

4296

U. S. G. SURVEY
1923

Diag. Cht. No. 8502-1 & 2, 8556-1

Form 504

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

State: Alaska

11-5613

DESCRIPTIVE REPORT.

Hydrographic Sheet No. 3 - 4296

LOCALITY:

~~Portage Bay &~~

~~Wialavik (Wide) Bay~~

S.W. Alaska, Shelikof Strait

~~Shelikof Straits.~~

Wide Bay - Eastern Part +

Portage Bay

1923

CHIEF OF PARTY:

H. A. Seran, H. & G. E.

4296

9

10

DESCRIPTIVE REPORT
to accompany Hydrographic Sheet #3
Portage and Kialagvik (Wide) Bays, Shelikof Str., S.W. Alaska.

-----000-----

The work on this sheet was done under instructions to the Commanding Officer, U.S.S. Discoverer, dated February 21, 1923.

LIMITS

The hydrography shown comprises Portage Bay from the mainland to a line run N.E. and S.W. starting from a point on the West shore about 2 miles above Cape Igvak. It also comprises the N.E. portion of Wide (Kialagvik) Bay from the mainland to a line run N.W. and S.E. thru Channel Rock. The hydrography off Wide Bay is carried out about $1\frac{1}{2}$ miles from the outer islands into Shelikof Straits and as far S.W. as a line running N.W. x N. and S.E. x S. passing about midway thru the first island south of Channel Rock. The hydrography of Kanatak Lagoon, on the western shore of Portage Bay and that of the Lagoon at the upper end of Wide Bay, is also shown. The work is shown on a scale of 1:20,000.

CONTROL

Excellent control was furnished by 6 triangulation station signals in each bay, supplemented by numerous signals located by the topographic party.

METHODS

The YUKON was used thruout in Portage Bay, and for most of Wide Bay. The Motor Sailing Launch did the hydrography in Wide Bay southwest of triangulation station HIGH to the line run thru Channel Rock and also the lagoon at the northern end. The boat sheet used by the party of Lt. Comdr. F. H. Hardy in 1920, shows enough soundings in the narrows between Coal Point and the islands S.E. of here to define the channel. These soundings were transferred from this boat sheet to the sheet on which work was done this season. It is supposed that the original records are on file in the office. Due to the unfavorable weather at the end of the season, no additional work was done here. ← H. 4140

Handlead soundings were taken up to depths of 15 fathoms without stopping the vessel. For greater depths, a Cosmos hand sounding machine, using a 20# lead and stranded sounding wire, was used. The ship was stopped for all machine soundings, so that up and down casts were obtained. For the handlead work a 12# lead was used with Samson's #8 mahogany, Phosphor-bronze wire center tiller rope. Excellent results were obtained with this line, and in no case was it necessary to apply a lead line correction. The sounding lines were run N.E. and S.W. in Portage Bay, normal to the west shore line; and N.W. and S.E. in Wide Bay, normal to the general trend of the coast line. The soundings were located by sextant fixes obtained at regular intervals.

GENERAL DESCRIPTION OF THE COAST LINE

Cape Igvak, a conspicuous head-land, is the southern extremity of a series of mountains rising to heights varying from 2,000 to 3,400 feet and covered with clouds most of the time. On the western shore of Portage Bay the mountains are steep-to and rise directly from the waters edge. Off Kanatak the land is flat for about $1\frac{1}{2}$ miles inland where the mountains again rise. The mountains on the eastern shore of Portage Bay rise directly from the waters edge. Off Cape Kanatak a flat plateau, about 50 feet above sea level, extends for perhaps a mile inland before the mountains begin.

Extending S.W. from Cape Igvak for about 9 miles is a series of low islands which form the outer rim of Wide (Kialagvik) Bay. The highest of these, Terrace Island, 290 feet high, is the southern end of this sheet. Channel Rock, about 40 feet high, and 100 feet long by 50 feet wide, is quite conspicuous. The western shore of Wide Bay is low and flat for about $1\frac{1}{2}$ miles inland, where the mountains start to rise. *ant*
The shore here is sandy with occasional rock patches

BOTTOM CHARACTERISTICS

Portage Bay: Off the Eastern and Western shores of Portage Bay numerous rocks, awash at low water, extend for a distance of perhaps 100 meters; then the depths increase suddenly to 10 fathoms and over with hard sand bottom. A large rocky reef, bare at lower low water, and covered with kelp extends for about $\frac{1}{2}$ mile S.W. of Kelp Point, just off Kanatak. Kelp is usually an indication of danger, especially when it occurs in large patches, and navigators should exercise great caution in approaching close to. Off the town of Kanatak a sandy beach slopes out gently to depths of seven fathoms. The bottom here is hard sand and offers a poor anchorage.

Kanatak Lagoon: The bottom in Kanatak Lagoon is mud and offers excellent anchorage for small craft that can enter the channel. The channel is narrow and the bottom rocky. Small boats and launches of about 5-foot draft can enter at mid-tide.

Wide (Kialagvik) Bay: A rocky reef extends about $\frac{1}{2}$ mile off Cape Igvak in a southerly direction. Foul ground is encountered between the mainland and the first island south of Cape Igvak. Numerous reefs extend off the northern shore of Wide Bay for a distance varying from $\frac{1}{4}$ to $\frac{1}{2}$ mile. Outside of this hard sand bottom is found, except in the 6 and 7 fathoms spot off the entrance to the Lagoon, where soft sand is encountered. About 2 miles WWS of the lagoon is a pinnacle rock about 40 feet high which is quite conspicuous. West and S.W. of here there are numerous rocks. Off Coal Point is a small, square-outlined island about 50 feet high. About $\frac{1}{2}$ mile E.S.E. of this island is a rocky reef about $\frac{1}{2}$ mile in diameter. Parts of this bare at low water; it is covered with kelp. The water about the island is foul for a distance varying from $\frac{1}{4}$ to $\frac{1}{2}$ miles. The limits of this foul ground on the straits side are marked by breakers and kelp. Southeast of Channel Rock there are numerous rocks which bare at low water; this area is quite foul and

is covered with kelp. Hard sand bottom is found in the straits outside the islands. Southwest of the narrows in Wide Bay, the water is unobstructed with soft sand and mud bottom. The channel thru the narrows between Coal Point and the islands is about 300 meters wide with 5 fathoms at M.L.L.W., hard sand and rocky bottom. The lagoon at the northern end of Wide Bay has an entrance which is very foul and should not be used except at High Water, and then only by small launches; mud bottom occurs after passing the entrance.

DANGERS

Portage Bay: A large reef covered with kelp, thru which rocks bare at lower low waters, extends southeast thru south to southwest off Kelp Point for a distance of $\frac{1}{2}$ mile. A rock with 10 feet on it at M.L.L.W. occurs 0.7 mile S.S.W. from triangulation station KMLP. A red nun buoy, # 2, is placed just S.W. of this rock, and ships should pass to the left of this, in entering.

Wide Bay: Rocks bare at all times except high water occur about 1 mile E.x N. of Coal Point. Rocks, with breakers, occur about $\frac{1}{2}$ mile off the large island north of East Channel Island. Numerous rocks which bare at low water occur in the large kelp patch S.E. and south of Channel Rock for a distance of about a mile. Reefs extend off the islands for a distance as much as $\frac{1}{2}$ mile. The water W.x S.W. of triangulation station EAST is shallow, interspersed with numerous rocks.

ANCHORAGES

Portage Bay: Portage Bay is open to the Southeast and offers no protection for winds and seas from that direction. The bottom here is hard sand and is poor holding ground. Small boats may find some protection behind the reef extending off Kelp Point. In a S.E. or E.E.'ly blow small boats should anchor in Kanatak Lagoon, where good anchorage may be obtained in over 5 fathoms, mud bottom. Launches and small boats of 5-foot draft can enter this lagoon at mid-tide.

Wide Bay: That part of Wide Bay north of Coal Point is open to the southeastward. Protection for seas extending from E.E. around north to southwest is found in 6 to 7 fathoms soft sand bottom about $\frac{1}{2}$ mile off the entrance to the lagoon. Protection for S.E. storms may be obtained behind the islands in the southern end of the bay.

CHANNEL INTO WIDE BAY

The recommended entrance to the southern part of Wide Bay is the channel between East Channel Island and Channel Rock. This channel has a clear passage about $\frac{1}{2}$ mile wide with greater depths than 10 fathoms.

TIDES

A tide staff was established in Kanatak Lagoon for the work in Portage Bay; and for Wide Bay, the staff was off Lee's Cabin. During hydrographic work tide staff readings were taken every 15 minutes. The plane of reference was determined by simultaneous readings with Uyak, Kodiak Island.

CURRENTS

No pronounced currents were noticed and no current observations were taken.

WEATHER

High winds were frequent and much bad weather was experienced during the past season. Williwaws are of frequent occurrence with westerly winds in Wide Bay. The mountains are covered with clouds most of the time.

NAMES

The chart gives the name of the bay as Kialagvik; however, it is known locally as Wide Bay and the Geological Survey use the latter, so it is recommended that this name be used.

Respectfully submitted,

H. W. Hemple

H. W. HEMPLE,
Lieut., C. & G. Survey,
Hydrographer.

Approved and Forwarded.

H. A. Seran
H. A. SERAN,
Lieut. Comdr., C. & G. Survey,
Chief of Party.

STATISTICS SHEET NO. 3

Date, 1923	Letter	Volume	Positions	Soundings	Statute Miles	Vessels
June 8	A	1	40	144	6.3	Str. YUKON
" 9	B	1	66	224	10.3	do
" 11	C	1	6	15	.9	"
" 12	D	1	64	116	8.4	"
" 13	E	1	53	78	6.9	"
" 19	F	1	109	208	14.5	"
" 20	G	2	60	124	8.0	"
" 25	H	2	35	57	4.6	"
" 26	J	2	92	183	13.7	"
" 29	K	2	58	99	10.1	"
" 30	L	2	45	101	5.0	"
July 2	M	2&3	61	94	11.0	"
" 3	N	3	84	146	16.1	"
Aug. 4	P	3	89	179	16.1	"
" 11	Q	3	58	111	12.3	"
" 23	R	3	84	271	16.2	"
" 23	R	4	4	14	.6	"
" 24	S	4	83	283	13.5	"
" 27	T	4	67	128	14.6	"
" 28	U	4	64	114	8.0	"
" 29	V	4	103	143	18.3	"
Sept. 1	W	5	99	204	17.1	"
Aug. 14	a	1	47	134	9.8	Motor Sailer #8613
" 15	b	1	36	107	7.2	do
Sept. 24	c	1	45	245	10.5	"
Total			1488	3522	260.0	

COBY TO FIELD RECORDS

Nov. 9, 1923.

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in
6 volumes of sounding records for

HYDROGRAPHIC SHEET 4296

Locality: Shelikof Straits, S.W. Alaska.

Chief of Party: H. A. Moran in 1923


Plane of reference is mean lower low water, reading

2.1 ft. on tide staff at Lagoon, Portage Bay

1.8 " " " " " " Wide Bay

For reduction of soundings, 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 each 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. **Reductions entered in feet and not in fathoms and feet**
Par. 311, General Instructions, 1920, regarding entering of tide
reducers not observed.



Chief, Division of Tides and Currents.

Hyd. Sheet No 4296

The ground on this sheet is well covered, within the limits of the work, except the area in Hide Bay, off Coal Pt, which was covered by Capt. Hardy in 1920.

The protracting was accurately done and that portion of the soundings plotted by Mr. White were carefully spaced.

A marked shoaling is indicated by the line from pos. 21v to pos 22v, on the southern limit of the work about two and a half miles. S. W. of Cape Izvak.

R. L. Johnston

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
WASHINGTON

December 5, 1923

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4296

Portage and Wide Bays, Alaska
Surveyed in 1923
Instructions dated February 21, 1923

Chief of Party, H. A. Seran

Surveyed by H. W. Hemple, F. E. Joekel and P. H. White

Protracted by J. A. Bond

Soundings plotted by F. E. Joekel and P. H. White

Verified and inked by R. L. Johnston

1. The records conform to the requirements of the General Instructions. The soundings were reduced in feet, and it was necessary to change them to fathoms before plotting the sheet.
2. The plan and character of development fulfill the requirements of the General Instructions and satisfy the specific instructions.
3. The sounding line crossings are adequate.
4. The information is sufficient for drawing the usual depth curves.
5. The field drafting was completed to the extent prescribed in General Instructions. The character of the field drafting is excellent, except the plotting of soundings in Wide Bay by F. E. Joekel where time intervals between soundings were not adhered to.
6. The junction with the adjoining sheet is satisfactory. Also the junction is good with sheet 4140 which must be used to chart the area south of Coal Pt.
7. The leadline development on the area surveyed is sufficient, but there are several shoals which will require wire dragging before there is assurance that the minimum depth has been obtained.
8. The character of the surveying is excellent.
9. Reviewed by E. P. Ellis, December, 1923.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

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. 4296³¹

State ~~S.W.~~ Alaska

General locality S.W. Alaska, Shelikof Strait

Locality ~~Shelikof Strait~~
Wide Bay - Eastern Part, and Portage Bay
~~Portage and Kialagvik (Wide) Bays~~

Chief of party H. A. Seran

Surveyed by H. W. Hemple, F. E. Joekel, P. H. White

Date of survey June - September, 1923

Scale 1 - 20,000

Soundings in Fathoms

Plane of reference M. L. L. W.

Protracted by J. A. Bond Soundings in pencil by F. E. Joekel, P. H. White

Inked by Verified by

Records accompanying sheet (check those forwarded):

Des. report, Tide books, Marigrams, 3 Boat sheets,

Sounding books, _____ Wire-drag books, _____ Photographs.

Data from other sources affecting sheet

Remarks: