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DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
R. S. PATTON, Director

DESCRIPTIVE REPORT

Topographic / *Hydrographic* } *Sheet No.* H. 2618

State Alaska

LOCALITY

Icy Strait

1932

CHIEF OF PARTY

Dickins

U.S. GOVERNMENT PRINTING OFFICE: 1934

DESCRIPTIVE REPORT

HYDROGRAPHY

of

ICY STRAIT, S. E. ALASKA

from

PLEASANT ISLAND to the INIAN ISLANDS

Scale 40,000.

Surveyed by Party on Steamer "Gedney"

L. F. Dickins, Assistant C.& G. Survey

Commanding

Begun August 11th, 1902.

Ended October 7th, 1902.

The portion of Icy Strait covered by this survey extends from the Western end of Pleasant Island to the Eastern end of Indian Islands, a distance of about 20 miles, and the Strait varies in width from 2-1/2 to 8 miles, being divided into two channels by Lemesurier Island. This survey also includes Dundas Bay and Idaho Inlet.

This portion of the Strait is deep and generally free of dangers, and by keeping a mid-channel course can be navigated in perfect safety except in thick weather, when the floating ice from Glacier Bay, which is always to be found in this part of the Strait, makes navigation dangerous. The passages to the North and South of Lemesurier Island are both good, but the Northern one is most used, it being more direct for vessels proceeding to and from sea.

Point Gustavus, the Eastern point of entrance to Glacier Bay, is low and wooded, and does not seem to rise over 150 or 200 feet in elevation; the beach is of gravel and boulders, and to the Southward of the point the bottom is rocky and irregular for some distance off shore.

Ancon Rock, with a reported depth of 6 feet over it, is said to lie about a mile to the Southward of the point, but we did not succeed in locating it, there being so many large ice-bergs aground off the Point, during the time we were there, that it was impossible to make a thorough examination of the locality. The Point should not be rounded nearer than a mile and a half.

Point Carolus, the Western point of entrance to Glacier Bay, lies about 4 miles to the Westward of Point Gustavus. The outer end of the point is low and bare, consisting of gravel and boulders,

back of which it is low and timbered. About a half mile to the S.E. of the Point there is a rocky ledge which bares at low water, and the Point should not be rounded nearer than 3/4 of a mile. About a mile to the Westward of the Point there is quite an indentation in the high water shore line, into which a small stream empties, but the whole cove bares at low tide, and the low water flats extend for about a quarter of a mile off shore all the way around to the Point.

The shore between Points Carolus and Dundas is generally bold and free of dangers, the 10 fathom curve being close along shore for most of the distance. The ridges are steep and well wooded to the usual height. About 3-1/2 miles to the Eastward of Point Dundas there is a small indentation into which a large stream empties.

Point Dundas is the Eastern point of the entrance to Dundas Bay. It is bold, steep and well wooded, rising to an elevation of 2330 feet within less than a mile of the shore. There is deep water close up to the Point, the 50 fathom curve being less than 1/4 mile off shore.

Point Wimbledon, is the Western point of the entrance to Dundas Bay, and is also a bold steep and wooded point, reaching an elevation of 1320 feet within less than a mile of the beach.

Dundas Bay,-

Has its entrance on the N.W. side of Icy Strait opposite the Inian Islands and between Points Dundas and Wimbledon; it is about 3 miles wide at its entrance, and extends about 4 miles in a Northerly direction with an average width of 2 miles, above which it is a narrow crooked inlet extending in a general N.W.

direction for about 5 miles, then turning abruptly to the Southward and extending in that direction for about 5 miles more, to its head, from where there is said to be a portage of about a mile across to Taylor Bay. There are several minor arms and branches extending in a N.W. direction, and a number of small timbered islets scattered through the Inlet.

On the Northern side of the Bay there is quite an indentation into which a large stream empties. Along this shore there are extensive mud flats, which bare at low water for about half a mile off shore.

There is a deep sub-marine valley from the entrance of the Bay following close along the Eastern shore, the 100 fathom curve being less than 1/4 mile off the beach, and the 50 fathom curve leading well up towards the mouth of the above mentioned stream, with mud flats, bare at low water, within 1/4 mile on each side at the head of the curve.

On the Western side of the Bay, about 3-1/2 miles above Point Wimbledon, there is a small wooded island lying about 150 yards off shore, and about 1/4 mile above the island on the main land is the wharf and buildings of the Dundas Bay Salmon Cannery, which is said to have a capacity of 500 cases per day.

The usual anchorage is about 1/4 mile off the Cannery, in from 8 to 12 fathoms, sticky bottom. This anchorage is exposed to the Southward and Eastward, and you are apt to be disturbed by floating ice.

Earl Cove, is situated on the Eastern side of the Inian Island, and is about a half mile wide at its entrance, and extends about

7/8 of a mile in a Westerly direction towards Inian Cove, with which it is connected by a very narrow channel, which is full of rocks and bares at low water. An anchorage can be obtained near the centre of the Cove in from 10 to 15 fathoms sticky bottom, but is not recommended, as the Cove is generally filled with floating ice.

Idaho Inlet, has its entrance on the South side of Icy Strait immediately Eastward of Point Lavinia, and is about 4 miles wide at its entrance, and extends in a Southerly direction for about 13 miles, narrowing down to about 1/2 mile in width at its head, where two large streams enter into it and have formed a mud bank about 1-1/2 miles in extent, which bares at low water.

About 2-1/2 miles E by S from the Northern extremity of Point Lavinia, and about 3/4 mile off the Western shore of the Inlet, there are two small timbered islands, which we have named "Shaw Islands";-the largest one is about 1/2 mile long by 1/4 mile wide, and rises to an elevation of 300 feet; the smaller one is 1/8 mile in extent, and 100 feet high. The channel between them is about 1/4 mile in width, but is unsafe on account of sunken rocks.

Just inside the Eastern point of entrance to the Inlet there is quite an indentation, which we have named "Gull Cove". There are two Indian shacks near the head of the Cove, and a small stream enters, from which we obtained water for the vessel. Our tide gauge was located on the rocky point about 200 yards Northwest of the shacks.

There is a rocky ledge, which bares at low water, about 1/4 mile N.W. of the tide gauge point, and we found a good anchorage for

the "Gedney" about midway between the reef and the point in 7 fathoms sticky bottom, but larger vessels better anchor outside the reef in from 10 to 12 fathoms. The floating ice very seldom enters this Cove, and it makes a good anchorage, being well protected from all winds except Westerly.

The Inlet is free of dangers, and by keeping a mid-channel course can be navigated in perfect safety to its head, where a good anchorage can be made off a couple of small wooded islets in from 15 to 18 fathoms sticky bottom.

The ridges on both sides of the Inlet are timbered to an elevation of 1500 to 2000 feet, above which they seem bare and rocky. The highest peaks are on the Eastern side, where they reach an elevation of 3000 feet within 1-1/2 miles of the shore. About 6 miles up the Inlet, on the Eastern side, there is quite a large land slide which makes a prominent land mark.

Mud Bay, lies about 5 miles to the Eastward of Idaho Inlet and about 7 miles S.S.W. of Point Adolphus. The Bay is semi-circular in shape, being about 2-1/2 miles wide by 2 miles deep, and is comparatively shoal, varying from 3 to 10 fathoms, but it is not recommended as an anchorage, being open to the Northward and Eastward, and the ice floes from Glacier Bay often pack in very thick. A large stream empties into the head of the Bay, where there are extensive mud flats which bare at low water. On the Eastern shore near the head of the Bay there are several Indian shacks. On the Western side of the Bay there are three low wooded islands which are seperated from the mainland by a narrow channel which bares at low water. The largest of these islands is known as "Goose Island", and about 3/8 mile off its Northern shore there is a rocky reef which bares at low water and is well marked by kelp. The shore between Goose Island

and Idaho Inlet is low and wooded;- the 10 fathom curve is about 1/4 mile off the beach.

We established a tide gauge in the little cove just East of the first bluff point on the Eastern side of the Bay, and anchored off the gauge in about 4 fathoms just outside the kelp. We remained at anchor here for 20 days, and although the floating ice came very close at times it never disturbed us but once, when we had to let go our launch, which was riding at the boom, to save it from being crushed against the ship.

Point Adolphus, the Northernmost point of Chicagof Island, is a bold prominent point covered with timber, and rising to a rounded top 1670 feet in elevation within 1/2 mile of its Northern extremity, and about a mile to the Southward there is another rounded top hill 1900 feet high within a mile of the beach. The shore line between Point Adolphus and Mud Bay is fairly regular, there being only a few very slight indentations, in one of which, about 6 miles to the Westward of the Point, and about 3/4 mile to the Eastward of the tide gauge, there are two Indian shacks. The water is deep close up along shore, the 10 fathom curve being less than 1/4 mile off the beach.

Lemesurier Island, lies in the middle of Icy Strait about 11 miles to the Westward of Pleasant Island. It is about 5 miles long by 2-1/2 miles wide, and rises to an elevation of 2225 feet.

The shore is generally bold and free of dangers, and the water deep close up, except at the S.E. point of the Island, where there is a rocky reef or ledge extending about 1/4 mile off shore. A small wooded island, about 1/4 mile in extent, and about 200 feet high, lies about 200 yards off the Northwest shore; the channel between them is deep but generally filled with ice.

In case of emergency an anchorage can be obtained in the little bight to the South of the small island in from 15 to 20 fathoms, but the holding ground is not good, and it is not recommended on account of strong currents and floating ice.

Willoughby Cove, is situated on the Southeast side of Lemesurier Island. It is only a slight indentation, being about 1-1/2 miles in width between the extreme points, and only 1/2 mile in depth. Anchorage can be obtained in the Eastern part of the Cove about 1/4 mile off the beach in from 8 to 10 fathoms, but like most of the other coves in this vicinity it is often filled with floating ice and not recommended on that account.

Pleasant Island Reef. It being discovered that quite a portion of this reef bares at extreme low tides, a fact not developed by out survey of 1901, we attempted a re-examination of the locality at the close of the season, but both the weather and tides were unfavorable, and although we found much shoaler water than last year, I am still unsatisfied with the work around the reef.

This Hydrography was executed by Messrs. Atkinson and Stanford, using steam launch #117, which was fitted with a wire sounding reel, the hand lead being used only when approaching the shore in shoal water and in developing reefs and shoals.

The sounding lines were generally run about a quarter of a mile apart, except in the wide part of the Strait lying between Pleasant Island and Lemesurier Island and Points Adolphus and Gustavus, where they were run about a half a mile apart, and splits run in along shore.

The soundings were generally taken about a quarter of a mile

apart, and a position determinded at each sounding, the launch being stopped for that purpose. In approaching the shore where the water was shoal, the soundings were taken oftener, according to the depth of the water. In all the small bays and bights, and on all shoals and reefs, the lines were run closer together, and the soundings taken often enough to develope the dangers thoroughly.

The Plane of Reference used in the reduction of soundings was the Harmonic Tide Plane, and was obtained from data furnished by the Office on June 6th 1902, for the Hooniah and Inian Cove tide gauges and transferred to Idaho Inlet, Mud Bay and Flynn Cove by simultaneous observations. There seems to be a discrepancy between the datum planes at Hooniah and Inian Cove, as furnished by the Office, which I cannot account for.

Respectfully submitted
E. L. Dickins
Aslitant C. & G. Survey
Chief of Party.

VEC
Dec.16,1915

L.P.

HYDROGRAPHIC SHEET 2618 ~~bis~~ a.

South Inian Pass, Icy Strait, Alaska, by Assistant R.S.Patton in 1914.

TIDES.

	Inian Anchorage ft.
Mean lower low water, or plane of reference on staff	1.0
Lowest tide observed " "	-2.7
Highest " " " "	16.1
Mean range of tides	9.0

(2618)

REPORT
on
HYDROGRAPHIC SHEET NO. 2618.

Icy Strait,
Pleasant Island to Inian Island,
Alaska.
Assistant Dickins.
1902.

The field and office work is good, only a few minor changes were necessary as originally plotted, but all soundings from 10 fathoms and less were changed to the plane of mean lower low water.

F.C.D.

2618 A

2618a.

Department of Commerce and Labor
COAST AND GEODETIC SURVEY

O. H. Tittmann
Superintendent

State ALASKA

DESCRIPTIVE REPORT

Hydl. Sheet No. 2618a

2618a

LOCALITY:

Entrance to South Inian Pass

1914

CHIEF OF PARTY:

R.S. Patton

11—4645

DESCRIPTIVE REPORT

TO ACCOMPANY HYDROGRAPHIC SHEET NO. 2818 ~~A~~ 2618A

LOCATION OF ROCK EASTERN ENTRANCE TO SOUTH INIAN PASS.

in accordance with instructions, the first work taken up during the 1914 season was the location of canneries at Hooniah and Idaho Inlet, and of the submerged rock reported at the eastern entrance of South Inian Pass.

On this latter work no hydrographic sheets were available, nor any geographical position of points previously determined in the vicinity. The work was begun, therefore, by using Chart No. 8304 as a boat sheet, position angles being taken on various tangents of the shore line. Two days were spent by the launch in sounding about the reported position of the rock. At the end of that time, no indication having been found, a drag was rigged and two days more spent in sweeping the area. Construction of drag was as follows:-

Length of wire, 1500 feet. It was supported at either end by a barrel, and at every 100 feet intermediate by a float of two life-preservers lashed together. The weights used were 150-lb shot at the ends and 8-lb lead at the intermediate float. This drag was towed by the ship and the launch, and the towing lines were kept so short throughout the work that position angles taken from the towing vessels were never more than a few metres outside of the area actually covered by the drag. The distance from the vessel to the end of drag was always

much less than the width of the overlap of adjacent sweeps. For this drag work a boat sheet was obtained by making an enlargement of the chart at a scale of 1-20,000. In the final plotting of this work, it will be noticed that the positions do not agree with the corresponding ones of the boat sheet. This is due in part, of course, to the inaccuracy unavoidable in such an enlargement. In a large portion of the first day's work, however, it is due much more to the fact that the officer making the enlargement plotted one of the signals used, namely, the north shore of Lemesurier Island, one mile too far to the southward. This tangent was used as a right hand object by the ship during the greater part of the first day's work, and although at the very beginning of the work it was apparent that something was wrong, the exact nature of the trouble was not discovered until that night when the boat sheet was compared with the chart. In the plotting of this work, it should be noted that the signals used were tangents to the land rather than definite points, with one exception, in the case of signal "Extra" the observer taking the left angle fixed upon one point, a tangent at the time he began using it, and followed that point as the shore line opened out beyond it. Signal "Extra," therefore, should be located from the boat sheet. No indications of the rock were found during this drag work, but since the area in which it was reported was thoroughly covered, an attempt to locate the rock was postponed until more accurate information could be obtained. This information was procured when the

H. 2618a.

Location of 1-1/4-fm rock off Idaho Inlet, Icy Strait, Southeast Alaska.

O. K.

Sheet examined in Div. of Hydy & Topy.

Ship went to Juneau to coal for the run to Cook Inlet, and when en route to the latter place a stop was made, and the rock readily located in one day's sounding.

For the first work no tidal data was available. A staff referred to three bench marks was therefore established in Inian Cove. Between the first and second pieces of work, however, a description of former station in Inian Cove was received, and during the second piece of work a tide staff and the three new bench marks were connected with two bench marks of the previous station.

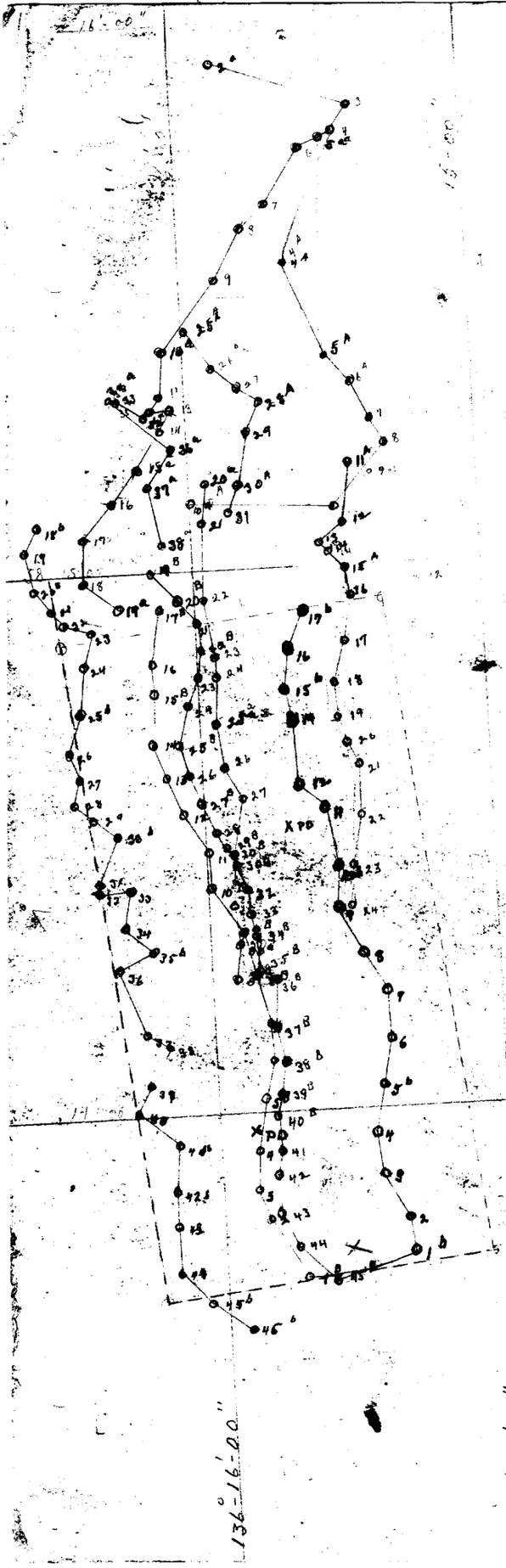
A tabular statement of statistics follows:

Boat	Day	Soundings	Angles	Miles	Area- sq.mi.
Launch	a	118	206	9.0	1
"	b	144	288	15.0	
"	c	103	182	5.6	
Ship	A	Drag	62	---	1
"	B	"	90	---	
Launch	a	"	76	---	
"	b	"	92	---	
Totals, ...		365	996	29.6	

Respectfully submitted.

R. S. Patton

Chief of Party



Final plotting of drag work after error in signals was discovered

58°15'00"

58°14'00"

136°16'00"

136°15'00"

136°14'00"

136°13'00"

Hyd. Sheet No 2618

In this work, points of tangency to the shore line were used as signals. In some instances the exact point used, was hard to determine.

The positions near the shoal area, were too close to be shown on this scale. Blue "c" day was protracted on separate pieces of paper and the soundings plotted on each of them. The soundings shown on the smooth sheet were selected from all of these sheets. The tracings of "c" day are filed in the sounding book for the convenience of the verifier.

A separate tracing was made showing the lines covered with wire drag. The depth at which the drag was set, is not stated in the records, although it may be in the descriptive report, which could not be found at this time.

R. L. Johnston

ver by L.C.B.

Charts 17318-17319-SC (New)
Fully app'd hydro only to areas not superseded by contemporary coverage.
1/30/79 James Graham