P.L. Bernstein

Soundings plotted by - P.L. Bernstein

verified and dulced by - John G. Ladd.

1. The records conform to the requirements of the General Instructions.

2. The plan and character of development fulfill the requirements of the General Instructions.

3. The plan and extent of development satisfy the specific instructions.

4. Sounding line crossings are adequate.
5. The usual depth curves can be drawn with the exception of the small area around station Foam.
6. The field plotting was completed to the extent prescribed in General Instructions.
7. The office draftsman did not have to do over any part of the drafting done by the field party. He did however transfer some additional rocks from the topographic sheet to this sheet.
8. The junction with H-3420 is good.
- The junction with H-3421 is good, but necessitated slight changes in the depth curves southeast of station Foam, caused by 47 and 53 fathom soundings.

which were taken from H-3421.

The junction with H-4838 has a 31 fm. sounding on a 26 and a 29 fm. sounding on a 25. This junction cannot be considered bad however, because the bottom is dropping off so rapidly at this point that a slight shift in one of the lines could cause such a discrepancy. The plotting was checked on both sheets and found to be correct.

The junction with H-4836 is satisfactory. At the west side of Harris Bay it appears on casual inspection that there is a discrepancy between the two sheets, but from further study this discrepancy is not found. Just east of Cup Cove a 73 fm. sounding will be noticed very close to a

53 fm. sounding, but just two ⁴/₄ soundings lines north of these a similar case will be found where the soundings were all made by the same party in one day. This line indicates a drop from 52 fm. to 88 fm. between consecutive soundings.

9. Further surveying is not required to fully develop important areas.

10. The original topography on T-3302 should be considered as reconnaissance topography in the localities listed below and should be superseded by that which is sketched on this sheet.

1. The east coast of Granite Island from Signal Strait to Signal Cove.
2. From Signal Strait on the north shore of Fire Cove to station Fla.

3. The island at Lat $59^{\circ}38'$, Long $149^{\circ}45'$ and island upon which station Loam is located. Also the rocks around each of these islands and between them.

The original topography as used on H-3421 locates the shore line in many places so that soundings plot well up on the beach. This topographic error was caused by poor control as the nearest triangulation stations consisted of one about 3 miles north and one 3 miles east on an island.

On this sheet however there is a good distribution of triangulation stations with a sufficient number of topographic signals to give a fairly well defined shore line and at least more reliable than that which is

found on T-3302.

Some rocks were transferred from T-3302 to this sheet in the vicinity of island at Lat $59^{\circ}38'$, Long $149^{\circ}45'$, vicinity of station Foam, Fla and Man. These were transferred in the same relation that they bore to the topography on T-3302.

- 11. (a) Character & scope of surveying is good.
- (4) Field drafting is excellent.

Received by

Earl O. Henton

J. H. + G. C.

March 22, 1929.

J. S. Borders

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 4837

HYDROGRAPHIC TITLE SHEET

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. 4837

C. & G. SURVEY
L. & A.
FEB 25 1928
Acc. No.

State Alaska

General locality Kenai Peninsula

Locality Harris Bay

Scale 1:20,000 Date of survey September, 1928

Vessel Str. SURVEYOR

Chief of Party R.R. Lukens

Surveyed by R.R. Lukens, S.B. Granall, J.C. Partington

Protracted by P.L. Bernstein

Soundings penciled by P.L. Bernstein

Soundings in fathoms feet

Plane of reference Mean lower low water at Seward, Alaska

Subdivision of wire dragged areas by

Inked by John G. Ladd

Verified by J. G. L.

Instructions dated February 18, 1928

Remarks:

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. 4837

The following statistics will be submitted with the
cartographer's report on the sheet:

Number of positions on sheet . . 899
Number of positions checked . . 238
Number of positions revised . . . 3
Number of soundings recorded . . 2379
Number of soundings revised . . 18
Number of signals erroneously
plotted or transferred . . none.

Date: --- March 13, 1929 ---
Cartographer: --- John G. Ladd ---