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COAST AND GEODETIC SURVEY

Superintendent.

State: *Alaska*

DESCRIPTIVE REPORT.

*Hyd.* Sheet No. *3187*

LOCALITY:

*Passage Point to Johnson Bay, Knight Island, Alaska*

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CHIEF OF PARTY:

*Gilbert T Rude*

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DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SHEET NO. 3187

PASSAGE POINT TO JOHNSON BAY

KNIGHT ISLAND, ALASKA.

1910.

Gilbert T. Rude, Chief of Party and Hydrographer.

Methods of Survey.

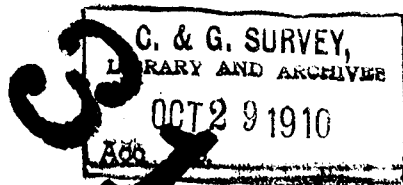
Descriptions of Stations Cave, Nowell, Boulder, Cage, Chop, Reef, Dis, Shoulder, Channel Rock and Round Top were furnished by the Office. The Stations were recovered and signals built over them. Intermediate stations along the outer shores and in the bays were located by Plane Table. An improved Cosmos sounding machine and lead line were used in sounding.

Bays.

Herring Bay, on the Northeast coast of Knight Island, is four miles long from Herring Point, at the East side of Entrance, to extreme end of South arm, with a maximum width of two miles. The Bay is indented with several deep arms, two of which are navigable. The one hundred fathom curve enters the Bay to within three quarters of a mile of the prominent rock in the middle of the Bay, described in Descriptive Report of Topographic Sheet. The fifty fathom curve runs up the Bay to the entrances to the arms.

A half mile  $280^{\circ}$  (true) from Passage Point is the North end of a shoal, least depth at this point 17 fathoms, running in a  $218^{\circ}$  (true) direction to the point three quarters of a mile  $242^{\circ}$  (true) from Passage Point, shoaling to ten fathoms off this point.

• One and six tenths miles  $63^{\circ}$  (true) from Herring Point and three tenths of a mile off the East shore of Herring Bay is a shoal, least depth of six



fathoms, rocky bottom. Its area is small.

Four tenths of a mile,  $256^{\circ}$  (true) from the prominent rock in the middle of Herring Bay, is a shoal of small area and with a least depth of five fathoms. It is surrounded by a depth ranging from thirty to fifty fathoms.

From Southward enter Herring Bay on a  $45^{\circ}$ , Mag. (N.E.) course, giving Herring Point a half mile berth till opening North end Division Island, then steer  $128^{\circ}$  Mag. (S.E.  $\frac{3}{4}$  E, Southerly) clearing the prominent rock in the middle of Bay 400 yards, to a position a quarter mile off the middle of entrance to South Arm, then steer mid-channel courses up the arm, taking care to avoid a reef bare at low water, making out 100 yards in a N.E.'ly direction from the West point at the narrow entrance one and a quarter miles from head of arm, and a rock, bare at three quarter tide, on the West side of arm, 600 yards from its head.

Fresh water can be loaded in small boats from a waterfall on the East side of arm at its head. When bound into South arm hold the  $128^{\circ}$  Mag. (S.E.  $\frac{3}{4}$  E, Southerly) course for one <sup>1/2</sup> mile, then steer  $167^{\circ}$  Mag. (S x E  $\frac{1}{4}$  E, Southerly) till North end Division Island is abeam, then hold mid-channel courses to head of arm, taking care to avoid a rock, bare at low water, 300 yards West of Division Island. For making the Eastern part of South arm hold the  $128^{\circ}$  Mag. (S.E.  $\frac{3}{4}$  E, Southerly) course till the prominent rock in the center of outer bay is abeam, then steer  $158^{\circ}$  Mag. (S S E) <sup>1/2 mile</sup> to a position off middle of entrance, then hold mid-channel to head of arm, taking care to avoid a rocky reef making out about 100 yards from small island on West side of entrance.

Enter Herring Bay from Northward on a  $159^{\circ}$  Mag. (S S E, Southerly) course, heading for the prominent rock in middle of outer bay till bringing Old Point abeam, then steer  $138^{\circ}$  mag (S E  $\frac{1}{4}$  S) to a position a quarter mile off middle of entrance to Southeast arm, then proceed up arm as given above. When bound into Eastern part of South arm, hold the  $138^{\circ}$  Mag. (S E  $\frac{1}{4}$  S) course for 0.4 mile,

then steer 158° Mag. (S S E), to a position off middle of entrance, then proceed as directed above. When bound into South arm hold the 159° Mag. (S S E, Southerly) course till Herring Point is abeam, then steer 179°<sup>182°</sup> Mag. (S, Easterly) till the North end of small island at the entrance to Eastern part of South arm becomes tangent to North end Division Island, then steer 167° Mag. (S X E  $\frac{1}{4}$  E Southerly) till North end Division Island is abeam, then hold mid-channel course up arm as directed above.

On the East shore of Herring bay, abreast of Herring Point, is a cove about three eighths of a mile long with an entrance one eighth of a mile wide. The ten fathom curve enters the cove about half way to its head, which is foul and filled with kelp (see boat sheet). About a half mile South of this cove and just around Old Point is another cove about five eighths of a mile long and a quarter mile wide. The entrance is very narrow and closed with rocks, bare at low water. On this account no sounding was done in the cove nor off its mouth. South and Southeast arms are clear except for inshore rocks which are described in the Descriptive Report of Topographic Sheet.

No sounding was done in the cove two and a half miles 208° (True) from Herring Point. The entrance is foul, rocks bare at low water.

Two and three tenths miles 9° (true) from North end of Aguliak Islands and Three quarters of a mile off shore is a rock bare at low water. One and seven tenths miles 11° (true) from North end Aguliak Islands are two rocks, bare at half tide. One and a half miles 14° (true) from North end of Aguliak Islands are two submerged rocks. Two miles 3° (true) from North end of Aguliak Islands three rocks are shown from former survey. These do not exist in that location. They were probably sketched and are among those described above. Three tenths of a mile 33° (true) from North end of Aguliak Islands, a submerged rock is shown from former survey. This does not exist in that location. It is probably one of

those near the North end of Aguliak Islands. Channel Rock, a prominent rock, bare at all stages of the tide, lies one mile  $335^{\circ}$  (true) from North end of Aguliak Islands. This was located by Triangulation in 1907.

To enter Lower Herring Bay

From a position 600 yards North (true) of Channel Rock, steer  $103^{\circ}$  Mag. (E S E  $7/8$  E) for one and a quarter miles to a position 225 yards off shore on the South side of entrance, then steer  $56^{\circ}$  Mag. (N E x E) entering the Bay in mid-channel. If bound into Range arm hold this course till East side Nanoalak Point is abeam, then steer  $7^{\circ}$  Mag. (N  $\frac{3}{4}$  E, Northerly) to a position in middle of entrance to Range arm, then steer mid-channel courses up the arm. If bound into Pointing arm, hold the  $56^{\circ}$  Mag. (N E X E) course till Ashulamak Point is abeam, then steer  $4^{\circ}$  Mag. (N  $\frac{1}{2}$  E, Northerly) to a position in middle of entrance to arm, then steer mid-channel courses up the arm, taking care to avoid a submerged rock on the East side of the arm about a quarter way up from the entrance. At the head of the arm where it narrows to the finger, are a cluster of rocks, one bare at all tides and others sunken or bare at low water. East (Mag.) from the entrance to Pointing arm is a small cove about a half mile long. The South side is foul but there is a clear passage (10 fathoms) North of the islet and rocks in the entrance.

Range arm is clear to its head, the ten fathom curve running into the arm half way to its head.

The Taku found shelter in the small cove East of Nanoalak Point. Fresh water can be loaded in small boats from a falls at its head.

A chain of islets and rocks extends along the North shore of the Bay from its entrance to Range Arm. The South shore is clear and steep-to. The entrance to Lower Herring Bay is deep, the 50 fathom curve running into the bay as far as the rock in the middle off the entrance to the arms (described below), Seven

tenths of a mile  $50^{\circ}$  (true) from Nanoalak Point is a rock bare at three quarter tide. It is lone with no outlying reefs, the 10 fathom curve closely encircling it. The following ranges will serve to locate the rock when covered: To the Northward; Cliff Point and Dark Point, two points on East side of Range arm described in Topographic Descriptive Report. To the Westward, the South side of the small islands in entrance to the Bay, on the right hand one of two knobs on a hill about 1000 feet high on South end of Chenega Island. (See boat sheet for profile of hills showing range knob.)

The shore from Lower Herring Bay to Aguliak Bay is foul for a distance of 75 yards off shore, but the 20 fathom curve lies close in to these rocks, with deeper water (40 fathoms) just outside the 20 fathom curve.

Aguliak Bay, a half mile South of Lower Herring, has a depth of 35 to 40 fathoms in its entrance, shoaling to 20 fathoms near its head. The South shore is foul for about 225 yards off.

The passage between Knight Island and Aguliak Islands is clear, the 20 fathom curve running along the shore on either side.

A reef, bare at low water, extends 800 yards off the West shore of Aguliak Islands.

One and two tenths miles N X W Mag. of North end of Squirrel Island are two sunken rocks, three fathoms the least water found.

A reef bare at low water extends for nine tenths of a mile in a Northerly (Mag.) direction from the North end of Squirrel Island, terminating in a rock, bare at extreme low water. No sounding was done between Squirrel Island and Knight Island on account of the large number of rocks showing at low water.

The entrance to Johnson Bay is practicably closed by the Island and rocks in its entrance. These are described in the Descriptive Report of Topographic Sheet. Only small craft can enter the Bay.

To Enter Johnson Bay

Enter between Squirrel and Aguliak Islands, 670 yards South of the latter, steering  $71^{\circ}$  Mag. (E N E  $\frac{1}{4}$  E, Easterly) on the range: North point at entrance to Bay and Johns Peak, a very prominent Pyramidal peak of black rock 2000 feet high, inshore about one mile East of the head of the Bay, to a position a quarter mile outside the entrance, then proceed with caution through the narrow entrance which is barely 125 yards wide, taking care to avoid a patch of rocks bare at three quarter tide on the South side of the channel, and three rocks, bare at different stages of the tide, along the shore on the North side. One hundred and fifty yards North (true) from the island on the South side about one mile from the entrance is a rock bare only at extreme low water. From this rock a shoal, least water found 12 fathoms, extends in a North (true) direction clear across the Bay. There is from 30 to 40 fathoms up the middle of the Bay as far East as the shoal water mentioned above. East and South of the shoal the 20 fathom curve runs in to the entrances to the arms and coves. The remainder of the rocks, islands etc. in Johnson Bay are described in Descriptive Report of Topographic Sheet.

Small craft from the Southward bound for Lower Herring Bay may pass between Squirrel Island and Aguliak Islands on the same course and range as that for entering Johnson Bay till opening the passage between Aguliak Islands and Knight Island, then steer mid-channel through the passage, giving the shore between Aguliak and Lower Herring Bays about 225 yards berth.

Supplemental lines of sounding were run in Knight Island Passage to fill in gaps from previous work, in addition to the inshore development.

The rocks within the limits of this sheet are free from kelp. There are no good anchorages within the limits of the sheet. Boats can anchor in all the

arms of the Bays but there is no holding ground, the bottom being rocky.

Water.

Fresh water can be loaded in small boats from the falls in the following places: Southeast arm, Herring Bay; Head of small cove near Nanoalak Point, Lower Herring Bay; falls near the head of Johnson Bay.

Geographical Names.

All names used are taken from previously published charts and are in general use, except the following: Cliff Point and Dark Point, Pointing Arm, characteristic. Aguliak Bay, Aguliak Islands, Nanoalak and Ashumalak Points, Aleut Names obtained from the Natives. Division Island, so named because it divides the two parts of South arm, Herring Bay. Old Point, so named because there was an old signal standing from a previous survey. Range arm, because it contains the range for the rock in the middle of Lower Herring Bay.

Tide Staff.

A Plain Tide Staff was erected alongside the store house of the Hubbard, Elliot Company in Drier Bay and leveled to the Bench Marks established by Assistant Derickson's Party in 1907.

Respectfully submitted,

*Gilbert J. Rude,*  
Asst., C. & G. Survey,

Chief of Party.



V.E.C.  
Dec. 5, 1910

HYDROGRAPHIC SHEET 3187

3187

Knight Island Passage, Prince William Sound,  
Alaska by Asst. G. T. Rude in 1910.

TIDES.

	Drier Bay ft.
Mean lower low water, or plane of reference on staff	5.5
Lowest tide observed " "	3.5
Highest " " " "	19.1
Mean range of tide	9.2

United States Survey  
DEC 9 1910  
TIDAL DIVISION

*Positions protracted and soundings  
plotted & under by H.L.S.*

*Verified by J.W. Tomney 1/10-11/12*