



U. S. H. SURVEY
L. O. C.
1877
Ass. No.

3633

Form 504
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
State: <u>ALASKA</u>
11-5013
DESCRIPTIVE REPORT.
<u>Map</u> , Sheet No. <u>3633</u>
LOCALITY:
<u>Ernest Id. Blake Channel</u>
1916
CHIEF OF PARTY:
<u>L. O. Colbert</u>

3633

DESCRIPTIVE REPORT

to accompany

Topographic Sheet No

(F)

Blake Channel

S. E. Alaska

Work done under instructions from the Superintendent
dated February , 1916. Done in September and October.

Wire Drag Party No. 4.

L.O. Colbert, Assistant

Chief of Party

Topography by R.A. Wheeler, Deck Officer.

DESCRIPTIVE REPORT

To accompany Topographic Sheet (F) of Blake Channel, Southeastern Alaska.

SCALE LOCALITY.

The topography of this sheet is done on a 1/20,000 scale with a contour interval of 100 feet. The whole of Blake Channel was surveyed from the Narrows, which connects Blake Channel to Eastern Passage, to its entrance into Bradfield Canal which is an arm of Earnest Sound. Owing to the height and nearness of the mountains on either side of the channel it was impossible to obtain the topography more than a mile back from the shore. Because of rain and clouds at the time that the shoreline from Δ Mimas to Berg Bay was mapped it was impossible to map the mountains on the opposite shore, ~~and~~ ^{and} owing to lack of time at the end of the season ^{this} was not finished. Also the mountains back of the mouth to Oerns Creek were not mapped because the shoreline in this vicinity was surveyed in rainy weather and at the very end of the season.

WEATHER

This sheet was started September 22 and ended October 12, 1916. From Sept. 22 to Sept. 27 the weather was cloudy with a thick drizzle and occasional heavy showers. On Sept. 28 the weather cleared and until Oct. 7, we had good weather. During this period all the cuts for contouring were taken. In the morning, however it was generally impossible to do anything but shoreline because of heavy fog which hung about the mountain tops until about ten ^{or} ~~to~~ eleven o'clock. During this time

the air was frosty and cold even in the sunshine. Often in the mornings ice was found in the water-pails. On Oct. 9 rain set in again and it was rainy for the rest of the season, making it impossible to obtain any more cuts for contouring, and difficult to finish the shoreline.

While we were in Blake Channel we did not experience any strong winds which was probably due to the height of the surrounding mountains and the narrowness of the channel.

General Description.

This sheet gives all of Blake Channel from The Narrows on the western end to Bradfield Canal on the southern end and the surrounding topography for a mile back from the shoreline on either side. Blake Channel lies between Wrangell Island on the western side and the mainland of Southeastern Alaska on the eastern. Blake Channel forms an important link in the back passage from Wrangell to Ketikan, by which a boat may go between these two points without leaving sheltered waters. The land area in this section is in general rugged and mountainous. The shores and the sides of the mountains are very steep. Deep water is found only a few meters offshore along most of the shore. The land is heavily wooded from the waters edge upto the 2000 foot elevation. From here on it gradually thins out until at the 2700 foot elevation it gives place to a green scraggy growth, which covers most of the mountains, there being two which are bare at the tops. Climbing is very difficult because of many windfalls, underbrush and broken slopes,

The shore is made up ^{of} a light colored rock which has

many outcroppings of marbles.

Flora and Fauna.

The forest that covers this area is a typical one of South-eastern Alaska. It contains mainly spruce, hemlock and a little yellow cedar with heavy underbrush. There are very few deciduous trees.

The game in this territory is not very abundant, the explanations given by the people of Wrangell is that there are too many wolves. Minks, deer, wolves and bears have been seen in this vicinity. There are several kinds of ducks, in this locality and raven crows, sea-gulls and bald-headed eagles are common. Thousands of Sand-Hill Cranes and geese passed overhead in the short time we were there.

An occasional salmon and hair seal were seen.

Settlements.

A settlement (abandoned) for working a marble quarry on Ham Island, two shacks at Berg Bay and two more on the tide flats at the mouth of Oerne Creek are the limit of the houses in this locality, none of which are inhabited at this time. Lumbering and marble quarrying will probably be the principal industries here in the future. The people of Wrangell contend that the quarry at Ham Island was closed not because it was of an inferior quality but because it was bought by a marble syndicate.

Detailed Description.

Just offshore from Mimas is a small wooded island. About a quarter of a mile to the westward of Mimas a sand spit runs out about 150 meters and extends around the signal, which is located on a detached outcropping of rock, to about a half-mile

to the eastward. From here to Berg Bay the shore is somewhat irregular with rocky ledges. The trees overhang the water along the shore here.

Berg Bay has perhaps the best anchorage of any of the places on this sheet. It is well protected from tide currents, wind and waves by ^{two} the wooded islands lying just off the entrance to the bay. There is clear water on either side of the first island lying in the entrance, but the water is a little deeper near the mainland on either side of the island. A detached rocky ledge which bares at mean low water extends about 150 meters to the northward of the island and is about 30 meters wide. The shores on either side of the bay are steep and rocky and the trees hang over the water. At the head of the bay are a couple of deserted shacks. About 300 meters north of the island is considered the ^{best} anchorage there being about 13 fathoms and mud bottom. Further up the bay the water gets shallower, there being tide-flats at the head of the bay. A small stream empties into the head of the bay. Back of this bay is a big high mountain (3550 feet). It is very rugged and is bare at its top, with a few patches of snow on its peak. From Ham Island I could just see the top of another snow capped mountain directly back of this one which was much larger and higher. It was impossible to locate the mountain because the cuts were too acute.

To the Eastward of Berg Bay are the Oerns Creek Tide-Flats. The low water line was plotted from sounding records which show that the flats end abruptly in deep water. Oerns Creek flows from three to four miles per hour as an four mile

per hour row-boat with an Evinrude outboard motor was hardly able to make headway against the current. At the head of the flats are many separate clumps of trees.

This portion of the work was done in rainy weather at the end of the season and it was impossible to locate the mountains back of here which are higher and more rugged than on any other portion of the sheet. For the same reasons I did not survey very far up the creek.

Between Δ Brow and Δ Blue there is a cliff about 60 feet high. The shoreline between Δ Rigel and Δ Vega is quite regular and is very steep and ranges from 20 to 40 feet above high water. About half-way between Δ Cassi and Δ Spica is the scar of a landslide, which is about 600 feet high. A fairly large stream empties into the channel between Δ Vega and Δ Pollux. This stream drains a large area of mountains which can only be seen from about just about two miles of the shore on the opposite side of the channel, because of the height of the mountains lining the shore. I believe that my shots on the mountains east of Δ Spica were not on their summits but on their shoulders. From a position directly north of Δ Riga about 200 meters distant a large rugged snow-capped mountain which lies just outside the limits of the sheet, was cut in. A second cut was taken from a station (Rap) on sheet no. up a valley which back of the mountains on the east side of the channel from Δ Mark to the entrance to Bradfield Canal. This valley was mapped on Sheet # . These mountains rise abruptly from the water to an elevation of about 1200 feet then gradually slope back to two ^{summits,} ~~summits~~ connected by a saddle, of about 3000 feet. The summits are covered a scraggy growth and are well rounded off at

The shoreline from this stream down to ΔCano is steep and regular. Between ΔPerseus and ΔCano kelp was found. This is the only place on the sheet that kelp was seen. From ΔArgus to ΔAny the shore shelves out more into rocky beaches with sloping grassy banks.

Ham Island is located in the entrance of Blake Channel into Bradfield Canal. At ΔAntil and ΔScor there are rocky shelves extending along the shore strewn with boulders. There is a little bight in shore at ΔAn which forms a very good anchorage being well sheltered from the prevailing southeasterly winds. The bottom is mostly rocky altho in places close inshore is muddy. A little stream empties into the bight furnishing an abundance of fresh water. There are several shacks at this place two of which are still in good condition. The whole island is principally a marble formation. Near the southern end of the island there is a very prominent dark gray marble cliff, which rises perpendicularly for 60 or 70 feet. The island is heavily wooded. About 400 meters to the north of Ham Island is a little low wooded island. The water between the two islands is very foul and is made dangerous by a strong tide which races through here from east to west at flood tide and west to east at ebb.

The west shore of Blake Channel regular and steep although not as steep or as high as that on the east side. In most cases it is very deep along the shore. Along the west shore between ΔHydra and ΔFat two small streams empty into the channel within two or three meters of each other. About a half mile north of ΔHydra a large stream forms a large delta which extend about two hundred meters offshore. Near Capel Point a stream has cut its way through the rock forming a gorge about three meters wide eight deep and two hundred long. At its mouth it has formed a little delta.

About three hundred meters to the eastward of A-Ion is a cliff with a perpendicular drop of about fifty feet.

Survey Methods.

This district was surveyed with a plane-table outfit. A rod made in the field reading four hundred meters direct was used. The triangulation signals were located by tertiary triangulation and the signals from A-Rigel and A-Taurus to the western extremity of the sheet were plotted before the sheet was taken into the field. The signals from A-Cassiopeia to A-Perseus were plotted on September 25 and the rest on September 30. All hydrographic signals were located by at least three cuts. The plane table set-ups were generally determined by the three point problem although the resection method and the cutting in of prominent natural objects for set-ups were often used. The only place it was necessary to run a traverse was on the flats at Oerns Creek. The shoreline in the vicinity of the set-ups was mapped by stadia, the important points being rodded in and the rest sketched. The mountains were located and the elevations determined by at least three plane table cuts. The elevations of the principal points were inked on the sheet while the minor points were not retained.

A traverse was run up the northern side and part way back on the southern side of the tide flats at the mouth of Oerns Creek. Due to heavy rain and the stage of the tide it was impossible to close the traverse on a rock on the shore located by cuts 900 meters north of Brow, by about 300 meters which distance was sketched in while in the field.

For the first few days a four man party was used consisting of an observer, assistant at the table, Evinrude engineer and a roddman. For most of the rest of the time the party consisted of an observer,

engineer and rodman, except the last few days an umbrella-man was added to the party. Arrowboat with an attached Evinrude outboard motor was used for carrying party along the shore.

Magnetics.

Magnetic meridians were determined at three stations. Due care being taken in regards to magnetic metals around the instrument. The variations at the stations is as follows;-

Δ Mimas	30° 29'
Δ Rega	30° 48'
Δ Perseus	31° 37'

STATISTICS.

Miles of shore line, statute -----	42
Square statute miles of topography -----	31

Approved
L. O. Galt

Asst. O. & G. Survey

Chief, Wave Drag Party No. 4

Respectfully submitted

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Deck Officer, C. & G. Survey