



3645

U. S. G. SURVEY
L. & A.
MAR 30 1917

Form 504
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

State: ALASKA

11-5613

DESCRIPTIVE REPORT.

Top. Sheet No. 3645

LOCALITY:

1916

CHIEF OF PARTY:

L. O. Colbert

3645

DESCRIPTIVE REPORT

to accompany

TOPOGRAPHIC SHEET No. _____

of

SOUTHEAST ALASKA,

BRADFIELD CANAL

in vicinity of

BLAKE CHANNEL

SURVEYED BY WIRE DRAG PARTY NO. 4.

1916

L.O.Colbert,

Chief of party.

SCALE 1 - 20,000.

DEPARTMENT OF COMMERCE

COAST and GEODETIC SURVEY.

E. Lester Jones, Superintendent.

Descriptive Report to Accompany Topographic Sheet No. 3645.

S.E. Alaska,,Bradfield Canal in the vicinity of Blake Channel.

Limit, Scale, Methods, Party:*

I have the honor to report as follows on topographic sheet No. __, which is a survey of Bradfield Canal from the entrance to Ernest Sound to Anan Bay.

The Geographic limits are;

Latitude $56^{\circ}-06'$, $56^{\circ}-18'$
Longitude $131^{\circ}-44'$, $132^{\circ}-10'$

The Scale is 1 - 20,000.

The entire work was done by a plane table, with the exception of one mile on the west side of Point Ward. This was done by approximating the distance from the end launch of the wire drag party as it passed this point while engaged in wire dragging. Deep water permitted the boat to hug the shoreline closely. At this point the cliffs are vertical to approximately eighty (80) feet, which rendered the use of a plane table impossible.

The party consisted of an abserver, boat engineer and rodsman. A clinker built skiff with outboard motor was used throughout. Smooth water favored the use of a motor boat, and made the handling of the boat by one man both possible and rapid. Three and a half days were spent on the sheet. The party was in charge of N.P. White, Aid, Coast and Geodetic Survey.

Control, Traverse, Contours, Height:-

The work on the sheet is controlled by secondary and tertiary triangulation.

With the exception of three traverses, the work was done by the usual three point fixes.

A traverse was started at \triangle Pie and run to within 300 meters east of \triangle Any. Although no check was made on a triangulation station, owing to the lack of time, the observer feels that the line is not in error. The sheet was new and great care was taken in the readings and orientations. Starting at \triangle Sap a traverse was run to the head of Fools Inlet. Both sides of the Inlet were read at one time. The care taken with the readings and orientations warrants the line being correct. A line was started at \triangle Rap and run east through Anan Bay. This traverse may be in error in the Bay, but it is certain that the remainder is correct. A forward line was taken from a point three-quarters of a mile east of \triangle Rap to a white mark on the east side of the Bay. A resection was made by using \triangle Pie; a second resection was made on \triangle Aid, which did not check the point. There were no other signals and a rain storm was coming up, so the table was oriented by the use of a Declinometer and the point obtained by resecting the two signals was accepted. The difference in the two points was only slight. The latter orientation was probably good. Weather conditions prevented further checking. This being the last day of the season, no return was made to that locality.

The contour interval is one hundred feet. The end of the season prevented the drawing in of the more distant contours. These were obtained by reference to the "Alaskan Boundary Tribunal Sheet" number 8, which had previously been taken into the field and checked and found good in general. All elevations given on the sheet were measured in the field. 3?

The highest peaks measured were (1380) feet and (3300) feet, which lie due north of \triangle Pie (eastern end of the sheet). These two peaks form a pair exactly similar in form; they only rise a few hundred feet above the general height of the mountain of which they are a part. The side of the mountain facing the southwest presents a smooth concave surface which descends to within a thousand feet of the base, where it abruptly changes to a convex surface assuming a gently convex curve at the base of the mountain. Both peaks are bare, the more northerly one being capped with an outcrop of some black rock.

Some three hundred meters to the west of \triangle Pie, there enters a large stream which descends the steep side of the mountain in a series of high falls in a deeply eroded bed.

To obtain all elevations the mean of three cuts was taken. The greatest discrepancy between cuts was forty feet, but an average of five or ten feet, however, was more usual. The summits east of \triangle Una and north of \triangle Pie were the only cases where the mountains were not wooded to the tops.

The high mountain back of Point Ward gives the impression of three successively lower ridges running east and west, while the east side of the same mountain seems a great confusion of knolls and valleys. Everywhere the mountain is deeply eroded. The lake shown south of Humpback Bay was transferred from the above mentioned Alaskan Boundary Sheet.

General Remarks, Character of Shoreline, Vegetation, Animal Life:-

The shoreline is everywhere lined with steep rocky cliffs, closely overgrown with trees and bushes. For one mile south of Point Ward, the cliffs rise to approximately eighty feet. This is the only point where they exceed an average of ten feet above high water.

The timber is principally spruce, pine, hemlock and cedar. Near the shore they are of small diameter and very dense. The underbrush is very dense and profusely crowded with devil's clubs and wind-falls, which make travel for hunting, or otherwise, exceedingly difficult until well up the mountain side.

The animal life consists principally;- for the land, of deer, wolves, mink, porcupine and black bears; for the water, of salmon, porpoise, hair seals (plentiful), mud sharks and herring, and trout in the streams;- for the air, crows, ravens, ducks, geese, sandhill cranes, gulls, oyster crackers, blackbirds, snipe and eagles. Ducks and geese are especially plentiful, and in the fall sandhill cranes fly over this area by the thousands on their way south.

Detailed description of shoreline, Prominent Points:-

Starting at \triangle Pie on the east end of the north shore of the Canal, we shall traverse the shoreline westerly.

For a mile and a half from \triangle Pie the shoreline is bound by ten foot rocky cliffs, closely overhung with trees and shrubbery. Going inland the surface rises very abruptly, and only two prominent streams enter the Canal, these in a series of steep falls. Three-quarters of a mile east of \triangle Any is the entrance of a long low valley. The shoreline here is sandy and strewn with small rocks. A large stream issues forth, which in season is run with salmon. A fish trap is located at the mouth. The ground is low and wet. One small Indian shack is located on the east bank at the mouth of the stream. Between \triangle Any and the stream the shoreline resumes its rocky character.

△ Aid is located on Ham Island, a large island in the entrance to Blake Channel.

Seven hundred meters north from △ Eco lie the (Gony) Rocks. They are about four in number, and are a continuation under water of a rocky ledge that forms the point just north of them. The little bight between △ Eco and Gony Rocks may be used as a harbor for very small fishing boats. It seems clear of all obstructions, and has a soft bottom of mud and rocks.

△ Lid is located on a rock (1000) meters southwest of △ Eco. It stands offshore about 150 meters and is two feet above high water. It is a smooth oval worn rock about thirty meters by ten, running parallel to the shore. (30 x 10)

Northeast some three hundred meters from △ Keen, there are two or three small rocks bare at low water, that stand offshore twenty or thirty meters. From △ Eco to △ Keen the shoreline has its characteristic rocky cliffs, with the exception of a (300) meter stretch due west of △ Lid, where a small stream enters. The shoreline here is sandy.

East along the shoreline from △ Off about 700 meters distant, lies a rock, some twenty meters from the shore, that bares at low water.

From △ Keen to (1000) meters west of △ Off, the shoreline presents nothing but the usual rocky cliffs, ten feet above high water.

North of the shoreline from △ Eco to △ Off, the ground rises steeply in a series of knolls to an elevation of over 3000 feet. This is the southern end of a long ridge that runs northwest between Blake Channel and Fools Inlet to the Narrows of Eastern Passage.

Fools Inlet is a deep narrow inlet running northwest from △ Quill. It is four statute miles in length, three-eighths of a mile in width, at its mouth and broadens out to three-quarters of a mile two miles in. There are two islands near its head, one (500 x 50) meters, The other (200 x 30) meters. Two hundred meters farther in from the smaller island the mud and grass flats start, which are a mile in length and bare at low water. Several small streams enter near the head. Nowhere are the streams entering the inlet of any size. About one and one-half miles in from the mouth, the west shore is strewn for half a mile with glacial boulders averaging about five feet in diameter. These extend well into the water, and are mostly all covered at high water. The western shoreline is a mixture of sand and mud strewn with small boulders. The shoreline on the east side is low and damp; rocky ^{flats} between high and low water.

Fools Inlet should afford a splendid anchorage for good sized boats; it is deep and apparently unobstructed. Eighteen fathoms was obtained after passing the larger of the two islands. It shoals up quickly at the head. From Fools Inlet looking eastward the ground rises rapidly and uniformly in a ridge topped by four distinct rounded hills heavily wooded to the summits. The average elevation is near three thousand feet. To the west the ridge rises slowly and uniformly to (2180) feet, from which it descends gradually to the south, but abruptly to the north. Looking to the head of the Inlet a series of knolls meets the eye, similiar in character to those observed when looking south from Eastern Passage in the vicinity of Channel Island. These knolls seem to be either glacial remains, or else slides of very great magnitude, more probably the former. The regularity and evenness of the slopes of the sides of Fools Inlet may indicate a former glacial bed. The distance from the head of Fools Inlet to Eastern Passage is only four or five miles.

All the way from station Una to Anan Bay the shoreline has the usual steep rocky cliffs, closely overhung with tree growths. The only exception to this is the south face of Point Ward, where the cliffs average eighty feet; and the heads of Humpback Bay and Anan Bay, where there are broad low marches; here sand and mud extend to the tree line. East of Una the land fall is very steep, rising to (2600) feet. A large deep stream bed descends to the shoreline just north of Una. The Point Ward Cannery is in a small bay (500) meters deep, west of ~~A~~ Tar. Off the point marked by signal Tar, is shown a rock which marks the end of a reef that bares at low water. This is a source of danger to boats going to the Cannery. At Point Ward the land rises to a (700) foot elongated knoll running east and west. It is quite distinct from the mountain back of it, and easily recognized.

At Humpback Bay there enters one of the largest Salmon streams of Southeastern Alaska, according to local information. The stream has a large water shed and a continual flow of water. According to the Alaskan Boundary sheet it is fed by a lake about two miles in length and a quarter of a mile in width. The stream first enters a lagoon, which dries at low water, before flowing into the Bay. At the latter entrance the stream is walled up on both sides by cliffs ten feet high. A large glacial boulder is located directly in the opening, obstructing the passage of all boats except at high water. Passing through the mouth we enter the above mentioned lagoon, which is about three hundred meters square dotted here and there at low water with glacial boulders. Two other small streams enter this lagoon and join the large stream before it enters the Bay. A fish trap of the Alaskan Packers is located about (500) meters from the mouth of the stream. Between high and low water there is a belt of sand (150) meters in width on the south side of the Bay. At extreme low water, local information says this goes dry to the fish trap.

At the head of Anan Bay there is a tidal flat (300) meters in width. Near the low water mark, in the middle of the Bay, there are three glacial boulders; two small ones close together about four feet high; the third and largest one, being the most easterly, is ten or twelve feet high and probably exposed at all stages of the tide. Two small sluggish streams enter, one at each corner of the Bay. Local information claims that one of these streams and the stream at Humpback Bay have been confused, and whereas the stream at the latter Bay should be called Anan Creek, the name has been misapplied and given to one of these streams because it enters Anan Bay. This apparant discrepancy is much disliked by the Wrangell people. Anan Bay is narrow and deep, and should afford good anchorage to any size boat. It opens to the northwest. On the point that protrudes from Anan and Humpback Bays, the ground rises in a knoll to (1000) feet. South of this knoll the elevation drops to one hundred feet before again rising to the high mountains at the southern extremity of the sheet. Back of Anan Bay to the west the ground is low and wet, the ascent being only a hundred to a half or three-quarters of a mile. Grass grows thickly along the high water mark. Back of the Bay to the east and south the mountains rise to elevations of over (3000) feet. Four streams have eroded deep valleys, so as to give the appearance of four distinct spurs radiating from the single mountain.

A list of positions does not accompany this sheet owing to the fact that there were so many triangulation stations that no plane table locations of signals were made.

STATISTICS

Area surveyed in square statute miles. 50 $\frac{1}{2}$
Length of the general coast line in statute miles. 27 $\frac{1}{2}$
Length of the shoreline of rivers in statute miles. 00
Length of the shoreline of creeks in statute miles. 00
length of the shoreline of sloughs in statute miles. 0 $\frac{3}{4}$
Length of the shoreline of ponds in statute miles. 00
Length of roads in statute miles. 00
Length of roads in statute miles. 00
Topographic sheets finished, number of miles..... 1
Topographic sheet, scales of 1 - 20,000.
Topographic sheets, limits and localities of:-

Southeast Alaska, Bradfield Canal in vicinity of Blake Channel.

Latitude; 56° - 06', 56° - 18.'

Longitude; 131° - 44', 132° - 10.'

Respectfully submitted,

Signed

Nathaniel P. White.

Aid, C. & G. Survey.

Approved.

L. O. Gilbert.

Assistant, C. & G. Survey.
Chief of Party.