3192

Diag. Cht. No. 8502-1

Department of Commerce and Labor
COAST AND GEODETIC SURVEY

Superintendent.

State: Alaska

DESCRIPTIVE REPORT.

Sheet No.

LOCALITY:

Entrance to Nushagak Bay

190

CHIEF OF PARTY:

H. C. Dibrell

B

3192

DEPARTMENT OF COMMERCE AND LABOR

Coast and Geodetic Survey

O. H. Tittmann, Sup't.

Hydrographic Sheet No. 3192

(Field Letter "C")

ENTRANCE TO NUSHAGAK BAY, ALASKA

Steamer EXPLORER

Walter C. Dibrell, Assistant, Chief of Party

Begun : July 6

Completed : Sept. 6

1910

SCALE 1- 60 000

Hydrography in charge of Walter C. Dibrell, Ass't.

Projection by S. W. Tay, Assistant

Positions plotted by R. R. Lukens, Aid

Soundings " " R. R. Lukens, Aid

Soundings in feet.

Plane of reference is mean of lower low waters observed at Protection Point from June 27,1910 to July 23,1910, inclusive.

Plane of reference reads 8.2 on tide staff.

3192

Hydrographic Sheet No.....

OBSERVERS

Walter C. Dibrell, Assistant
John W. Maupin, Assistant
A. R. Hunter, Watch Officer
R. R. Lukens, Aid

RECORDERS

H. L. Hansen, Ch'f Writer
H. Olsen, Wr. 2 cl.

LEADSMEN

Emil Moen, Q'mr. 1cl.
Oscar Hanson, " 2cl.
John Hanson, " 2cl.
William Duker, " 2cl.

TIDE OBSERVERS

Ed. Callaway, Seaman
Alfred Pedersen, "

Tide Gauge at Protection Point

DESCRIPTIVE REPORT TO ACCOMPANY HYDROGRAPHIC SHEET NO. 3192 (Field LETTER " C "), ENTRANCE TO NUSHAGAK BAY, ALASKA, SCALE 1 - 60 000.

The location of the area whose hydrographic development is shown on this sheet is indicated in the title; it joins sheet # 3180 (1909) on the north, sheet "B" on the north-east, sheet "A" on the west, and sheet "D" on the south-west. The upper limit is a little outside of a line joining the two entrance points of Nushagak Bay, and the outer soundings, which mark the present limits of survey work in the approach to the bay, are about 14 miles outside this line.

2. A small scale sheet was required for this area in order to take in necessary signals. Excepting distant mountain peaks, land signals cannot be carried beyond the outer lines of this sheet. Some of these lines depend for short distances upon dead reckoning adjusted between fixed positions.

3. All of the work plotted on this sheet was done with the ship. The lines in general lie transverse to the trend of shoals and channels. The first lines (northern limit) were spaced about four or five hundred meters apart, but the successive lines were gradually spread as the work progressed beyond the influence of the currents of Nushagak Bay and greater and more uniform depth was obtained. Southward and eastward of Protection Point are a number of north-and-south lines, run while going from and to the anchorage off the Point. As these lines follow nearly the trend of the shoals, they are much closer than the regular lines. Only two cross lines appear on the sheet. One or two others would have

been desirable but unfavorable weather and a short season made the extension of surveys over unexplored areas of more importance.

4. The soundings along the cross channel lines are as a rule quite irregular. The spacing of the lines is considered rather wide for shoal water of irregular depth, but a adjacent lines appear consistent, and it is believed that essential features have been sufficiently developed.

5. Two miles east by south from Protection Point is a small area with less that three fathoms over it, the least found being 15 feet. Between this area and the Point the water is a little deeper. About half a mile to eastward of the shoal and extending somewhat to the northward are several soundings of from 19 to 23 feet. The five fathom curve lies three miles off the Point, trending here about north by west and south by east. To southward and south-westward as far as the limit of the sheet it is irregular but lies from 3 1/2 to 4 miles off shore.

6. At the extreme southern corner of the soundings appearing on this sheet are some 15 foot soundings obtained in crossing a long narrow shoal whose development, including the northern end, is shown on sheet "D". One and one-quarter and two and one-half miles, respectively, north-east of the 15 foot soundings are two casts of 30 feet each. With the exception of this shoal the south-western part of the sheet shows good water with regular depth.

7. Five miles north~~-west~~ *east* erly from Protection Point is a ridge over which the depth is between four and five fathoms. Its total length within the five-fathom curve is 2 miles and the width

about 3/4 mile.

8. With the exception of those above mentioned there appear to be no detached shoals of less that five fathoms within the limits of this sheet, although a number of thirty foot soundings are found.

9. The eastern part of this sheet shows a portion of the Etolin Bank. At the north-eastern margin of the sheet, where it joins sheet 3180 and "B", there is a slight evidence of the bars and channels formed by the currents of Nushagak Bay, but to eastward of positions from which Etolin Point bears north (true), or a little east of north, the bank is regular and shoals gradually toward the shore. This fact is of considerable importance in navigating with the lead. At the eastern limit of the sheet the bank is very flat. The three-fathom curve here lies 7 miles (statute) from shore, the five-fathom curve 10 miles, and the ten-fathom curve about 15. The three and five fathom curves show a tendency to parallel the shore, and the ten-fathom curve to draw farther off. On this part of the sheet the slope is much steeper in the vicinity of the 10-fathom curve than elsewhere.

10. A feature of this sheet is the deep channel lying off the Etolin Bank and leading up toward Nushagak Bay. It would appear at first sight that this submerged valley would be a good guide in approaching the bay by lead, but its value for this purpose is greatly lessened by the uncertainity of the allowance to made on soundings for tide and by the fact that there are other places in the approach where twelve fathoms and over are found at low water.

11. At the south-eastern corner of the sheet is an area of some extent crossed by but one line. Although the work of the season must necessarily have a limit, this area, on account of the importance of the Etolin Bank, would have been completely developed but for the lack of determined signals on the adjacent shore upon which to base the positions. In order to locate additional hydrographic signals it would have been necessary to make a reconnoissance and extend the triangulation. This work would have required considerable time and would have curtailed progress in the vicinity of Cape Constantine where it is believed surveys were more needed. The one line mentioned was begun as a reconnoissance line, but the seeing was exceptionally good, the atmosphere being very clear and refraction unusually high, and it was possible to obtain definite positions. These positions, although dependent upon distant objects, are considered reliable, and the line has considerable value. It is believed that the depth curves can be sketched across the blank space sufficiently accurate for the chart.

12. None of the coast land of the Alaska Penninsula could be seen from the ship while running the outer lines of this sheet, but the distant mountain summits were showing plainly.

13. The positions and soundings have been plotted by the field party, but the sheet is forwarded uninked. The curves have been sketched in but they should be revised after the soundings are inked.

Respectfully submitted,

Walter E. Wilcox

Ass't., C. & G. Survey,
Chief of Party.

Unalaska, Alaska,

September 26, 1910.

3192

Hydrographic Sheet No. (C)

STATISTICS

Date 1910	Vol.	Let.	Miles (Stat.)	Sdgs.	Angles	Remarks
July 6	1	A	22.5	305	82	Str. EXPLORER
" 11	1	B	52.5	617	212	" "
" 12	1&2	C	57.7	767	252	" "
" 14	2	D	66.5	850	296	" "
" 16	2	E	41.5	527	172	" "
" 22	3	F	71.0	715	284	" "
" 25	3	G	63.5	654	234	" "
" 26	3&4	H	28.0	431	116	" "
" 28	4	J	22.0	233	72	" "
" 29	4	K	28.2	426	166	" "
" 30	4	L	24.5	270	86	" "
" 31	4	Y	11.0	109	36	" "
Sept.6	4&11	Z	30.5	416	142	" "
13	5	13	519.4	6320	2150	

Area 180 sq. stat. miles.

VEC
Dec.1,1911

HYDROGRAPHIC SHEET 3192.

12/1/11

Entrance to Nushagak Bay, Alaska, by Asst. W. O. Dibrell in 1910.

TIDES.

	Protection Point ft.
Mean lower low water, or plane of reference on staff	8.32
Lowest tide observed " "	5.20
Highest " " " "	27.30
Mean rise and fall of tides	12.46