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Department of Commerce and Labor
COAST AND GEODETIC SURVEY

C. F. Johnson
Superintendent.

State: *Alaska*

DESCRIPTIVE REPORT.

Hyd e Sheet No. *2887*

LOCALITY:

Iliamna Bay

1907

CHIEF OF PARTY:

H. W. Rhodes

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Descriptive Report to accompany Hydrographic Sheet #

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Iliamna Bay, ASTORIA Inlet, Alaska.
GEODETTIC SURVEY

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The positions of the signals on this sheet were all computed either as occupied or intersecting stations of the triangulation, with the exception of signals "Tip", "Slim", "Far", "Rain", "Clear", "Flat", "Flag", "Grass", "Tide", and "End", in which cases, positions were taken from the ~~topographic~~ sheet.

As no astronomical position and azimuth were at first available for the computation of geographical positions, the positions of all triangulation stations were computed and plotted on a system of rectangular coordinates and the hydrographic signals plotted from these by intersecting distances.

The west side of Cook Inlet, covering the approach to Iliamna Bay, is comparatively shoal, no more than eight fathoms being found at a distance of several miles off the entrance. The shore-line at this point is bold and precipitous, bare rocky mountains rising abruptly from the water to heights of from 1500 to 3000 feet. Off the entrance to Innerskin Bay, about three miles northerly from the entrance to Iliamna Bay, there are two small islands, from fifty to one-hundred feet high, the inshore one partly wooded, and off of these a number of low rocky islets and reefs. The outer point of the main-land between Innerskin and Oil Bays is wooded, but beyond this there are no trees to be seen along the shore line.

The greatest depth found in Iliamna Bay is 45 feet about midway between North Head and Gull Island, while at low water Cottonwood Bay dries at two-thirds the distance to its head, and the main bay about one-half mile above "A.C. Point". The line of best water trends from mid-channel between North Head and Gull Island, diagonally across to the entrance to Cottonwood Bay, to which point about 12 feet can be carried.

The bottom for the most part, except close in shore, is a stiff blue mud and is excellent holding ground. Anchorage in 30 feet may be had $\frac{3}{4}$ of a mile inside of North Head on the line above mentioned. This position is exposed to the S.E. but Mr. W.E. Smith, Engineer for the proposed Alaska Short Line Rail-road, states, from six year's observations, that no heavy weather prevails from that direction.

It is reported that the bay does not freeze, but that drift ice in large quantities, sets in at times and deposits considerable dirt and debris, from which action the bay is supposed to be gradually shoaling.

Fresh water may be obtained at small streams on the East shore of the bay about a mile inside of North Head, where plenty of water was found as late as July 15th., and it is probable that the summer rains keep them replenished after the snow has all melted.

There is a Post-office (Dutton) at the head of Cottonwood Bay and a small store at which some provisions may be obtained. This point can be reached at high water by small boats, there being several feet of water to the beach at high tide. About four feet can be carried to the trail at the left head of the main bay at high water.

For approaching and entering the bay, steer for the entrance between North Head and Gull Island on a W.X N. (mag.) course, favoring North Head slightly and anchor when $3/4$ of a mile inside the head in 30 feet sticky bottom.

On this W.X N. course when approaching the entrance to the bay, Turtle Reef, a low broken black reef, making off from South Head and about 15 feet above high water, at its highest point, will be left about 800 meters on the port hand and Black Rocks, two small rocky islets about 900 meters off shore, and from five to ten feet above high water, will be left about 1600 meters on the starboard hand. Gull Island, grass covered and about 70 feet in elevation, is conspicuous just inside the entrance to the bay and about midway between North and South Heads.

The maximum range of tide observed in June 1907 was 23.1 feet. The maximum tidal current at the anchorage is from one to two knots for both ebb and flood tide.

Northerly gales prevail in the winter season and heavy willawaws are reported to fall over the mountains on the eastern shore of the bay.

The prevailing winds are down the bay frequently blowing with the force of fresh breezes, and generally blowing with greater violence on bright sunny days.

Respectfully submitted,

H. W. Rhodes.

Chief of Party.



Automatic Tide Gauge at
Gull Island, Lisianski Bay,
Alaska. July 1907.