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SMA  
3316  
1911

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Department of Commerce and Labor  
COAST AND GEODETIC SURVEY

Superintendent.

State: *Alaska*

DESCRIPTIVE REPORT.

*Hyd* Sheet No. *3316*

LOCALITY:

*Thorofare Pt. to Klesambur  
Pt (Orangee Straits)*

1901

CHIEF OF PARTY:

*R. B. Herickson*

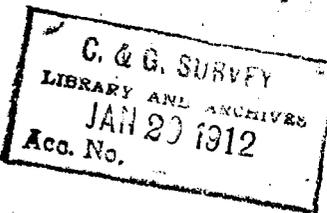
3316

POST-OFFICE ADDRESS:

TELEGRAPH ADDRESS:

EXPRESS OFFICE:

3316



Department of Commerce and Labor

COAST AND GEODETIC SURVEY

*Hyd. 3316.*

ALASKA: WRANGELL STRAIT.

From South Entrance to December Point.

Surveyed by party from Str GEDNEY, R. B. Derickson, Asst.  
Commanding, on Str. COSMOS, Sept. and Oct. 1911.

J. M. Coleman, Mate, in charge.

Scale 1:10 000

Note: The 3, 6, 10, 15, 20, 30, 40, and 50 fathom curves are shown.

*Soundings plotted by field party  
Verified & checked by H. L. Simon*

Descriptive Report to accompany Hydrographic ~~CS 166~~ SURVEY,

No. 9, S. end Wrangell Straits, Alaska. FEB 5 - 1912

Scale, 1:10000

LIBRARY AND ARCHIVES

Acc. No.

This work beginning at December Point extends to the south entrance of Wrangell Straits and about half a mile south of the entrance in Sumner Straits. Signals Hum, Mod, Gold, Slide, Green, Start, Work, Sit, Coal, Tree, Bolt, and White, used in this work, were in the triangulation scheme of Wrangell Straits 1910. All were recovered.

Signals Crab, Range, Clam, Lob, Jeff, Mut, Frog, Log, Mit, Kof, and Mid, were established for the hydrographic work and were cut in with the theodolite from the old triangulation stations. None of them are permanently marked as they were for temporarily use only and are all in close proximity to marked stations of the regular scheme. "Mid" is the center of the light on Midway Id.; "Kof" is a sharp slim tree which is of a light green color and readily distinguished from other trees in the locality; "Grass" is a large boulder and was accurately determined by the plane-table in 1910. It is shown on the topographic sheet. The remainder are small signal flags. Both the machine and hand lead were used in this work and comparisons were made at times between the two and entered in the record.

The shoal which is shown on the published chart to extend out from Point Alexander, does not exist. A very close examination of this point was made and the only thing found was a ledge of rock about 300 meters north of signal "Start", which runs out from the point and is connected with the shore. Two lines

were run in a skiff on top of this ledge, and the soundings are shown on this sheet. It does not extend out very far, as at a distance of about 75 meters from shore there was found to be 11 fathoms (not reduced) anywhere around Point Alexander; at a distance of 100 meters off shore there is 15 to 20 fathoms of water. The water is also deep outside of the bare rock off signal "Mit".

A shoal was found in the middle of the entrance and a little out in Summer Straits. A very careful examination was made of this shoal, two lead lines were used and dragged over it in different directions. The least water found was 15 fathoms, rocky bottom. It appeared to be a smooth ledge of rock, and is believed that the highest point of it was found.

Another shoal was found off signal "Work". This was carefully covered and the soundings are shown on this sheet. A number of soundings were also taken over the spot which shows seven and half fathoms on the published chart. Midway Rock is clean with deep water close up; it can be passed on either side.

#### ANCHORAGES.

Vessels anchor either west of Point Alexander or west of Midway Id. At the former place the water is somewhat deep; the anchorage west of Midway Id. is good; a vessel may anchor in from 6 to 10 fathoms, soft bottom. Both places are out of the fairway and currents.

#### CURRENTS.

The tidal currents are not very strong in this part of

the straits. Altho no current observations were taken, the velocity was estimated to be from one to two knots per hour at strength of ordinary tides.

Tidal observations were made on a plane staff in the vicinity of Point Lockwood. The Staff having been connected with the Benchmarks established near No Thorofare Point in 1910.

The Sailing Directions now given in the Coast Pilot for these waters hold good.

Respectfully Submitted,

(Signed) J.M. Coleman,  
Mate, In charge of  
Sub Hydro Party.

*RSD*  
The above report was written before the the smooth sheet was finished and the soundings reduced and plotted ,

The ledge mentioned, near Point Alexander, lies 250 meters N.W.(true) of signal "START", and has a least depth over it of 5 to 10 feet of water. It is only a narrow ledge of bed-rock extending out approximately 70 meters from the shore;

The water deepens directly off the outer end of the ledge and no dangers were found outside of it. The 5 and 6 fathom curve rounds the entire point at about 75 meters from the mean sea level water line.

The least depth found on the bank just outside of the entrance was 76 feet.

The shoal off signal "WORK" is about 200 m. long and 60 m. wide, and lies in a NNE x SSWly direction (true). The lower end is about 240 m. E by S (true) of signal "WORK". A least depth of 22 feet was found near the middle of it. There is 10 to 12 fathoms between it and the shore, and it drops off quite abruptly on the outside.

Nothing less than 61 feet was found on the charted  $7 \frac{1}{2}$  fathom spot just above the middle of the entrance.

The sounding records of this sheet include five volumes, some of which also contain soundings as far as No Thorofare Point. The original intention was to plot all the work from the South Entrance to No Thorofare Point on one sheet; but it was found impracticable to do so, the upper part of the work requiring a larger scale.

The triangulation records for the work done in 1911 will be found in Volume 6 of the Sounding Records. One volume of Tidal records, and one of Leveling records, complete the set of records accompanying this sheet.

The shore line was surveyed in 1910, and the sheet and other data pertaining to it sent in to the office at the close of the season: hence the shore line was not transferred to the hydrographic sheet by the field party.

Some 50 odd positions belonging to Sheet No. 8, and plotted on it, were also plotted on this sheet so as to be sure that the overlap was ample.

*R. B. Benson*  
Asst., Chief of Party.

*Jack Smith*  
Aid: Draftsman.

To accompany Hydro sheet  
#3316

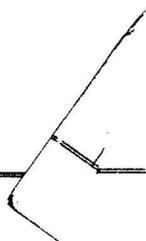
COMPUTATION OF TRIANGLES  
LIBRARY AND ARCHIVES  
MAR 20 1912

11-606

State: Alaska

NO.	STATIONS.	OBSERVED ANGLES.	CORR'N.	SPHER'L ANGLES.	SPHER'L EXCESS.	PLANE ANGLES AND DISTANCES.	LOGARITHMS.
	<p>Ketchikan, Tongass Narrows Str Rodney 1911. R. Derickson, Asst. Chief of Party</p>						
	<p>These triangle computations are for Sextant triangulation used in Revillagigedo Channel near the upper end of Annette Id., for the determination of Hydrographic Signals. Each angle was measured four times with the same sextant. The index error was determined carefully by several observations. In the computations the following symbols are used:</p>						
	<p>* = Either the difference of two angles or is checked by such a difference</p>						
	<p>+ = The sum of two angles. at "bedar" and "Race" the angles were taken only three times, and hence are not quite so well determined</p>						
	<p>The stations were plotted by distances</p>						

DO NOT WRITE IN THIS MARGIN.



COMPUTATION OF TRIANGLES.

11-606

State: Alaska

NO.	STATIONS.	OBSERVED ANGLES.		Index CORR'N.	Corr.		PLANE ANGLES AND DISTANCES.	LOGARITHMS.
					SPHERE' L ANGLE.	SPHERE' L CROSS.		
	bedar	$+82^{\circ}$	50.8	+1.3	-0.07		$82^{\circ}$ 52.03	0.003374
	Spindle - Shift						1935.8	3.286872
	Spindle	33	22.05	+0.65	-0.04		33 22.66	9.740484
	Shift	63	44.7	+0.65	-0.04		63 45.31	9.952451
12	Shift - bedar						1073.3	3.030733
8	bedar - Spindle						1749.8	3.242997
		$179^{\circ}$	57.55	2.6			180 - 00.00	
	bedar	$33^{\circ}$	01.7	+0.65	-0.02		$33^{\circ}$ 02.33	0.263438
	Spindle - Village						1021.5	3.017660
	Spindle	$80^{\circ}$	37.05	+0.65	-0.01		$80^{\circ}$ 37.69	9.994164
	Village	66	19.35	+0.65	-0.02		66 19.98	9.961846
12	Village - bedar						1884.8	3.275262
15	bedar - Spindle						1749.6	3.242942
		$179^{\circ}$	58.10				180 00.00	
	bedar	$49^{\circ}$	49.0	+0.65	+0.20		$49^{\circ}$ 49.85	0.116824
	Village - Shift						1447.5	3.160649
	Village	34	29.85	+0.65	+0.15		$34^{\circ}$ 30.65	9.753250
	Shift	95	38.7	+0.65	+0.15		$95^{\circ}$ 39.50	9.997879
19	Shift - bedar						1073.3	3.030723
3	bedar - Village						1885.2	3.275352
			57.55	+1.95			180 00.00	
	Spire	$31^{\circ}$	40.2	+0.65	-0.14		$31^{\circ}$ 40.71	0.249715
	Spindle - Shift						1935.8	3.286872
	Spindle	$98^{\circ}$	24.65	+0.65	-0.13		$98^{\circ}$ 25.14	9.995294
	Shift	$49^{\circ}$	53.6	+0.65	-0.13		$49^{\circ}$ 54.12	9.883629
11	Shift - Spire						3646.6	3.561881
22	Spire - Spindle						2819.8	3.450516
		$179^{\circ}$	58.45	+1.95			180 00.00	

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COMPUTATION OF TRIANGLES.

11-606

State: Alaska

NO.	STATIONS.	OBSERVED ANGLES.		Index CORR'N.	Corr.		PLANE ANGLES AND DISTANCES.	LOGARITHMS.
					SPHER' L ANGLE.	SPHER' L EXCESS.		
63 (c) 150	Spire	13°	20.7	+0.65	-0.02		13° 21.33	0.636401
	Spindle - about						1619.7	3.209449
	Spindle	*142°	54.45	+1.30	-0.03		142° 55.72	9.780180
	about	*23	42.95				23 42.95	9.604438
	about - Spire						4227.0	3.626030
	Spire - Spindle						2820.3	3.450288
		179	58.10	1.95			180 00.00	
52 37	Spire	*18°	19.23				18° 19.23	0.502623
	about - Shift						1398.1	3.139279
	about	*56°	18.17				56° 18.17	9.920113
	Shift	*105	22.68		-0.08		105° 22.60	9.984168
	Shift - Spire						3647.7	3.562015
	Spire - about						4227.4	3.626070
		180	00.08				180 00.00	
12 9	Spire	37°	17.9	+0.65	-0.06		37° 18.49	0.217453
	Spindle - bedar						1749.7	3.242970
	Spindle	65°	02.15	+0.65	-0.06		65° 02.74	9.957437
	bedar	77°	38.2	+0.65	-0.08		77° 38.77	9.989827
	bedar - Spire						2617.3	3.417860
	Spire - Spindle						2820.0	3.450250
		179°	58.25	+1.95			180 00.00	
10 31	Race	33°	23.8	+0.65	-0.04		33° 24.41	0.259178
	Spindle - about						1619.7	3.209449
	Spindle	98°	37.8	+0.65	-0.03		98° 38.42	9.995042
	about	47	56.55	+0.65	-0.03		47 57.17	9.870751
	about - Race						2908.5	3.463669
	Race - Spindle						2184.6	3.339378
		179	58.15				180 00.00	

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COMPUTATION OF TRIANGLES.

11-606

State: Alaska

NO.	STATIONS.	OBSERVED ANGLES.		INDEX CORR'N.	CORR.		PLANE ANGLES AND DISTANCES.	LOGARITHMS.	
					SPRING ANGLE.	STRIKE EXCESS.			
						1			
	Race	85°	11.3	+0.65	+0.05		85° 12.00	0.001526	
	Spire - Spindle						2820.0	3.450251	
	Spire	50°	29.2	+0.65	+0.05		50° 29.90	9.887396	
	Spindle	44	17.4	+0.65	+0.05		44° 18.10	9.844129	
3	Spindle - Race						2183.6	3.339173	
5	Race - Spire						1976.5	3.295904	
		179	59.9	+1.95			180 00.00		
	Race	+118°	35.1	+1.30	+0.30		118° 36.7	0.056568	
	Spire - about						4227.2	3.626055	
	Spire	* 37°	08.5	—	+0.30		37° 08.8	9.480934	
	about	24	13.7	+0.65	+0.15		24 14.5	9.613404	
6	about - Race						2907.7	3.463554	
18	Race - Spire						1977.1	3.296027	
		179	59.3	1.95			180 00.0		

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of Hydrographic Sheet No. 9, Wrangell Strait

ALASKA.

September and October, 1911.

Date.	Day.	Angles.	Soundings.	Miles.
	f	88	54	6.2
	g	112	70	5.8
	h	184	172	9.2
	m	164	145	6.8
	n	98	79	5.6
	o	310	341	14.5
	p	262	338	16.0
	q	172	362	7.0
	r	368	573	15.5
	s	60	235	2.2
	t	164	115	6.5
	u	154	181	6.0
	v	92	93	3.3
	w	14	7	0.0
Total s:-		2242	2865	104.6

The days missing, and some positions on some of the days listed above, are on the sheet next above this one (No. 8 ). "a" and "b" days <sup>are</sup> on sheet No. 1 at the Northern end of the Strait.

For convenience" sake, the work done from the skiff has been plotted in Green ink - that done from the COSMOS being in Red.

STATISTICS (continued)

-:2:-

SOUNDINGS OMITTED.

The following soundings were omitted from the sheet , because of lack of space.

Positions.	Numbers.	No. omitted.	out of (No.)
f day:			
27-28	1st and 3rd sdgs. omitted	2	4
g day:			
29-30	sdg. omitted	1	1
h day:			
4-5	5 sdgs. omitted	5	7
5-6	3 " "	3	6
6-7	1st sdg. omitted	1	7
7-8	6 sdgs. "	6	9
12-13	1st and 3rd sdgs. omitted	2	6
73	sdg. omitted	1	1
m day:	None omitted		
n day:			
38	sdg. omitted	1	1
o day:			
80-81	2nd sdg. omitted	1	4
87-88	3 sdgs. "	3	5
118	--- " "	1	1
p day:			
35	duplicated with sdg. on 114 o	1	1
120	sdg. omitted	1	1
q day:			
7-8	2 sdgs. omitted	2	8
15-16	2 " "	2	8
16-17	2 " "	2	8
17-18	3rd sdg. "	1	8
18-19	6 sdgs. omitted	6	12
19-20	2 " "	2	7
39	sdg. omitted	1	1
56	" " "	1	1

STATISTICS (continued)

-:3:-

r day:  
 44 sdg. omitted 1 1  
 58-59 2 sdgs. omitted 2 8  
 59-60 2 " duplicated with sdg. on 6q,  
 and one sdg. between 6 and 7 q 2 5  
 89 sdg. omitted 1 1  
 95-96 3rd sdg. omitted 1 8  
 97-98 5th " " 1 8

s day:  
 56-57 2 sdgs. omitted 2 8  
 70-71 4th sdg. " 1 6

t day:  
 21 sdg. omitted 1 1  
 32 " duplicated with sdg. on 23t 1 1  
 58 " omitted 1 1  
 64 " " 1 1  
 77 " duplicated with 1st sdg. between  
 56 and 57 t 1 1

u day:  
 90-91 3 sdgs. omitted 3 5  
 92-93 1st sdg. " 1 9  
 114 sdg. omitted 1 1

v day:  
 3 sdg. omitted 1 1  
 23 " " 1 1  
 103 " " (Plotted on copper sheet) 1 1

w day:  
 None omitted

Total Soundings 2865  
 Total Omitted 70  
 Total Plotted 2795

M.D.H.  
Feb. 14, 1912.

*Derickson*  
*ss*  
*2/15/12*

HYDROGRAPHIC SHEET 3316

WRANGELL STRAIT, S.E. ALASKA / by Asst. R. B. Derickson,  
in 1911.

	Mitkof ft.
3 feet below lower low water or plane of reference on staff,	-2.6
Lowest tide observed	-3.0
Highest " "	19.4
Mean range of tide	13.0

Coast and Geodetic Survey  
FEB 15 1912  
TIDAL DIVISION

Hyd. Sheet No. 3316.

Mar. 5, 1912.

The area within the limits of this work  
is apparently well covered.

The records were kept in a satisfactory  
manner

A. L. Simmons