

3574

Diag. Ckt. No 8700

3574

Form 504 U. S. COAST AND GEODETIC SURVEY DEPARTMENT OF COMMERCE DESCRIPTIVE REPORT	
Type of Survey	HYDROGRAPHIC
Field No.	Office No. H-3574
LOCALITY	
State	ALASKA
General locality	SHUMAGIN ISLANDS
Locality	ZACHARY BAY
<u>19A/13</u> CHIEF OF PARTY J. B. Miller	
LIBRARY & ARCHIVES	
DATE	APRIL 3, 1914

H. 3574.

Excellent descriptive report and sheet. Good control was established and the soundings are well spaced, and the area well developed. Sheet examined in Div. of Hyd'y & Top'y.

DEPARTMENT OF COMMERCE

Coast and Geodetic Survey

O. H. Tittmann, Supt.

ALASKA

SHUMAGIN ISLANDS

ORIGINAL HYDROGRAPHIC SHEET * 3574

ZACHARY BAY

Surveyed July, August, 1913 by the part on the C. & G. S. Str.

PATTERSON

James B. Miller, Assistant, C. & G. Survey, Chief of Party.

George C. Mattison, Aid, C. & G. Survey, in charge of hydrographic party.

SCALE 1: 20,000

POSITIONS plotted by George C. Mattison.

DEPARTMENT OF COMMERCE
Coast and Geodetic Survey,

O.H. Tittmann, Supt.

SOUTHWEST ALASKA

Shumagin Islands

DESCRIPTIVE REPORT TO ACCOMPANY HYDROGRAPHIC SHEET No. ~~X~~ 3574

Surveyed by the Steamer PATTERSON, June - August 1913.

1. REPORT, LIMITS, SCALE, METHODS, OBSERVER.

I have the honor to report as follows, upon hydrographic sheet No. 3, which shows hydrography along the north coast of Unga and Popof Islands, in the Shumagin Islands, Southwest Alaska, as done in June, July and August, 1913, by a party from the Steamer PATTERSON. The limits are as follows: on the west, longitude 160 - 46'; on the north, latitude 55 - 26'; on the east, longitude, 160 - 29'; on the south the north shores of Popof and Unga Islands, and a line drawn between East and West Heads, across Popof Strait. The scale is 1:20,000. Launch No. 47 was used for the work, the sounding in less than 20 or 25 fathoms being taken with a hand lead, while deeper soundings were taken with a Cosmos Sounding Machine. Corrections should be applied to all sounding machine soundings, as indicated in the following table.

Correct depth with Cosmos Machine and Attached Register.

<u>Machine Reading</u>	:	<u>Corrected Depth.</u>
10	:	11.0
20	:	22.0
30	:	32.9
40	:	43.8
50	:	54.6
60	:	65.4
70	:	76.1

In Zachary Bay, lines were run 100 meter apart, while outside of the bay, in depths less than 20 fathoms, lines were spaced 200 meters, and in depths greater than 20 fathoms, the lines were spaced 400 meters apart. George C. Mattison, Aid, C. & G. Survey, was in charge.

2. CHARACTER OF BOTTOM.

Except close inshore, the bottom is mostly hard sand, and in some places the deeper soundings indicated sticky bottom. From the west limit of the work, to the bight just east of the sand point, the bottom is quite free from dangerous rocks, all along the shore. From this bight, which is a little more than 2 miles west from Gull Island, a rocky ledge extends along shore, to the end of the long, narrow sand spit at the head of Zachary Bay. In some places this ledge extends 400 meters from the high water line. 2200 meters south of Gull Island is a large, rocky ledge, extending 1,100 meters from shore in a direction NE x E. Most of

the ledge bares at extreme low tide. It is covered with thick kelp. On the west side of Zachary Bay, the bottom is shoal, being almost flat, in some places 1 mile off shore, where it deepens suddenly from 3 to 8 fathoms. Around the sand spit, at the west end of Coal Harbor, the bottom is covered with eel grass. The bay west of the sand spit, is very shallow, and rocky. No rocks were found in the bay south of the sand spit, except those within 400 meters of the high water line. The bottom is covered with grass all along the shores of this bay from 200 to 400 meters off shore. Midway between Range Island and Round Island, there is said to be a pinnacle rock with a least depth of about 5 feet, but it was not found by the sounding party. None of the fisherman or prospectors around Coal Harbor had ever seen this rock, and all doubted its existence. There is a sand spit extending 200 meters in a southeasterly direction from Round Island, that bares at extreme low tide. The bight southeast of Quartz Point is very shoal, and is very foul with boulders and grass. 260 meters W (true) from North Head, is a rock, about 10 meters across, the least depth found being 20 feet. There are two rocky ledges, about 400 meters off the east coast of Zachary Bay, and about midway between North Head and the north-east point of Zachary Bay. The south ledge is about 200 meters long by 60 meters wide extending in a northeast and southwest direction, and bares about 2 feet at extreme low water. The north ledge is 120 meters by 180 meters, and also bares about 2 feet. Both these ledges are covered with kelp. From these ledges, to West Head in Popof Strait, the bottom is very foul close inshore. The two bights in the northeast shore of Zachary Bay are very shoal, and rocky in places. There is a thick kelp patch between the small, rocky island just north of these bights, and the shore. The deep bight 700 meters SE x E from this island is free of boulders near its head, but very foul near the west and east shores. From East Head on Popof Island to Popof Rocks, the bottom is covered with scattered boulders, some places 100 meters off shore. Kelp is also scattered along the shore.

3. ANCHORAGES

Under favorable weather conditions, vessels will find a fair anchorage about 1,300 meters W x N (true), from the sand spit on the north shore of Unga Island, in 6 or 7 fathoms sandy bottom. There is a good anchorage near the west shore of Zachary Bay in 10 fathoms or less, sandy bottom, about 2,100 meters N 33° W. (true) from North Head. This is good only when the winds are not from the north or northeast. The anchorage is good around Round Island, but the best anchorage is one giving 260 meters of swinging room, in Coal Harbor. Anchor in 7 fathoms, with the highest part of Round Island bearing N 53° W, and with Range Island bearing S 76° W. Another good anchorage in Coal Harbor, for all winds except northerly, is about 1,600 meters from Round Island in 10 fathoms, sticky bottom. The highest part of Round Island should bear N 37° E (true), while Range Island should bear N 68° E (true). An anchorage much used by small boats, is the little bight, just east of the mouth of Zachary Bay. Anchor as desired in from 2 to 5 fathoms, sandy bottom. This is good for all winds except northerly.

4. CURRENTS.

The only currents observed were tidal in character. In the vicinity of the sand point on the north shore of Unga Island, the current at times has a velocity of 1 1/2 knots, as estimated from the sounding

launch. Small tide rips make their appearance at times. At height of flood or ebb, the current flows from 1 to 1 1/2 knots near the ledge that lies 2,200 meters south of Gull Island. In Zachary Bay, the maximum velocity was estimated as 1 knot. Just outside the entrance to Popof Strait, the ebb and flood are quite noticeable.

5. DIRECTIONS.

For entering Coal Harbor, the range as shown in the accompanying sketch should be run, i. e., the west end of Round Island in range with the middle of Saw Tooth Mountain. This range, on course S 2° E, passes through mid-channel, clearing the rock off North Head, and the flat, sand shoal opposite North Head, passing midway between the two. The range for entering Coal Harbor, as shown on the existing chart, passes directly over the 20 ft. rock off North Head.

See also sailing directions with report of Voyd. 35-75.

Respectfully submitted,

G. C. Mattison

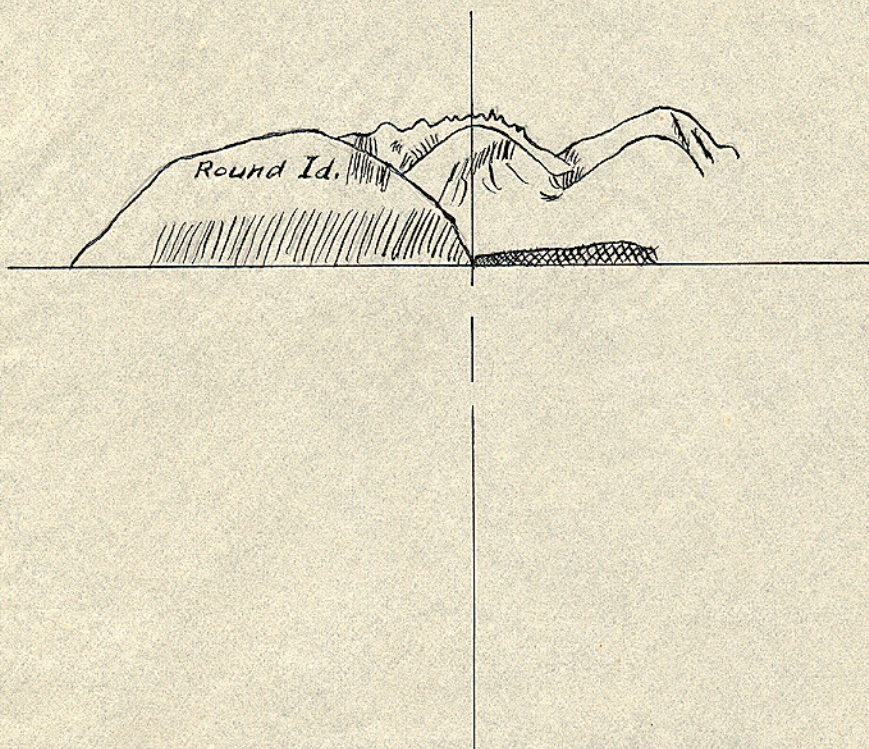
Aid, C. & G. Survey.

APPROVED:

James B. Miller,
Assistant, C. & G. Survey,
Chief of Party.

To the Superintendent,
Coast and Geodetic Survey,
Washington, D. C.

At Sea, November 10, 1915.



Range For Entering Coal Harbor, on Course, ..S 2 E.

SHEET NO. 33574

LOCALITY: SHUMAGIN ISLANDS, S. W. ALASKA.

DATE 1915.	BOAT	LETTER	VOL.	HOURS	POSITIONS	SDGS	MILES (stat.)
July 5	Launch No. 47	a	1	8.0	135	652	21.0
" 9	" "	b	1	7.5	140	552	23.6
" 10	" "	c	2	8.5	143	474	26.0
" 11	" "	d	243	7.5	163	1070	26.2
" 18	" "	e	3	6.5	125	911	22.6
" 19	" "	f	344	7.0	143	979	19.2
" 25	" "	g	4	8.0	136	477	27.3
" 31	" "	h	4	9.0	84	281	36.0
Aug. 5	" "	j	445	9.5	96	460	37.4
" 6	" "	k	5	9.0	70	223	27.2
" 7	" "	l	5	8.5	47	128	29.6
" 9	" "	m	546	7.5	138	1051	18.0
" 11	" "	n	6	9.0	119	359	31.8
				105.5	1539	7617	345.9

Sq. statute Miles: 46

VEC
Mar. 28, 1914.

HYDROGRAPHIC SHEET 3574.

North Shore of Unga Island, Southwest Alaska,
by Assistant J. B. Miller in 1913.

TIDES.

	Sand Point ft.
Mean lower low water, or plane of reference on staff	3.5
Lowest tide observed " "	1.6
Highest " " " "	13.1
Mean range of tide	5.1

Hyd. Sheet No. 3574.

Within the limits of the work, the ground is thoroughly and systematically covered and shoal indications carefully developed.

On the shoal north of Round Id., the positions are too close to permit showing them all, on this scale, therefore pos. 30F to pos. 45F inc., were left off. although the soundings taken on these lines were plotted and those selected are shown on the sheet.

The records are clear and well kept and the work done on the smooth sheet is accurate and neat. The position numbers are small yet legible, in contrast to most of the work turned in by field parties.

The presence of kelp between pos. 27h to pos. 28h, on the N.E. corner of the sheet, might have been further investigated
R. L. Johnston

Soundings expressed in fathoms.

Protracted by field party.
Plotted and inked by R. L. J.
Verified by J. D. L.
11/2/15

The in-shore soundings are too large, resulting in decreased legibility.

The sheet should not be defaced by pencil marks by the verifier. E. P. Ellis
9/22/16

Applied to Ct. 8704 Reconstruction F.M.A. Mar. 6, 1943