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Diag. Cht. No. 8102-1

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Department of Commerce and Labor  
COAST AND GEODETIC SURVEY

\_\_\_\_\_  
Superintendent.

State: \_\_\_\_\_

## DESCRIPTIVE REPORT.

*Hyd* Sheet No. *3220*

LOCALITY:

*North end of Tongass  
Narrow*

\_\_\_\_\_  
1900  
\_\_\_\_\_

CHIEF OF PARTY:

*R. B. Herickson*

# 3220

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Hydrographic Sheet No. 3220

Tongass Narrows,

S.E. Alaska.

Point Higgins to East Clump.

May 30, to July 21,

1910.

U.S.S. "GEDNEY"

Scale 1:10000

R.B. Derickson, Asst., Comdg. F.B.T. Siems, Assistant,

Chief of Party.

Hydrographer.

*Soundings are in feet*

*Plotted & inked by M.S.*

*Verified by J. A. Torrey 1/12*

3220

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FEB 4 1911

Descriptive Report

to

accompany

Hydrographic Sheet of the north end of

Tongass Narrows,

S.E. Alaska.

1910.

Scale 1:10000

R.B. Derickson, Asst., Comdg.

Chief of Party.

*Hyd. 3220*

3220

Descriptive Report to accompany Hydrographic Sheet of the  
North end of Tongass Narrows.

This sheet is on a scale of 1:10000 and is a common part  
of Hydrographic Sheet No. 3046.

The main body of the sheet covers the area from Lewis  
Point to a line between Guard Island and Point Higgins, includ-  
ing a full development of Ward Cove and the small bays north  
of Ward Cove.

The <sup>b</sup> ~~su~~-plan on the same scale takes in the area from  
Lewis Point to Clump Point and shows the supplemental work  
which completes the full survey from Clump Point to Guard Id.  
Supplemental work was done in the vicinity of "Ohio" Rock and  
great care was taken to properly develop the waters adjacent  
to the Islands obstructing the passage and over the shoals  
and ledges along each side of the channel.

*N.W. of  
Channel  
Island*

*DEW  
12/13/43*

METHOD OF SURVEY.

All the triangulation stations established in 1909 were  
recovered and proper signals erected over each station.  
Supplemental stations were established, their positions being  
determined by the Plane-Table. All stations were transferred to  
a Boat Sheet and the sounding lines plotted as the work pro-  
gressed.

The usual method of obtaining soundings with the hand  
lead was employed up to 20 fathoms the depth beyond that being  
measured by a wire and reel.

Two observers with sextants determined the positions of the sounding lines. Launches No's. 27 and 117 were used on this work at different times.

The records of the soundings are contained in five volumes. The lines are plotted on one sheet including the sub-plan.

#### TIDES.

During the progress of the work tides were observed and recorded at the station in Clam Cove, connections being made with the previously established bench marks at Ketchikan. A sub-station was established in Ward Cove and comparisons made with the Clam Cove staff. All soundings are referred to the plane established in 1906.

#### CURRENTS.

In the area covered by this sheet no regular current stations were occupied. As described in previous reports, the Flood tide enters from the south and the Ebb from the north. An estimated velocity of two knots was encountered in the narrow stretch between Lewis and Clump Points.

In continuing the survey of Tongass Narrows it is recommended that time be authorized for observations in the narrow stretch south of Lewis Point.

#### AIDS TO NAVIGATION.

While this work was in progress the Light House Bureau established two lights, one on the west side of Channel Island

and one on Clump Point. These are white lens lanterns, hung from a crane each about 18 feet above high water mark. A small oil house painted white is located directly back from each light crane. These oil houses serve as distinguishing marks in the day and can be seen up and down the channel. The lights are a great aid in navigating these waters. I have found on entering from the north at night, with a clear atmosphere, by bringing the light on Channel Island nearly in range with the light on Clump Point a safe distance is given to clear Rosa Reef Spindle. Rosa Reef beacon is very hard to distinguish at night on account of the shadows of the surrounding mountains.

An obstruction buoy was planted about 100 meters north of the Ohio Rock and a red nun buoy now marks the west end of the shoal off Bar Point.

The channel shown on the hydrographic sheet is now easy of access either night or day and is free from unmarked dangers. The sailing directions given in the report accompanying the sheet showing the location of the Ohio Rock are good. Since the establishment of the light on the west end of Channel Id. all vessels use the west channel passing either side of the Ohio Rock Buoy.

At present the sounding lines only are plotted on this sheet the sheet to receive the soundings and to be finished up at the Office by authority granted from the Superintendent.

A sheet of statistics and list of permanent positions  
accompany this report.

Respectfully submitted,

*R. B. Arentson*

Asst., Comdg. Str. GEDNEY.

# 3220

LIST OF PERMANENT POSITIONS DETERMINED.

Object.	Lat.	D.M.	Long.	D.P.	Height (Approx.)	Remarks.
East Clump Lt.	55°	20'1222	131°	41' 427	18 feet.	Approximately
Unlighted Beacon.	55	22 1667	131	44 375	10 "	On Peninsula Pt.
Salt	55	23 1412	131	43 849	20 "	N.W.Gable of Saltery.
Lean	55	24 815	131	43 215	20 "	S.W.Gable of Looning House
Stake	55	24 678	131	43 416	8 "	A pile in Ward Cove.
Smoke	55	24 853	131	43 615	15 "	S.E.Gable of Work Shop.
Channel Island Light.	55	23 1240	131	45 945	18 "	Approximately
Ohio Rk.Buoy	55	23 1483	131	46 460	--	
Vallenar Rock.	55	25 1545	131	51 823		N.E.End.



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STATISTICS, HYDROGRAPHIC SHEET NO. 2.

Date 1910.	Letter.	Vol.	Positions	Sdgs.	Miles.	Boat
May 30, - June 6.	A-G	1	490	872	30	Launch 27.
June 7, - June 22.	H-Q	2	464	935	32.25	" "
June 23, - July 7.	R-AA	3	514	1035	42.25	" 117.
July 7, - July 21.	AA-AG.	4	273	1274	24.75	" "
July 15 - July 19.	AE-AH.	5	227	869	14.75	" "
TOTAL.			1968	4985	144.0	

*on Sub-sketch*

Tide Gauge located in Ward Cove and simultaneously read  
for 24 consecutive hours with Clam Cove tide gauge.

VEC  
Mar. 10, 1911.

HYDROGRAPHIC SHEET 3220.

Tongass Narrows, S.E. Alaska, Point Higgins to East  
Clump, by Asst. R.B. Derickson in 1910.

TIDES.

	Clam Cove ft.	Ward Cove ft.
Mean lower low water or plane of reference on staff	3.3	1.5
Lowest tide observed " "	-0.1	-2.3
Highest " " " "	22.6	21.4
Mean range of tide	13.3	13.8

Coast and Geodetic Survey

MAR 13 1911

TIDAL DIVISION.

Hyd Sheet No 3220

Mar. 23, 1911,

This survey together with the work of 1909 shows a good development of the area within the limits of the sheet with the exceptions of the area marked along the east coast north of Wards Cove and the 17 $\frac{1}{2}$  fath charted shoal about 740 meters northeast of Channel Id, near S. Bala.

The records are clear and well kept.

H. L. Simon