

4310
4370

4824

Diag. Chts. No. 8502-2 & 8550

Form 504
DEPARTMENT OF COMMERCE
 U. S. COAST AND GEODETIC SURVEY

State: Alaska

11-5613

DESCRIPTIVE REPORT.

Hydrographic Sheet No. 4 (Field) **4824**

LOCALITY:

Gulf of Alaska Blying Sound

Cape Junken to Cape Mansfield

192 8

CHIEF OF PARTY:

R. R. Lukens.

4824

DESCRIPTIVE REPORT
To accompany
Hydro. Sheet No. 4

Str. SURVEYOR. R.R. Lukens,
Commanding.
1928.

Date of instructions, Feb. 18, 1928.

LIMITS This sheet covers the inshore hydrography from Cape Junken, westward to Cape Mansfield, Gulf of Alaska. The work on this sheet supersedes to inshore work done on H 4731 during the season of 1927.

METHODS. All work on the sheet was done with the motorsailer using a power driven sounding machine in depths of over 15 fathoms, and the usual copper center hand lead in depths of less than 15 fathoms. The control is taken from the adjusted positions on topographic sheets 4310 and "D". The signals for HORSEHEAD BAY were taken from sheet "D" while the topography of the bay appears on sheet "E". A slight difference is noted in the position of "Hip" on the two sheets "D" and "E". The position of sheet "D" was used on this sheet.

DESCREPERNCIES. Near position 35^d, there is a recorded 11-fathom sounding which is doubtful. It is believed that the dial was misread and that the sounding should have been 16 fathoms. Lines were run on both side of the doubtful sounding and no indication of any irregularity in the bottom was found. The bottom here is of fine black sand with a very uniform slope.

DANGERS. While the shores are fringed with rocks and slides, only one rock which might be considered as a danger was found. It lies about 500 meters SSE true from Δ Man. It is a detached rock with deep water close up all around it. It is awash at ordinary high water.

A rock which bares about ⁵ feet at MLLW. lies about 200 yards SW true from Δ Man.

A black rock about 3 feet above ordinary high water and covered by the extreme high tides lies about 500 meters SSE true from \odot HIP, at the western entrance to Horsehead Bay. There is foul ground between this rock and \odot Hip.

ANCHORAGES. There are no protected anchorages on this sheet.

GEOGRAPHIC NAMES The only new name appearing on the sheet is "Horsehead Bay", an open bay lying between Day Harbor and Whidbey Bay. The name was given by the survey party for the reason that the shape of the bay somewhat resembles a horse's head.

R.R. Lukens

TIDAL DATA

Hydro. Sheet No. 4

Str. SURVEYOR

1928.

Soundings on this sheet were reduced from the portable automatic gauge at Bowen Anchorage in Day Harbor. These soundings were reduced by Mr. Mathisson and checked by Mr. Grenell and the soundings all plotted on the sheet when upon examination it was found that an error of 3 feet had been made in the reducers. The gauge and staff were so set that the staff readings were 3 feet more than the gauge readings. The plane of reference on the staff was computed as 4.6 while on the gauge it was 1.6. In tabulating the hourly heights the 3-foot correction was made and they were tabulated as staff readings. The plane of reference was applied as 1.6 whereas it should have been 4.6. Mr. Grenell established the gauge and was familiar with the whole proceedings.

The correct reduces have been entered and the soundings have been replotted.

Random soundings have been tested with the Seward gauge and the reducers agree within from 1 to 2 tenths of a foot. There is very little difference along this coast in the time and range of the tide.

The plane of reference at Bowen Anchorage was determined by means of simultaneous observations with the Seward gauge. All records from the Seward gauge are filed in the office.


R. R. Lukens,

Chief of Party.

INSPECTION REPORT.
Hydro. Sheet #4

Str. SURVEYOR R.R.Lukens

1928.

The Chief of Party was in charge of the launch while doing the hydrography on this sheet. Careful notes were made on the boat sheet and many others were put in the sounding record.

In checking over the tidal data, an error of 3 feet was discovered in the reducers used. This made necessary the replotting of nearly all the soundings. These reducers had been entered by Mr. Mathisson and checked by Mr. Grenell.

I have looked over the sheet carefully and supplied missing information where ever I have seen the need for it.

In most cases the compass courses have been recorded, but there is a ~~great~~ great deviation on the compass as placed on the motor sailer, and sometimes with a choppy sea it is so sluggish that it can not be used in steering, and it is necessary to steer by the land or by distant clouds when heading offshore.

When hand lead was used, only the times of the positions were recorded. The leadsman sounded right along and the soundings are evenly spaced between positions. In breaking in a green crowd this method is better than to attempt to space the soundings by time.

R. R. Lukens.
R.R.Lukens.

LIST OF STATISTICS

for

HYDROGRAPHIC SHEET NO.4.

Cape Junken - to - Cape Mansfield.

Date 1928.	(Letter)	(Vol)	(Mi. of sounding)	(No. of soundings)	(Positions)	(Boat used)
June 6	a	1	27.4	302	118	Motor Sailer.
" 7	b	1	28.5	457	152	" "
" 8	c	1 & 2	29.4	377	148	" "
" 9	d	2	18.7	385	98	" "
" 11	e	2	15.0	238	83	" "
" 16	f	2	<u>17.6</u>	<u>263</u>	<u>99</u>	" "
Totals:	- - - -	- - - -	130.6	2022	698.	

Total area in square statute miles: 21.8.

Section of Field Records

Report on Sheet No. 4824
Chief of Party R.R. Lukens
Protracted by J.C. Mathisson
Verified and Inked by J.T. Walker

Surveyed in 1928
Surveyed by R.R. Lukens
Soundings plotted by
J.C. Mathisson

The sounding records were complete and well kept.
The protracting was especially good, only one point
being sufficiently far off to change.

The soundings were well plotted and the time intervals
were carefully adhered to. Occasionally a sounding
had the wrong fraction.

The sheet was clean and the work was legible.

The drafting conformed to General Instructions
for field work.

No topo sheet has been received for the area between
Long. $148^{\circ}50\frac{1}{2}$ and Long. $149^{\circ}04\frac{1}{4}$. The rest of the
sheet was checked with the topos for rocks, a number
were found on the topos which had not been transferred
to the smooth sheet. These were all transferred. A few
rocks were also transferred from the boat sheet.

The offshore sheet #4731 is in the field and
the overlap could not be transferred.

Horselead Bay was named by the field party
and so the name was not inked in.

Respectfully submitted
J.T. Walker
2/15/29

February 8, 1929.

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in
3 volumes of sounding records for

HYDROGRAPHIC SHEET 4824

Locality: Cape Junken - Cape Mansfield, S. W. Alaska.

Chief of Party: R. R. Lukens in 1928.

Plane of reference is Mean lower low water, reading
4.8 ft. on tide staff at Day Harbor

~~XXXXXXXXXXXX~~

Condition of records satisfactory except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks.

J. A. Marmen
Chief, Division of Tides and Currents.

Section of Field Records
Sheet # 4824

1.
Surveyed in 1928.

Chief of Party - R. R. Lukens

Instructions dated - Feb. 18, 1928.

Surveyed by - R. R. Lukens.

Protracted by - J. C. Mathison.

Soundings plotted by - J. C. Mathison.

Verified and inked by - J. S. Walker.

1. The records conform to the requirements of the general instructions.
2. The plan and character of development fulfill the requirements of the general instructions.
3. The plan and extent of development satisfy the specific instructions.
4. No sounding line crossings were necessary on this sheet.
5. The usual depth curves can be completely drawn, except close inshore where it was too rocky for sounding.

6. The field plotting was completed as prescribed in the General Instructions.

7. The office draftsman did not have to do over any part of the drafting done by the field party. It was necessary however to transfer several rocks from the topographic and boat sheets which had not been transferred in the field. At the time the verifier wrote his report topographic sheet # 4385 had not been received from the field. This has since been received and all topography on H-4824 has been compared with the topographic sheets.

8. The junctions with H-4825 and H-4693 are good.

The junction with H-4731 has been adjusted, so that it is now

satisfactory. In order to make this adjustment it was necessary to make a study of the signals used on the two sheets. In so doing it was found that signal White on the hydrographic sheet H-4731 is the same as signal Fus on H-4824 and the topographic sheet. Signal Ken bore the same name throughout. It was also discovered that the sextant positions of White (Fus) and Ken on H-4731 showed a discrepancy of between 50 and 100 meters as compared with the plane table topography.

In order to make a proper junction of the two sheets in Johnstone Bay it was therefore necessary to ~~transfer~~ ^{replot} the soundings from H-4731 to H-4824 using the plane table positions of White (Fus) and Ken.

The soundings transferred included those necessary to make the junction and also all that were off-shore from this junction which were controlled by White (Sus) and Ken.

at lat $59^{\circ}54' - 440m$, Long $148^{\circ}38' - 200m$. there is a 39 fm. sounding on a 34 fm. sounding.

9. Further surveying is not required for full development of this sheet.

10. Remarks:

All work on this sheet is also covered by the inshore work on H-4731, but all work on H-4731 within the limits of this sheet should be rejected because of the following reasons:
(a) The topographic control

which was used on H-4731 was entirely inadequate for the purpose so that all inshore work on sheet H-4731 has considerable displacement.

(b) The work on H-4731 was executed on a 1:20,000 scale whereas the work on this sheet is 1:20,000.

At Lat. 59°-57', Long. 148°-56' a 10 fathom sounding was recorded and a note made to the effect that it was probably an error in reading, by the leadsmen. The note also says that a thorough development was made. This development was not a thorough development for this character of bottom, because the minimum distance between soundings was 60 meters and it would be very easy to miss a sharp rock of the type which is quite common in this vicinity. This 10 fathom sounding should be retained.

On this sheet there is a bay which was called Horsehead Bay, by the field party. This should be referred to the Geographic Board for approval.

4. (a) character + scope of this survey are very good.

(7) Field drafting was excellent.

Received by

Carl O. Heston

Jr. H. & G.C. Feb. 13, 1929.

Two lines of soundings in Johnston Bay from H. 4731 have been replotted on H. 4824 in red, using the control on the latter sheet. Their locations as shown on H. 4824 should be used.

E. P. Ellis

March. 20, 1929

J. B. Gordon
Chief Sec.
Field Work

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

FIELD SHEET No. 4.

4824

The finished Hydrographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

U. S. Coast and Geodetic Survey.

Register No. ⁴ 4824

State . . . Alaska

General locality . ~~Gulf of Alaska~~ Blying Sound

Locality . . . Cape Junken to Cape Mansfield

Chief of party . . . R. R. Lukens

Surveyed by . . . R. R. Lukens

Date of survey . . . June 6 to 16, 1928

Scale 1:20,000

Soundings in . . . Fathoms

Plane of reference . . . MLLW - Seward gauge

Protracted by J.C.M. . . . Soundings in pencil by J.C.M. *Atherton*

Inked by Verified by

Records accompanying sheet (check those forwarded):

Des. report, ~~1~~ Tide books, ~~1~~ Marigrams, 1 Boat sheets,

1 3 Sounding books, ~~1~~ Wire-drag books, ~~1~~ Photographs

Data from other sources affecting sheet . . . None

Remarks:

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. 4824

The following statistics will be submitted with the
cartographer's report on the sheet:

Number of positions on sheet . . . 698
Number of positions checked . . . 143
Number of positions revised . . . 1
Number of soundings recorded . . . 2022
Number of soundings revised . . . 24
Number of signals erroneously
plotted or transferred 0

Date: - Feb 13, 1929 - - - - -

Cartographer: - - - J. Walker - - - - -