

945
S.H.A.
3567
1913
B.

3567

C. & G. SURVEY,
LIBRARY AND ARCHIVES
DEC 18 1913
Acc. No. _____

See also^H 3566 - 3568

Diag. Cht. No. 8554-1

Department of Commerce and Labor
COAST AND GEODETIC SURVEY

Superintendent.

State: *Alaska*

DESCRIPTIVE REPORT.

Hydro Sheet No. *3567*

LOCALITY:

Iniskin Bay
Cook Inlet
Alaska

1913

CHIEF OF PARTY:

C. G. Quillian

11-4045

3567

H 3567

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

O. H. Tittmann, Superintendent.

C. & G. SURVEY, LIBRARY AND ARCHIVES DEC 16 1913 Acc. No. _____
--

-----o-----

I N I S K I N B A Y ,

C O O K I N L E T ,

A L A S K A .

A plane table survey by H. Leyboldt, Aid.

June—August, 1913.

Party of U. S. S. McArthur,

Commanded by

C. G. Quillian,

Ass't. C. & G. Survey.

Scale 1 - 20,000

Contour Interval 100ft.

Inked by H. Leyboldt, Aid.

Hydrographic Sheet No. 3567

INISKIN BAY

COOK INLET

ALASKA

Steamer McArthur

C. G. Quillian, Asst.

Chief of Party

Hydrography by

O. J. Bond, jr., Aid

H. B. Campbell, Aid

R. Arey, Aid

W. R. Marks, Asst. Surg.

Scale

1:20,000

July 17 to Sept 23

1913

This sheet is a hydrographic survey of Inishkin Bay Cook Inlet, Alaska, done on the scale of 1:20,000.

The coast line of Inishkin Bay and its immediate approaches is in general mountainous, with prominent valleys and hills. The bay itself resembles a valley leading northward between the two mountains on either side at the entrance. The mountains are steep. On the right hand, entering the bay, they are green, covered with patches of alder in some spots, and in others with grass. There are numerous slides near the water's edge on which there is no vegetation, presenting a bluff line of eroded clay. Half way up the bay on this side, there are perpendicular rocky cliffs forty to fifty feet high. The shoreline along this east side for some distance up the bay is a sand beach at low water. On the left hand just inside the entrance, the hills present a rugged appearance, grass and alders covering the lower slopes, while above are great masses of bare rock with small slides in the ravines. Further up the bay there are rolling valleys running back on either side, and valleys running back from each arm of the bay.

Approaching Inishkin Bay from the eastward, Pomeroy Island is the first island made west of Oil Bay. Inishkin Island is the next, and just NW ~~side~~ of Inishkin is Scott Island, off the point at the eastern entrance to the bay. Off the western side of Scott Island there are five small islands of mushroom appearance, about thirty feet in diameter, and about fifteen feet high above H.W. A chain of rocks awash at different stages of the tide extends all along the coast about one mile offshore forming a broken reef in the general shape of a

smooth curve from Pomeroy Id to Iniskin Id and rounding the mushroom Islands to the point at the eastern entrance to ~~the~~ the bay. This reef starts at the western entrance of Oil Bay. Halfway around the arc from this point to Pomeroy Id is the most prominent rock in the chain, about fifteen feet high above high water (called © Big on the hydrographic sheet). Inside of this reef is fairly clear water which can be used by small boats between Oil Bay and Iniskin Bay. There are openings in the reef where small boats can come in. Shoal spots and sunken rocks extend off in a general SW'ly direction from Iniskin and Scott Islands, to a distance of 1½ miles. Vessels coming to Iniskin from the eastward should stay 1 mile off Pomeroy Id and as far off Iniskin Id. At the outer end of the reefs SW of Scott Id, there is a spot with least depth of 3 feet at low water. This spot does not break.

(4ft. is the shallowest sounding in the records) R.L.G.

Tide rips occur at the entrance to Iniskin Bay, but are not dangerous to any boats except canoes and skiffs.

There are no pilots or tugs obtainable., no lights or buoys.

In seeking shelter, small boats can get in behind the reefs between Pomeroy and Iniskin islands and get out of the heavy swell to a great extent as the reefs smooth out the seas and allow only a small swell to get in. But once inside the reef better shelter can be obtained by running on into Iniskin thru the pass between Scott Id and the point. In SE or E or NE weather, excellent shelter is obtained for small boats in the bight just NE of Scott Id. In weather from the westward, there is no sea anywhere in the bay that is dangerous, but

small boats can get a little lee under the west shore. Vessels are amply protected from any weather in the anchorage in the channel. A ship could be beached without difficulty on the mud flats along the eastern shore about halfway up the bay.

The currents set fair with the channel and run with a speed off two to three knots.

Westerly winds draw down from the hills thru the gaps, causing willawaws which blow fresh in the bay. Gales in the summer come from the NE to the SE. They are not dangerous in ~~the~~ the anchorage. A little swell makes into the anchorage in the SE blows, but most of it is broken up by the islands and reefs at the entrance to the bay.

There are numerous sand beaches around the bay but they are covered at high water. At low water the whole head of the ~~bay~~ bay is a mud flat with small sloughs running thru it. In the left arm of the bay, the mud flats come out to the river channel and gradually recede into the shoreline until about halfway down the bay they disappear. The west shore of the bay is steep with large boulders along the high water line. At the west entrance to the bay the shore is very rocky.

Mt. Eleanor is a sharp peak at the head of the bay useful as a signal outside the entrance to the bay. The sharp peak at the west entrance to the bay is also a good signal (used on the other sheet and called Den). The west tangent to the most westerly mushroom is useful outside the bay (used and called Mush).

Just NE of Black Reef which is bare at all stages of the ~~sea~~

tide is a narrow reef about a half mile long extending offshore. This reef covers at half tide. Small boats can pass inside of it en route from Iliamna Bay to Iniskin Bay. It breaks in heavy weather after it is covered. Along the shoreline at the western entrance, there are many rocks and boulders but they are close inshore and there is good water up to them. About two miles inside the entrance, the mud flats start to make out on the western side, and bare up to the channel. There are numerous boulders in the flats close along the shore and comparatively few any distance offshore. These usually stick up out of the mud to a height of not more than four feet. At the head of the bay, at low water, the channel alone is covered, mud flats extending over the rest of the bay with small sloughs running thru them. The whole right arm of the bay bares at low water. On the eastern side of the bay the flats gradually recede into the shoreline, until halfway down the bay they disappear. There is a small reef of rocks extending in a generally northwest direction for a half-mile off the point, at the lower entrance to the right arm, just above signal Knob. There is a reef extending off $\frac{1}{2}$ mile at South Base. This shows some rocks at its outer extremity at low water but covers soon after. A small reef which bares at extreme low water extends $\frac{1}{4}$ mile offshore at the point about 1 mile N of Scott Id, and small boats coming thru the inside passage from Oil Bay should stay $\frac{1}{3}$ mile off this point. There are rocks on either side of the passage between Scott Id and the point, but mid-channel is clear for small boats. The reefs off the west side of Scott Id are numerous. A line drawn from $\frac{1}{4}$ mile W of the most westerly

mushroom island to $1\frac{1}{2}$ miles WSW (true) of Iniskin Id clears all the reefs, including the spot $1\frac{1}{4}$ miles WSW of Iniskin Id which has 3 feet over it at low water. *(4 ft. is the shallowest in the records) RLG* Small boats can cut across inside of this spot, but should stay $1/3$ mile off the rock SW of Scott Id which is always bare, and $\frac{1}{2}$ mile off the SW point of Iniskin Id to clear the reef which makes out there. There are three rocks off the point just east of Scott Id which cover at different stages of the tide, and to the left of these and closer inshore there are sunken rocks.

The Farallon was wrecked on Black Reef at the entrance to Iliamna Bay and went ashore just inside of the reef to the eastward. In SE blows, considerable sea makes in here and a wreck soon breaks up.

The bottom is muddy generally with sand in some places, except on the reefs. There are no banks or very decided changes in the bottom except close up on the reefs, so that a leadline affords no indication of a ship's position, when outside.

The channel in Iniskin Bay favors the west shore and is a smooth curve about $\frac{1}{4}$ mile offshore at the entrance, to $\frac{3}{4}$ mile off at the head of the bay. There is small *spit in the channel* bar near the head of the bay which is about six feet shoaler than outside or inside of it, 1 mile N of Δ Ledge. The channel narrows *here.*

Good anchorage is obtained for vessels in the channel about halfway up the bay. It is mud bottom and good holding ground, with plenty of swinging room. It is sheltered from seas in weather from any direction.

Small boats have no difficulty in landing anywhere in the bay.

The river flowing into Iniskin Bay is navigable for small boats of not more than three feet draught to a distance of two miles above @ Snow. The current flows here at a speed of two or three knots.

Small boats can get water from most any of the streams in the bay. For vessels, the most convenient place is the small stream just above signal Knoll, $1\frac{1}{2}$ miles in from the entrance. A whaleboat can be pulled up under the drop of the stream at high water, and filled in five minutes.

For vessels coming into Iniskin Bay, use the following sailing directions. From a point 1 mile true South of Iniskin Id, steer 276° true (north thru east), heading for Gull Id, for a distance of 1.8 miles, when the ~~xxxxxx~~ two blunt points on the west shore of Iniskin Bay should be in range, bearing 14° . Run this range down for 1.8 miles and haul off to pass the entrance point about 150 meters, heading for Iliamna Volcano or the lower hill just to the ~~xt~~ right of Mt. Eleanor, bearing about 25° . Run this course about 2 miles, and anchor in the channel in 8 fathoms, abreast of the gap in the hills on the west shore.

For small boats coming from Oil Bay to Iniskin Bay inside of the reefs, after rounding the point 1 mile east of Pomeroy Id, about 300 meters off, head for the south tangent of Scott Id, bearing 288° for 2.6 miles, until on a line between the east tangent of Iniskin Id and the point of mainland in the pass between Scott Id and the shore. Then head for the middle

of the pass, 345° , into Iniskin Bay. There are rocks on either side in this pass, so boats should keep midchannel. *(4 ft. is the shallowest given in the records) R.L.J.*

The shoal spot with three feet on it at low water, $1\frac{1}{4}$ miles WSW true of Iniskin Id, has the following bearings. West tangent of the most westerly mushroom island bears 18° true (N thru E). Center of Iniskin Id bears 72° . "Big" rock bears 95° . Tangent on north side of entrance to Iliamna Bay bears 275° .

The survey was made with a steam launch, using hand lead-line, on a scale of 1:20,000. The control was a topographic survey, in its turn controlled by tertiary triangulation.

Respectfully submitted,

O. J. Bond, Jr.

Asst. C & S Survey

STATISTICS FOR HYDROGRAPHIC SHEET # /

Date	Letter	Stat..Miles	Positions	Soundings
July 17	a	8.3	39	259
" 18	b	12.1	55	352
" 19	c	9.0	55	326
" 21	d	12.1 19.1	115	634
" 22	e	1.0	10	53
" 23	f	9.1	50	251
" 24	g	6.8	44	210
" 25	h	22.2	108	669
" 26	i	14.2	82	455
" 30	k	15.4	89	487
" 31	l	18.4	106	542
Aug 1	m	17.4	90	670
" 2	n	14.2	77	515
" 4	o	15.5	42	533
" 5	p	2.6	11	86
" 7	r	4.5	27	143
" 9	s	18.0	88	607
" 11	t	10.8	56	354
" 12	u	7.0	33	326
" 13	v	6.2	29	220
" 14	w	21.7	103	823
" 16	x	4.5	16	118
" 22	y	20.6	90	534
Sep 6	z	3.5	18	114
" 23	aa	9.9	58	334
Totals	25	292.0	1491	9615

Total square statute miles 32

VEC
Feb. 9, 1914.

HYDROGRAPHIC SHEET 3567..

CCdr
2/9/14

Iniskin Bay, Cook Inlet, Alaska, by Assistant
C. G. Quillian in 1913.

TIDES.

	Iniskin Bay ft.
Mean lower low water, or plane of reference on staff	6.8
Lowest tide observed " "	2.0
Highest " " " "	25.0
Mean range of tide	12.3

VERIFICATION REPORT

This sheet was verified by replotting every 10th position, and noting the numbering in the vicinity.

The following were noted and corrected:-

3 cases of wrong numbering

1 failure to note in record book change of angle
to make position jibe

2 positions badly plotted

2 " wrongly plotted

2 " " lettered.

Approximately 150 positions were thus checked.

Respectfully,

O. J. Bond, Jr.

Aid, C. & G. Survey.

Hyd. Sheet No. 3567.

Within the limits of the work, the ground is very well covered and most of the work is fairly good.

There are a number of soundings, which seem doubtful. Most of these, in the writer's opinion, are probably recorder's errors and do not actually exist. Still, it was not thought advisable to reject them, when no good reason could be given for doing so, except in the case of four soundings on line from pos. 93 l to pos. 94 l, which were rejected. The most prominent of these soundings are 2 ft on pos. 71 y (E. of \odot Con), -2 ft after pos 76 y (N.E. x E from \odot Hole), 22 ft at pos 12 b (E. of \odot Out) and 22 ft between pos 81 y + 82 y (E. of \odot Mug)

Although most of this area is mud bottom, rocky patches and isolated rocks are very numerous. Most of these rocks are located from cuts, taken at different positions. When all of these cuts were plotted, they formed so many lines and intersections, that it was hardly possible to identify the rock to which each cut was taken. To further confuse them, a number of rocks were shown on the boatsheet which were not indicated on the smooth sheet. The record should have stated the approximate location of the rock cut on or even given the approx. distance from the boat, for purposes of identification

A dotted line was drawn around these rocky areas and they were marked "foul ground."

The time record is not always clear, only every fifth and in some cases only every tenth minute was entered.

The method of showing positions by a small circle in ink has long been discarded. (See Instructions to Field Parties)
par. #293 - p. 71

Although the positions on this sheet had been verified by having every tenth one reprotracted by a second man, nearly fifty were found which had been incorrectly protracted.

R. L. Johnston

June, 1914.

Soundings are shown in feet.

Protracted by field party.

Plotted and inked by R. L. J.

Verified by H. A. C.

H. 3567.

Small circles used to mark positions. Owing to the comparatively shoal water, the existence of any boulders in the channel would be dangerous to vessels of deep draft.

The soundings appear sufficient. It will, however, require a wire drag survey to insure the safe navigation of these waters. The hydrographic development appears sufficient.

Sheet examined in Div.
of Hyd'y & Top'y.

POST-OFFICE ADDRESS:

TELEGRAPH ADDRESS:

EXPRESS OFFICE:

Hyd. 3567-

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

Report of Hydrographic Smooth Sheet
of Iniskin Bay, Alaska

The hydrographic smooth sheet of Iniskin Bay, Alaska, scale 750,000, plotted by me was found to be a very excellent sheet as the sounding lines were straight, evenly spaced and the positions were a uniform distance apart. The shoals were carefully developed and whenever the soundings indicated an unusual depth the place was investigated carefully.

The fixes, in general, were good and only in a very few cases were they "revolvers". The lines were carried out to the fifteen fathom curve where practicable.

Sufficient channel lines were run to of such length that the entrance and approach to the anchorage was clearly and definitely marked.

Respectfully submitted

Reuben Arny

Aid, U. S. Survey.

Sheet plotted Nov 1913,

Season of 1913, C. J. Quinn
Chart