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Department of Commerce and Labor
COAST AND GEODETIC SURVEY

O. H. Tittmann
Superintendent.

State: *Alaska*

DESCRIPTIVE REPORT.

Sheet No. *3706*

LOCALITY: *1*

Shermagun Is.

1914

CHIEF OF PARTY:

J. B. Miller

11-4645

3706

DEPARTMENT OF COMMERCE

Coast and Geodetic Survey,
O.H.Tittmann, Supt.

ALASKA

SHUMAGIN ISLANDS

Original Hydrographic Sheet No. 7
KOROVIN STRAIT to the HAYSTACKS

Surveyed in Aug., Sept., and Oct., 1914

by the party on the C. & G.S. Str. PATTERSON

J.B. Miller, Assist., C. & G.S. Chief of Party

P. Herberger, Mate " in chg. of sdg. boat.

Scale 1:20,000

Soundings in fathoms at mean low low water

Tide gauge at Pirate Cove

Area $86\frac{1}{2}$ sq. stat. miles.

Positions plotted by P.H.

Soundings " " J.S.

DEPARTMENT OF COMMERCE

Coast & Geodetic Survey,
O.H.Tittmann, Supt.

ALASKA: SHUMAGIN ISLANDS

A Descriptive Report on Hydrographic Sheet τ 3706.

KOROVIN STRAIT TO THE HAYSTACKS: SCALE 1: 20,000

REPORT: LIMITS

I have the honor to report as follows on hydrographic sheet 7, KOROVIN STRAIT to the HAYSTACKS, surveyed by the party on the Steamer PATTERSON in 1914. This sheet shows inshore hydrography on the east coast of POPOF ISLAND, joining at both ends with the 1913 work by this party: inshore hydrography on the south coast of KOROVIN ISLAND; and a detailed development of the waters between; with examinations of several suspicious shoals. It connects also at its eastern side with sheets 16 and 6 of 1914. The sounding party was in charge of Paul Herberger, Mate C. & G. Survey.

2. METHODS: INTERVALS: HARBOR PLANS.

Wherever machine soundings were taken from the sounding launch, the COSMOS machine and revolution counter was used; and such soundings therefore are subject to a correction depending on the amount of wire on the drum: this correction is given by tables submitted with reports on 1913 sheets. The corrections have been entered and verified in the sounding books. Inshore sounding lines were spaced 1/8 mile apart: offshore lines were spaced 1/3 to 1/4 mile apart in more than 25 fathoms. Enlarged plans of PIRATE COVE and LITTLE HARBOR are shown on sheet 99, although the soundings are recorded in sheet 7 record books. Cross-references are given in the books and on sheet 99 which explain this. Detailed descriptions of these harbors are given in the report on sheet 99.

3. SEA-BOTTOM: DANGERS.

The sea-bottom may be characterized as irregular: but there are no extensive areas of foul ground. The ruling depth is 30 to 100 fathoms. KOROVIN STRAIT has a cod-bank in the middle of it; this was carefully examined, and a least depth of 30 fathoms was found. There are two small shoals of 8 and 11 fathoms off the east coast of POPOF ISLAND, which are marked by strong tide rips. The east coast of POPOF ISLAND is safe, and 8 fms. to 50 fms. is found 3/10 mile offshore. Within 1/10 to 2/10 mile of the beach

there are rocks both above and below water. But from PIRATE COVE around the point to LITTLE HARBOR there are cliffs rising from deep water. The land is high along the entire coast. The coast of KOROVIN ISLAND which lies in KOROVIN STRAIT may be approached within 2/10 mile in 10 fathoms or more. The bight eastward of this, which may be called KOROVIN BAY, has reefs at the head of it; but the shore may be approached within 6/10 mile in 11 fathoms; and temporary anchorage may be found here. The point between KOROVIN BAY and CAPE DEVINE has a reef of forbidding appearance off it, but may be approached within 3/10 mile in 18 fathoms. CAPE DEVINE has a breaking rock 2/10 mile south-southwestward of it: the shore may be approached within 3/10 mile in 12 fathoms. GORMAN STRAIT will be described with sheet 16: it is a poor mark from the eastward in bad weather: there are dangers on both sides of it, and it promises to be the scene of some accident sooner or later, if navigation increases in these waters.

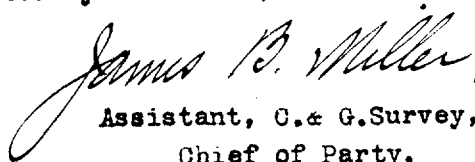
4. COURSES

Pass 1-4/10 mile off CAPE DEVINE in the middle of GORMAN STRAIT, and with CAPE DEVINE bearing 353° (N46W mag.) steer ~~281~~²⁸⁰ $^{\circ}$ (S81W mag.) 6-4/10 miles, until HIGH ISLAND is abeam bearing 190° (S9E mag.) 9/10 miles: then steer 291° (N88W mag.) through the middle of KOROVIN STRAIT. Or, from the same point off CAPE DEVINE, steer 222° (S23W mag.) 9-9/10 miles, until POPOF HEAD bears 312° (N67W mag.) 7/10 mile, and then round POPOF HEAD 7/10 mile distant.

5. CURRENTS: VARIATION.

Tidal currents in KOROVIN STRAIT ebb eastward and flood westward, reaching 1-1/2 knots at spring tides. There are tide rips in the wake of HIGH ISLAND and between it and the shore. The tide floods northward and ebbs southward along the east coast of POPOF ISLAND, and reached 1 knot at spring tides. The magnetic variation was $19^{\circ} 15'$ East in 1914 in this region.

Respectfully submitted,


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

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

Seattle, Wash., Feb. 10, 1915.

DATE 1914 BOAT LETTER VOL. HOURS POSITIONS SDGS. MILES (stat)

DATE	BOAT	LETTER	VOL.	HOURS	POSITIONS	SDGS.	MILES (stat)
Aug. 13	Launch No. 47	a	1	8.2	123	125	34.3
" 15	" "	b	1	0.6	12	15	5.0
" 20	" "	c	1	3.4	29	29	12.0
" 24	" "	d	1	7.6	105	120	31.0
" 25	" "	e	1	0.4	7	9	1.3
" 31	" "	f	1	7.0	129	232	23.6
Sept. 1	" "	g	2	7.8	187	375	23.5
" 3	" "	h	2	4.2	94	283	14.5
" 4	" "	i	2	0.2	7	28	1.0
" 5	" "	j	2	4.8	78	88	21.6
" 8	" "	k	3	1.6	13	13	5.6
" 9	" "	m	3	5.5	64	75	14.5
" 11	" "	n	3	7.2	168	437	26.2
" 12	" "	o	3	3.8	54	54	16.4
" 17	" "	p	3	1.6	42	73	5.3
" 19	" "	q	3	1.0	5	58	1.0
" 21	" "	r	4	4.3	88	334	13.5
" 22	" "	s	4	6.7	135	482	24.5
" 23	" "	t	4	3.0	55	182	10.9
" 28	" "	u	4	0.2	8	8	0.5
" 30	" "	v	5	3.0	46	46	12.5
Oct. 6	" "	w	5	4.8	85	195	17.0
" 12	PATTERSON	A	5	3.0	22	74	9.9
" 14	" "	B	5	10.2	63	181	55.5

98.1 1619 3516 379.1

Sq. Statute Miles: 88.3

*By direction of Chief Draftsman, Hyd. 3706.
This work will be plotted on
Hyd. 3706*

DEPARTMENT OF COMMERCE

Coast and Geodetic Survey
O.H. Tittmann, Supt.

ALASKA PENINSULA, SHUMAGIN ISLANDS.

A Supplementary Descriptive Report on Sheet No. ~~3577~~ **3706**

Sheet 3577 is the same as hydrographic sheet No. 1 of 1913 and shows the southern end of Popof Strait, Shumagin Islands. Additional soundings were made in 1914 to complete the work off POPOF HEAD and SQUAW HARBOR (BARALOF BAY). These soundings are found in Vols. 1 & 2 (1914) sheet 3577, and are shown on the original boat sheet, which is submitted herewith. They must be plotted on fair sheet 3577, which is now in the archives of the office. A portion of these soundings, located close inshore near POPOF HEAD, have also been plotted on sheet 7 (1914).

The suspicious shoal off SQUAW HARBOR, 1000 meters S70°E from the pinnacle at the southern point of the entrance, was thoroughly examined, and the 1913 soundings were verified. No shoaler water was found.

The development of the bottom between POPOF HEAD and KELLY'S ROCK, and southward of POPOF HEAD was completed; and no details of importance were found. The passage is entirely safe for navigation. The old charts showed a sounding of 6 fathoms 1-3/10 miles southward of POPOF HEAD: this shoal does not exist: there is a depth of 40 fathoms

in that position.

The shoreline of POPOF HEAD and 3-1/2 miles northwestward was developed. It is dangerous to approach closer than 2/10 mile to the shore in this vicinity: otherwise, there are no dangers outside this limit. A vessel may pass POPOF HEAD 3/10 mile distant in 15 fathoms.

There is a dangerous rock, which was reported in 1913 and shown in the 1913 work, lying off RED COVE; it has a least depth of 8 feet over it, and is located 2,000 meters 207° (S5W mag.) from the long point southeast of RED COVE, and 3 miles 109° (East mag.) from EGG ISLAND, and 3-4/10 miles 292° (N87W mag.) from POPOF HEAD.

Respectfully submitted,

James B. Miller,

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

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

Seattle, Washington.

February 6, 1915.

SHEET NO. ~~3577~~ ³⁷⁰⁶

POPOF STRAIT, SOUTHERN END, S. W. ALASKA

DATE 1914	BOAT	LETTER	VOL.	HOURS	POSITIONS	SDGS.	MILES (stat)
July 10	Hunter	a	1	2.4	25	105	1.2
" 11	"	b	1	0.2	2	4	0.3
" 20	"	c	1	5.3	37	70	6.0
Aug. 17	"	d	1	4.0	28	55	9.4
" 24	"	e	1	5.8	30	59	17.5
Sept. 5	"	f	1	6.1	43	86	14.9
" 17	Launch 47	g	1	0.4	8	8	1.0
" 25	"	h	1	5.2	98	213	24.0
" 28	"	i	2	2.5	55	125	8.5
" 30	"	k	2	3.0	59	117	12.5
				34.9	385	842	95.3

Square Statute Miles: 22.8

This is a schedule of the work done in 1914 on sheet 3577, to complete the sheet.

This work must be plotted on sheet 3577 which is now in the archives of the Office.

VEC
Apr. 20, 1915

L. P. S.

HYDROGRAPHIC SHEET 3706.

Shumagin Islands, Alaska, by
Assistant J. B. Miller in 1914.

TIDES.

	Pirate Cove ft.	Caton Cove ft.
Mean lower low water, or plane of reference on staff	2.8	2.7
Lowest tide observed " "	1.6	0.6
Highest " " " "	11.7	12.0
Mean range of tide	5.4	5.2

REPORT ON HYDROGRAPHIC SHEET NO. 3706.

Shumagin Islands, Alaska.

Nov. 1915.

The work was protracted and plotted by the field party: the depth curves were drawn and verified in the Office. The protracting was verified by a careful comparison with boat sheet and by re-plotting of doubtful positions: no errors of protracting were found. Each sounding was examined, and the following errors found:-

Changed 56a	fromm	20	to	36	Lat. 55	21	Long. 160	12
" 66a	"	40	"	23		23		12
" 97g	"	26	"	21		18		17
" 65k	"	49	"	33		20		09
" 10-11s	"	25	"	21		23		13
" 82w	"	36	"	35		20		15

The fractions below seven fathoms were pencilled incorrectly in fourths instead of sixths as directed by the General Instructions: these were corrected. Fractions were pencilled for nine fathom soundings: these fractions were omitted and the even fathom used according to rule.

There is a developed shoal spot in Lat. 55 18 Long. 160 17. The shoalest for this spot was pencilled as 11 fms, but I altered this in favor of 9 fms. (position 96g)

The amount of development is good, though the few lines run close to shore and parallel, are of doubtful value, since they leave great undeveloped areas outside of them where it really matters, are of little use in indicating the probable positions of curves, and the individual soundings are of necessity poorly fixed. It would appear that instead, a series of zigzag lines (with the inshore turns fixed by estimated shore distance when angles fail) would have given a better idea of the bottom.

The soundings were obtained by two different methods: launch work, with Cosmos machine (up and down casts) and ship work with pressure tubes. The results of the former method are consistent throughout but some of the lines run by the steamer, when crossing, present remarkable differences of depth values which would appear to have been caused by the method employed rather than by the probable character of the bottom. The tube soundings were taken while under way and were therefore not plotted at position of ship at any instant (except check up and down casts) but at varying distances away, determined by a table constructed with depth indicated by tube, and amount of slant wire out, as arguments. When it is seen that at 45 fathoms the position is about 200 metres astern, and at 97 fathoms about 300 metres astern, the source of the discrepancies of some of the crossing lines is apparent.

As samples of the differences noted in above paragraph I call attention to the following:- the next sounding beyond 62B is 61 fms, which was plotted by the table mentioned, but 25 fms (pos-19-20A) plots in same place. Lat. 17' Long. 16'. Also close to this will be seen 20 fms, plotted almost on 32 fms. One-half mile to S.E. (10-11A) 27 fms. plots next to 46 fms. In Lat. 13' and Long. 15' 36 plots by 36.

The 18 and 20 fm. soundings in Lat. 18' and Long. 16' suggest a shoal in that vicinity.

P.S.

Coline R. Gard

In view of the discrepancies which arise when pressure tube soundings are plotted as above, as noticed on this and on other sheets, it would appear that if positions were taken when the tube left the ship instead of when it found the bottom at some indefinite place astern (or probably to one side) the soundings could be plotted much closer to their probable positions.

Coline R. Gard

Applied to chart 16553 Nov. 1977 Martof