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# 3180

Diag. Ch. No. 8502-1

Department of Commerce and Labor  
COAST AND GEODETIC SURVEY

*O. H. Littmann*  
Superintendent

State: *Alaska*

## DESCRIPTIVE REPORT.

*Hyd.* Sheet No. *3180*

LOCALITY:

*Nusbagak Bay -  
Outer Part*

1909

CHIEF OF PARTY:

*W. C. Libell*

U. S. G. SURVEY,  
LIBRARY AND ARCHIVES  
JUL 27 1910  
Acc. No.

3180

3180

For general report, see 945 SX 1909 II. acc No. 64227.

# 3180

DEPARTMENT OF COMMERCE AND LABOR

Coast and Geodetic Survey

O. H. Tittmann, Sup't.

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LIBRARY AND ARCHIVES  
U.S. GOVERNMENT

Hydrographic Sheet No. 3180.....

(Field Sheet No. 4)

Nushagak Bay Outer Part

ALASKA

Steamer EXPLORER

Assistant Walter C. Dibrell, Chief of Party

Begun .....: July 2

Completed .. : Sept. 8

1909

Scale 1 - 40 000

Hydrography in charge of: Walter C. Dibrell, Assistant &

A. R. Hunter, Watch Officer

Projection by S. W. Tay, Assistant

Positions plotted on smooth sheet by

Walter C. Dibrell, Assistant

S. W. Tay, Assistant

A. R. Hunter, Watch Officer

Soundings plotted by

Walter C. Dibrell, Assistant

S. W. Tay, Assistant.

# 3180

Hydrographic Sheet NO.

NO. 4612 3 III  
LIBRARY AND ARCHIVES  
U.S. NAVY

OBSERVERS:

Capt. Walter C. Dibrell

Mr. F. H. Hardy

Mr. A. R. Hunter

Mr. S. W. Tay

Mr. W. E. Dunning

Dr. R. H. Hawkes

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RECORDERS:

Dr. R. H. Hawkes

H. L. Hansen, Chief Writer

William Duker, Writer 2 cl.

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LEADSMEN

Emil Moen, Quartermaster 1 cl.

E. Ramberg, " 2 cl.

John G. Hanson, " 2 cl.

Oscar Hanson, " 2 cl.

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TIDE OBSERVERS

Ed. Callaway, Seaman

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Tide gauge at Clark's Point

DESCRIPTIVE REPORT TO ACCOMPANY HYDROGRAPHIC  
SHEET NO. .... (FIELD # 4), NUSHAGAK BAY, ALASKA, OUTER PART,  
SCALE 1 - 40 000.

This sheet takes in the whole of the outer part of Nushagak Bay. Its upper limit is, roughly, a line drawn southwest from Ekuk Bluff; its approximate lower limit is a line drawn between Points Protection and Etolin. On the north it joins sheet #2, on the west, sheet #3 and #5, and its southern edge marks the limit of surveys of 1909 in Nushagak Bay.

2. The work was done with both ship and launch. The launch lines run transverse to the direction of the channels and bars, but the ship lines are run with the channels in order to avoid grounding. The spacing of the lines varies and many extra lines were run in the development of the shoals. There are few cross lines. Two of the shoals that bare at low water were surveyed by sextant angles taken along the water line at or near the stage of lower low water. The notes for this work are entered in the sounding records.

3. Many bars and channels are included on this sheet. These will be described more in detail in a subsequent report.

4. A portion of the development along the shore off Point Etolin was not completed owing to lack of time, but this area is unimportant; there are indications of channels here but they are not adapted to navigation. On the western side between Nichols Hills and Point Protection the ship lines end about 1 1/2 miles from shore in 8 to 16 feet of water, and the depth decreases gradually from there to the shore. There are no broad flats or detached shoals uncovered at low water along this part of the

coast.

5. At the northern end of this sheet is a small area of close work, lying in the route heretofore used by vessels, which properly should have been plotted on sheet # 2. The work was entered in records pertaining to sheet # 4 in the believe that the observers would have to use signals on both sides of the bay. There are very few positions in that area however that include signals not on sheet # 2, and the work may be replotted on the larger scale sheet if considered desirable.

6. All of the positions and soundings pertaining to this sheet have been plotted by the field party, but the sheet has not been inked. The depth curves have been sketched in but revision may be necessary.

7. Some cuts to the summit and to the foot of the ridge to westward of the Igushik River have been plotted, as these are features not determined by a topographic party but of value for navigation. There are two summits which from the bay look to be of <sup>some</sup> elevation and which generally appear as a continuous ridge. The northern one is the higher and is the one used for a back range over the beacon on the low land eastward of the river mouth. The right hand slope of the ridge is not abrupt, and the foot as seen over the low land in the foreground doubtless varies somewhat with distance and elevation of observer's eye. This variation is not believed to be large enough, however, to appreciably effect navigation.

8. A number of tangent cuts were taken to the bluff shore line south-eastward of Etolin Point and these have been plotted. These tangents are considered to afford sufficiently accurate

control of the shore line from the limit of the topographic sheet as far as station "End".

9. While sounding, a number of tangent cuts were taken to the shoals showing at low water. These cuts are entered in the record. In some cases they may prove valuable, but if attempt is made to plot them all they doubtless will prove confusing; for they were not taken at the same stage of the tide, and until the party had become familiar with the area being surveyed, the various shoals were not readily identified, and the record is therefore not clear. The cuts were taken largely for the immediate information of the party.

Respectfully submitted,

*Walter O. J. J. J.*

Assistant, C. & G. Survey,

Chief of Party.

At Sea, May 19, 1910.

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

# 3180

Hydrographic Sheet # 4

## STATISTICS

ON 30V  
 JUL 27 1910  
 LIBRARY OF THE BUREAU OF OCEANOGRAPHY

1909 Date	Vol.	Let.	Miles (Stat)	Sdgs.	Angles	Remarks
July 2	4	H	2.5	98	30	"Explorer"
" 21	4	L	62.5	940	240	"
" 22	4&5	M	50.5	900	276	"
" 23	5	N	45.0	749	242	"
" 24	5&6	P	54.5	914	254	"
" 28	6	Q	48.2	893	262	"
" 29	6	R	17.5	300	82	"
" 30	7	S	43.4	722	218	"
Aug. 5	7	T	20.5	397	130	"
" 7	7&8	U	37.0	573	154	"
" 9	8	V	10.8	258	94	"
" 11	8	W	46.4	800	240	"
" 12	8&9	X	39.2	727	242	"
" 14	9	Y	53.0	844	274	"
" 30	12	CC	5.6	67	24	"
" 31	12	DD	27.4	397	150	"
Sept. 6	12	EE	34.0	471	178	"
" 7	12	FF	33.5	350	144	"
" 9	13	GG	8.6	134	48	"
" 13	13	II	10.2	139	32	"
Aug. 20	14	h	28.0	771	252	Launch
" 24	14	i	32.0	868	242	"
" 25	16	j	13.0	345	94	"
" 26	16	k	23.0	593	166	"
" 27	16&17	l	32.0	832	214	"
" 30	17	m	20.0	505	150	"
" 31	17	n	27.0	641	194	"
Sept. 4	17	o	9.0	248	82	"
" 7	18	p	22.0	531	148	"
" 8	18		32.0	664	192	"
30	12	30	888.3	16671	5048	

AREA 148 sq. stat. miles

V.E.C.  
Aug. 2, 1910.

HYDROGRAPHIC SHEET NO. 3180

Nushagak Bay, Outer Part, Alaska, by Asst. W.C.  
Dibrell in 1909.

TIDES.

	Clark Point ft.
Mean lower low water, or plane of reference on staff	1.9
Lowest tide observed " "	-0.2
Highest " " " "	24.0
Mean range of tide	15.2

Coast and Geodetic Survey  
AUG 31 1910  
TIDAL DIVISION.



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Department of Commerce and Labor  
COAST AND GEODETIC SURVEY

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

State: *Alaska*

DESCRIPTIVE REPORT.

\_\_\_\_\_  
*Sheet No.*

LOCALITY:

*Nushagak Bay - Outer  
Part*

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190  
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CHIEF OF PARTY:

*W. C. Hibrell*

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DEPARTMENT OF COMMERCE AND LABOR

Coast and Geodetic Survey

O. H. Tittmann, Sup't.

C. & G. SURVEY,  
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OCT 2 11910  
Act No.

Additional Data for Hydrographic Sheet No. 3180 (1909)

NUSHAGAK BAY, ALASKA

Steamer EXPLORER

Walter C. Dibrell, Assistant, Chief of Party.

September 12, 1910

SCALE 1-40 000

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

0  
0  
1  
0

OBSERVERS

Walter C. Dibrell, Ass't.

John W. Maupin, Ass't.

RECORDERS

H. L. Hansen, Ch'f Wr.

LEADSMEN

Emil Moen, Q'mr. 1 cl.

John G. Hanson, Q'mr. 2 cl.

S T A T I S T I C S

Date	Vol.	Let.	Miles (Stat)	Sdgs.	Angles	Remarks
1910						
Sept. 12	12	AA	10.5	257	106	Str. EXPLORER

Area 1 sq. stat. mile.

*Index verified by H.L.H.*

DESCRIPTIVE REPORT TO ACCOMPANY ADDITIONAL  
DATA FOR HYDROGRAPHIC SHEET # 3180. SCALE 1- 40 000

An inspection of the hydrographic sheets of 1909 pertaining to Nushagak Bay, Alaska, indicated the need of more soundings on the important bar four and one-half miles south-westward of Ekuk bluff, which bar lies across the ordinary route used by vessels. Two sheets of different scale joined here, and although care was exercised to see that the ground was covered by the two sheets, deficiencies in the number of soundings became apparent after the two smooth sheets had been plotted and a careful inspection made. Opportunity was therefore taken before closing the work of 1910 in this locality to make a careful re-survey of that portion of the bar lying within the track of vessels.

2. The area covered is about one mile in extent each way. The work was done with the ship. The lines lie across the bar and are close together, although the spacing is not regular. The speed was as slow as possible consistent with proper handling of the ship. When the current had become strong, lines were run only against the current.

3. Tidal observations were made at Clark Point and soundings are reduced to the same plane of reference used in the work of last year.

4. The bar is narrow and the soundings indicate a minimum depth of from 12 to 14 feet along the crest. Last year's sheets show a minimum on this part of the bar of 15 to 17 feet, about 3 feet more. One line (of 1910) near the eastern part of the area re-surveyed shows a minimum of 19 feet, but this is not considered

reliable evidence of the existence of a break in the bar, as it is more probable that the apparent greater depth is due to failure of lead to fall on highest part of the ridge. When drawing the depth curves I would recommend that no break be shown here in the 3-fathom curve. In my notes and sailing directions of 1909 I pronounced this route unsafe at dead low water for vessels drawing 12 feet.

5. The positions and soundings have been plotted on a boat sheet, which will be forwarded in lieu of a smooth sheet. The scale, 1 - 40 000, of the boat sheet and of hydrographic sheet # 3180 upon which it was assumed that the work would be plotted, is rather small and it might therefore be better to devise some scheme for plotting the work on one of the twenty-thousand sheets of last season. Only four signals were used, Tank, Sand, Far and Nichols, Far only three times.

Respectfully submitted,



Assistant, C. & G. Survey,

Chief of Party.

Nushagak, Alaska,

September 15, 1910.

Exp Sheet No 3180 & 3180<sup>a</sup>

Oct 4 1910

The area within the limits of the survey  
is well developed.

The records were kept in a satisfactory manner  
H. L. Simon