

# 4825

Deq. Cht. No. 8502-2 & 8552-

4825

Form 504	
<b>DEPARTMENT OF COMMERCE</b> U. S. COAST AND GEODETIC SURVEY E. Lester Jones, Director	
State: <u>Alaska</u>	
<b>DESCRIPTIVE REPORT</b>	
Topographic Hydrographic Contains W.O. Work	Sheet No. 5 <b>4825</b>
LOCALITY	
<u>Kenai Peninsula - Blying Sound</u>	
<u>Day Harbor</u>	
 <u>1928</u>  	
CHIEF OF PARTY	
<u>R. R. Lukens</u>	

REPORT  
on

HYDROGRAPHIC SHEET No.5.

This sheet of hydrography was done by a camp party in charge of Mr. J. C. Partington. Mr. Partington had had but little experience in launch hydrography and had never had charge of a party before. This inexperience is reflected in some of the first work on this sheet.

Bowen Anchorage, which is the only good anchorage, is shown on a sub plan, scale 1:10,000. There are neither any settlements or commercial enterprises in Day Harbor. In 1928 there was no fishing.

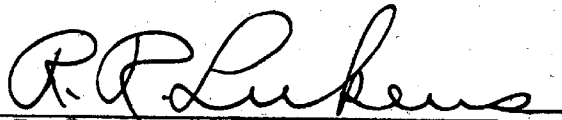
New names will be found in the Descriptive Report accompanying topographic Sheets "E" and "F", which cover this area.

Due to lack of signals the area south of Barwell Island was sounded on sheet H4724, on the scale 1:40,000.

Control was established by the triangulation of 1928. A base line was measured at the head of the bay and the triangulation extended to the old station CAPE ISLAND 1905, of the Resurrection Bay triangulation. Azimuth was determined from the old line CAPE ISLAND-SLOPE.

The 33 foot sounding off the entrance to Bowen Anchorage was swept by the wire drag, set at an effective depth of 25-1/2 feet. It was intended to sweep to a depth of 30 feet but an error was made in figuring the tide. A boat was anchored over the shallowest spot - where the 33 foot sounding was obtained - and the drag towed over the spot with the boat as a guide.

I have inspected the sheet and made changes where I have found them necessary.



R. R. Lukens,  
Chief of Party.

DESCRIPTIVE REPORT  
to accompany  
Hydrographic Sheet No.5, Day Harbor, Kenai Peninsula, S.W. Alaska.

Str. SURVEYOR

R.H. Lukens, Chief of Party

Director's instructions dated Feb. 18, 1928.

GENERAL DESCRIPTION:

Day Harbor is located just east of Resurrection Bay. It is about seven miles long and two and one half miles wide and extends in a north northeasterly direction. Approaching the bay from seaward the first landfall is Barwell Island about one-half mile south of Cape Resurrection. This is a small round rocky island 414 feet high and supports no vegetation except a heavy growth of grass which grows on the north side of the island during the summer months. About one-half mile south of Barwell Island is a whistle buoy which is anchored in about 50 fathoms.

The west side of Day Harbor is rocky and precipitous and is indented by four small bays. The peaks back of the west side of the bay are rocky and jagged and form a ridge which extends in a north and south direction from Cape Resurrection to the head of the bay. A growth of spruce trees extends up to about the 1500 foot contour but above this the hills are rocky and bare.

The east side is also rocky and precipitous and is indented by two small bays. The hills back of the shoreline are lower than those on the west side of the bay and there is a heavier growth of trees.

The head of the bay is a sandy beach about one mile long. Ellsworth Glacier is about one mile north of this beach.

LANDMARKS:

The only landmarks of importance are; Barwell Island, Triangulation station Pyramid, topographic station Scar, and Fault Point. Barwell Island is described above. Triangulation station <sup>Pyramid</sup> is located on a small rocky islet 54 feet high and about 400 meters off the coast. It is the outermost of several small islets which extend off the coast in this vicinity. Topographic station Scar is a grayish white landslide on the west side of Day Harbor which shows up plainly from offshore in clear weather. Fault Point is a jagged rocky point which marks the east side of the entrance to Day Harbor.

INSHORE DANGERS:

A rock bare at extreme low water lies about 150 meters offshore in Lat.  $59^{\circ} 52'$  280 meters Long.  $149^{\circ} 16'$  510 meters. A rock bare at low water lies at the east side of the entrance to Talus Bay in Lat.  $59^{\circ} 59'$  1600 meters Long.  $149^{\circ} 11'$  790 meters. Two rocks awash lie about 80 meters S.W. of Fault Point in Lat.  $59^{\circ} 57'$  1300 meters Long.  $149^{\circ} 07'$  140 meters. A rock which ~~is swept~~ <sup>is swept</sup> in heavy weather lies in Lat.  $59^{\circ} 56'$  1710 meters Long  $149^{\circ} 04'$  65 meters. ✓

#### OFFSHORE DANGERS:

No outlying dangers were found in the area covered by this sheet and ships may navigate with safety by keeping at least one-half mile offshore.

#### BARS and CHANNELS:

In the entrance to Bowen Anchorage a pinnacle rock was found. This rock has a least depth of five and one-half fathoms (10.06 meters) and was investigated by feeling around with a leadline while sounding from a launch. Later the area in the vicinity of this rock was swept by wire drag to a depth of 25.8 feet (7.83 meters) and found to be clear.

#### ANCHORAGES:

The most desirable anchorage is the northermost cove on the east side of Day Harbor called Bowen Anchorage, shown on the insert on a scale of 1:10,000. This anchorage is about  $\frac{3}{8}$  of a mile wide and indents the shore  $\frac{1}{2}$  mile. It affords good protection in all weather and vessels up to 400 feet in length may anchor here in 15 fathoms (27.4 meters) with mud bottom. An old sawmill and wood pile dock are located at the head of the cove and streams flow into the bay on either side of the dock.

Anchorage may also be found in Timber Cove, the first cove to the southward of Bowen Anchorage. A rock which ~~is nearly awash at low water~~ <sup>is nearly awash at high water</sup> lies near the head of this cove.

Talus Bay is open to the prevailing southeast weather and is rough and unsuitable as an anchorage during these times. In other weathers it affords an anchorage in 10 to 15 fathoms (18.3 to 27.4 meters). A rock bare at low water lies about 100 meters south of the entrance point.

There is a flat in the northwest corner of Day Harbor bearing N.W. true from Bowen Anchorage where anchorage may be had  $\frac{3}{8}$  mile offshore in from 15 to 18 fathoms (27.4 to 33 meters).

Safety Cove, one mile south of Talus Bay is deep but well protected. Anchorage may be had in the center of the cove in from 25 to 30 fathoms (46 to 55 meters). The bottom is mostly rocky.

Driftwood Bay, located on the west side of Day Harbor about 3 miles north of Cape Resurrection, is about  $\frac{1}{2}$  mile wide and indents the coast  $\frac{3}{4}$  mile. It is well protected and anchorage may be had in the middle of the bay in depths of from 25 to 30 fathoms (46 to 55 meters) hard bottom. Small craft will find excellent shelter in a bight in the south of the bay.

#### TIDES:

A tide gauge and staff were set up at the dock in Bowen Anchorage and operated from May 20 to July 13, 1928. At the times of lower low water the ground at the dock bares and the gauge did not record the lower low waters. When the gauge was installed the bottom of the float pipe was set on the ground. When the staff was set up 3 feet was cut off of the bottom of the staff so that the bottom of the float pipe and the 3 foot mark on the staff were on practically the same level. The high and low waters are tabulated as gauge readings which are 3 feet lower than the staff readings. The hourly heights are tabulated as staff readings.

A simultaneous comparison with the tides at Seward Alaska was made in order to obtain the value of mean lower low water on the staff at Bowen Anchorage. This value was found to be 4.6 feet.

TIDES: (continued)

Mean lower low water reading on the gauge at Bowen Anchorage	1.60 feet
" " " " " " " " staff " " "	4.60 "

All soundings were reduced to mean lower low water on the staff at Bowen Anchorage except for p day, Sept. 15, 1928 and the wire drag work Oct. 6, 1928 which were reduced to the staff at Seward Alaska.

SURVEY METHODS:

The sounding was done from the SURVEYOR'S 30 foot launch No. 4 which was equipped with a power sounding machine driven by a shaft connected to the launch engine. The sounding was done from the starboard quarter using stranded wire and a 25 lb. lead. The registering sheave was tested at the end of the season and found to be correct. During the course of the work the registering sheave was tested for zero each time the lead was hauled in for a bottom sample and it was found that the sheave was seldom in error more than 1 to 2 feet when the bottom of the lead was at the water's surface. When necessary the proper correction was applied to the sounding before it was recorded. Depths of less than 15 fathoms were obtained with the hand lead and in greater depths the sounding machine was used.

The wire drag work was done with a 500 foot drag divided into 100 foot sections. The motorsailer and launch No. 4 were used to tow the drag.

STATISTICS

Hydrographic Sheet No. 5, Day Harbor, Kenai Peninsula, S.W. Alaska

Date	Letter	Volume	Positions	Soundings	Miles	Vessels
June 20, 1928	a	1	43	98	2.8	Launch #4
" 21	b	1	107	162	16.3	" 4
" 22	c	1	33	45	4.2	" 4
" 23	d	1	128	317	16.1	" 4
" 25	e	2	89	170	9.4	" 4
" 26	f	2	128	198	20.7	" 4
July 2	g	2	26	26	0.5	Skiff
" 7	h	2 & 3	114	211	15.2	Launch #4
" 8	j	3	115	235	18.7	" 4
" 9	k	3	108	200	18.7	" 4
" 10	l	3 & 4	132	288	20.0	" 4
" 11	m	4	121	255	22.5	" 4
" 12	n	4 & 5	96	200	6.7	" 4
" 13	o	5	11	18	1.0	" 4
Sept 15	p	5	66	134	13.1	Motorsailer
Oct. 6	a	1	5	-	0.4	"
" 6	a	2	3	-	0.4	Launch #4
Totals		7	1325	2557	186.7	

Respectfully submitted,

*J. C. Partington*  
 Jr. H. & G. E.

Approved and forwarded,

*R. P. Lukens*  
 Chief of Party

Sec. of Field Records.

E.A.L.

February 13, 1929.

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in  
7 volumes of sounding records for

C  
HYDROGRAPHIC SHEET 4825

Locality: Day Harbor, 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.  
~~2.6 ft. on tide staff at Seward.~~  
2.6 ft. on tide staff at Seward.

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,

*H. W. Marmen*  
Chief, Division of Tides and Currents.

Report on H4820

Survey - 1928

Chief of Party R.R. Lukens

Surveyed by, S.B. Greenell and J.C. Pattinger

Profiled and sounding verified by, P.H. Bernstein

Verified and checked by, John G. Ladd

1. The records conform to the requirements of the General Instruction.
2. The Plan and character of development fulfill the requirements of the General Instruction.
3. The sounding line crossings are adequate.
4. The usual depth curves could be drawn.
5. The field plotting was complete to the extent prescribed in the General Instructions.
6. No part of the work had to be done over by the office draftsman.
7. The character and scope of the survey was excellent and the field drafting very accurate.

John G. Ladd

Jr. Civil Eng.

Feb. 14, 1929



While the inexperience of the officer in charge is noticeable in the records at the start of the work, the survey as a whole is considered to be excellent. Just about the right amount of work has been done, the developement is sufficient and no further work within these limits is deemed necessary.

The specific instructions have been complied with except in the case of the drag strip, which was set about five feet too shoal, due to a miscalculation of the tide.

The five and one half fathom spot, off the entrance to Bowen Anchorage, is the only danger falling outside of the ten fathom curve.

Hyd. 4731, which joins this sheet on the south, is in the field at present and is not available for joining.

Inspected by R. L. Johnston  
A/S - A. M. Sobushalski  
" J. S. Bondur

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

REG. NO. 4825

HYDROGRAPHIC TITLE SHEET  
*Contains W.D. Work*

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. 5

REGISTER NO. 4825

State Alaska

General locality Kenai Peninsula - Blying Sound

Locality Day Harbor

Scale 1:20,000 Date of survey June and July, 1928

Vessel Str. SURVEYOR

Chief of Party R.R. Lukens

Surveyed by Wire Drag Party, S.B. Grenell, J.C. Partington

Protracted by P.L. Bernstein

Soundings penciled by P.L. Bernstein

Soundings in fathoms feet

Plane of reference Mean lower low water

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated Feb. 18, 1928, 1928

Remarks: Contains W.D. work at Entrance to Bowen Anchorage

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. 4825

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

Number of positions on sheet . 1325  
Number of positions checked . 279  
Number of positions revised . . 10  
Number of soundings recorded . 2557  
Number of soundings revised . . 25  
Number of signals erroneously  
plotted or transferred . . . none

Date: --- Feb 14, 1928 ---  
Cartographer: --- John G. Ladd ---