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Form 504 DEPARTMENT OF COMMERCE U. S. COAST AND GEODETIC SURVEY
State: <u>SOUTHEAST ALASKA</u> <small>11-5013</small>
DESCRIPTIVE REPORT.
Hydrog. Sheet No. <u>22 4429</u>
LOCALITY: <u>Baranof I. - SW Coast</u> <u>Healy Bay to Pt. Lauder</u>
<u>1924</u>
CHIEF OF PARTY: <u>A. M. Sobieralski</u>

C

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SHEET # 22

Healy Bay to Pt.Lauder

Baranof Island, S.E.Alaska

Surveyed by party from

U.S.C.& G.S.S.SURVEYOR

A.M.Sobieralski, H.& G.E., Comdg.

July 25 to Sept.11, 1924

Scale 1 : 20,000

Instructions dated February 6, 1924.

DESCRIPTIVE REPORT TO ACCOMPANY SHEET

This sheet extends along the west coast of Baranof Island from just south of Healy Bay to Pt. Lauder. It includes Healy, Byron, Snipe, Sandy and Close Bays.

In accordance with instructions dated Feb. 6, 1924, a system of lines 300 meters apart were run, overlapping the work done by the ship.

The steam launch DELTA (with a steam sounding machine) was used except to sound Close Bay, where a skiff and hand lead were used.

GENERAL DESCRIPTION OF COAST:

The entire coast line is bold and rugged, and from Healy Bay north, to a short distance beyond Δ Mid, the beach in general is high and steep-to, dropping away quickly from the tree line; but farther northward to well beyond Pt. Lauder the beach becomes more shelving and the tree line is farther back from the water line.

Back from the coastline the country is low, rolling, wooded hills. Farther inland are high ridges with numerous peaks, elevations two to three thousand feet, whose slopes are steep and bare. The higher ridges are usually obscured by clouds.

LANDMARKS

A large gray rock 60 feet high marks the entrance to Healy Bay. The channels on either side of this rock are narrow but clear. Easily visible thru the entrance to Healy Bay from the westward is a large brownish gray cliff, which rises steep-to from the beach for about 300 feet. This cliff marks the foot of the 800 foot hill along the NE shore of Healy Bay.

A long narrow waterfall dropping from a high ridge back of Byron Bay is conspicuous from offshore. At times this fall is dry, but its position is easily recognized.

Off the west entrance to Byron Bay is a group of reddish brown rocks, the largest of which is the First Kekur, about 35 feet in elevation. There is a small bare rock, about 10 ft

high, 500 meters S.E. of the First Kekur.

C . Between Byron and Snipe Bays is Kekur Point, distinguished by the high cliffs. At the northern end of this point is the second Kekur, which is a large bare rock, 40 feet high and scarcely detached from the mainland.

△Cone is located on a rather dark thumb shaped peak which shows up very distinctly against the higher peaks behind it, especially in the spring when the higher peaks are snow covered. Cone Peak itself is bare, but its steep slopes are grass covered.

The ridge, which drops away from Cone peak toward the head of Snipe Bay, ends abruptly in a bare rocky cliff shaped not unlike the gable of a roof. This cliff is easily recognized for a considerable distance offshore.

Snipe Head, on the northern side of the entrance to Snipe Bay, is a plateau some 500 feet in elevation which breaks sharply to the water. There is a bare spot on the top of this headland and the sides are wooded. This headland is easily identified from the west and northwest for several miles.

Just south of the entrance to Sandy Bay about 300 meters back from the coastline and about 500 feet in elevation is a wooded, conical offshoot from a low ridge. This is Signal Horn and is prominent offshore from the southward.

A mile and a half north of Sandy Bay is the Third Kekur, a large bare rock 120 feet high and close inshore.

Two light gray pinnacles, on the point which marks the west side of the entrance to the northerly arm of Close Bay, are easily identified. These pinnacles are about 65 feet in elevation.

OFFSHORE DANGERS

There are no offshore dangers.

INSHORE DANGERS

500 meters southeast of the first Kekur is a small bare rock about 10 feet in elevation.

There is a reef over which the seas usually are breaking and which extends 120 meters in a southeasterly direction from the western point at the throat of the entrance to Byron Bay. This reef bares at half tide.

675 meters, 306° true, from Δ Kek is a sunken rock which breaks in a moderate swell. The least depth found on this rock was four fathoms:-- $2\frac{1}{2}$ reduced.

100 meters northwest of Δ Zim is a rock awash at low tide.

343 meters, 129° true, from Δ Sandy, nearly in the middle of the entrance to Sandy Bay, is an eight fathom shoal, around which the seas pile up noticeably in moderate weather. Possibly this shoal breaks in very heavy weather.

Extending in a southerly direction for 70 meters from the point on which Δ Sandy is located is a rocky reef, over which the seas always break and which is awash at low tide.

There is a breaker, bare at low tides and close inshore, in the bight between the small wooded island and the mainland on the north side of the entrance to Sandy Bay. This rock is 320 meters, 61° (true) from Δ Sandy and is too close inshore to be of much danger.

In the southern arm of Sandy Bay, 190 meters, 215° (true), from signal Bob is a sunken rock with a least depth of 10 feet on it. This rock is very important since there is deep water between it and the island on which signal Bob is located. The southern shore of this arm should be favored in passing this rock.

On the south side of the south arm of Sandy Bay about $\frac{2}{3}$ of a mile east of the entrance of the arm are two small islets. Both the east and the west passages between these islets and the mainland are practically bare at low water; but 5 to 6 feet can be carried in a narrow channel about five meters wide between the islets themselves. This is the channel used by the small craft which anchor in about 12 feet behind these islets.

Opposite the bight near the head of the north arm of Sandy Bay is a snag of dead trees, 194 meters, 280° (true) from signal Ban.

960 meters, 160° (true) from Δ Mid is a small bare rock, 300 meters offshore. A rocky reef which breaks in a light swell extends for about 30 meters south of this rock.

360 meters, 180° (true), from Δ Close is a rock awash at low water.

²⁵⁰280 meters, ^{288° Rtg ✓}327° (true), from Δ Close and 170 meters off-shore is a sunken rock, which breaks in a moderate swell. No depth was obtained on this rock.

ANCHORAGES

Healy Bay affords a good anchorage in any weather for small craft in either the south, or the Northeast arm, the former having a depth of 6 to 9 fathoms with a muddy bottom and the latter a depth of 8 to 12 fathoms, also with a muddy bottom. Both entrances to Healy Bay are difficult in a heavy swell due to the tide rips and heavy backwash in the narrow passages.

Byron Bay also affords good anchorage in any weather for small craft in either of the two bights on the east side of the bay, in depths of from 6 to 8 fathoms with a soft bottom in the southerly bight and a rocky bottom in the northerly bight. The steamer SURVEYOR has anchored in this bay a few times, east of the small island on which \odot Jus is located, in 30 fathoms, mud and sand bottom. Due to the reef making out from the westerly point and on account of the limited width of the entrance, a ship would probably find it inadvisable to attempt to make this bay in heavy southerly or southwesterly weather.

*rocky bottom
in sand
Rtg*

The bight in the southeast side of Snipe Bay, about a mile from the entrance, is used extensively during the fishing season by small craft, which anchor very close inshore, in depths up to 15 fathoms with hard bottom. A ship may anchor in this bight in a depth of 35 fathoms or at the head of the bay in a depth of 34 fathoms, but Snipe Bay is not recommended as a ship's anchorage on account of the great depth, although it is fairly well protected from sea and wind.

Sandy Bay.

The best anchorage for ship and small boats of any of the bays on this sheet may be had in Sandy Bay, which is well sheltered in all weather from sea and wind. In general the bottom obtained in the main part of the south arm of Sandy Bay was hard or rocky, but at the head of the bay about 600 meters east of signal Bob in a depth of 22 fathoms muddy bottom was found. This is the anchorage used by the SURVEYOR

while in this bay. The small bight north of the ship's anchorage affords the best anchorage for small boats in depths of from 6 to 11 fathoms, with muddy bottom. However, during the fishing season most of the small craft anchor behind or just northwest of the two small islets on the south side of the south arm of Sandy Bay. Behind these islets a depth of two fathoms with soft bottom is used, while just west of the islets the depths are from 5 or 6 fathoms (very close inshore) up to 20 or 25 fathoms about 150 meters from the beach, with rocky bottom.

Due to the eight fathom shoal, mentioned under DANGERS, and to the narrowness of the entrance, the short steep seas which are encountered during a heavy southwesterly or southerly swell would make it very difficult and possibly dangerous to handle a ship on entering Sandy Bay and make the sharp turn into the south arm.

Close Bay.

The north and south arms of Close Bay afford temporary anchorages for small boats, but the former is open to southerly and southwesterly and the latter to westerly and northwesterly weather. Depths in both arms are from 4 to 9 fathoms with rocky bottom. Both arms are almost entirely covered with heavy growing kelp. The east arm or lagoon of Close Bay can only be entered at high water slack. During flood or ebb tide the current runs very strong, causing tide rips in the entrance which is so narrow as to be almost completely blocked. Just inside the entrance near the small islands the passage bares at low tide. In the lagoon itself depths from 5 to 8 fathoms were obtained with muddy bottom.

FOG

In the month of August there was considerable fog which prevented work along the outside coast, but it was found that the bays were usually clear and most of the sounding in the bays was done in foggy weather.

Respectfully submitted,

Henry E. Finnegan
H.E. Finnegan
Jr. H. & G. Eng'r, C. & G.S.

Approved & Forwarded
A. M. Sobieralski
Chief of Party

STATISTICS SHEET NO _____

1924	Letter	Vol.	Positions	Soundings	Miles Stat.	Vessel
SINKA Tide Gauge						
	a	1	50	167	1.4	W.B.
	b	1	56	176	1.2	W.B.
Total			116	343	2.6	

SANDY BAY Tide Gauge							
July	25	a	1	111	185	10.0	Delta
"	26	b	1	39	57	4.9	"
"	28	c	1	66	118	14.9	"
"	29	d	1	101	181	24.2	"
"	30	e	1	90	145	14.4	"
"	31	f	2	30	56	6.9	"
Aug.	1	g	2	84	157	19.5	"
"	2	h	2	55	116	5.5	"
"	4	j	2	70	118	8.1	"
"	5	k	2	91	171	20.3	"
"	6	l	2	1	1	0.0	"
"	7	m	2&3	81	131	9.9	"
"	12	n	3	46	81	10.4	"
"	13	p	3	80	138	15.9	"
"	20	q	3	17	31	3.1	"
"	23	r	3	29	50	4.1	"
"	25	s	3	132	212	16.2	"
"	26	t	3	3	3	0.1	"
"	27	w	3&4	21	39	6.3	"
"	28	v	4	58	94	9.6	"
"	29	w	4	48	104	6.6	"
Sept.	5	x	4	107	175	13.5	"
"	6	y	4	5	46	1.5	"
"	8	z	4	86	133	11.2	"
"	9	aa	4&5	92	209	16.8	"
"	10	bb	5	71	122	14.4	"
"	11	cc	5	64	100	11.2	"
Total			1678	2973	283.4		

PLANE OF REFERENCE

All soundings on this sheet were taken in fathoms, and reduced to M.L.L.W.

Sitka Tide Gauge was used for obtaining reducers in Sandy Bay on "a" and "b" days. For the remainder of the sheet, reducers were obtained from Sandy Bay Tide Gauge which was located near the islands along the south shore of the eastern arm of Sandy Bay.

Sitka Tide Gauge

Plane of Reference, M.L.L.W. reading on gauge	9.8 ft.
Lowest tide observed " " "	6.7 ft., on
July 17, 1924.	
Highest Tide observed, reading on gauge	21.2 ft , on
April 22, 1924.	

Sandy Bay Tide Gauge

Plane of Reference M.L.L.W., reading on gauge	9.4 ft.
Highest Tide observed " " "	19.8 ft.
Lowest " " " " "	6.8 ft.

Section of Field Records:

February 24, 1925.

~~Division of Charts~~

Division of Charts:

Tide reducers are approved in
5 volumes of sounding records for

HYDROGRAPHIC SHEET 4429

Locality: Vicinity Sandy Bay, Baranof Island, S. E. Alaska.

Chief of Party: A. M. Sobieralski

Plane of reference is mean lower low water

6.9 ft. on tide staff at Necker Bay, Baranof Island, S. E. Alaska,
9.4 " " " " " Sandy Bay, " " " " "
9.3 " " " " " Sitka, " " " " "
5.1 " " " " " Puffin 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 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



Chief, Division of Tides and Currents.

Hyd. Sheet No 4429

The ground within the limits of the work is uniformly covered but the soundings are not close enough on some of the shoal spots to clearly define the limits of the twenty fathom curve.

The records are satisfactory and conform to the requirements except that courses are seldom noted.

The sheet is well protracted and the soundings were neatly plotted, but were not accurately spaced.

The shoreline was not carefully transferred from the topographic sheet.

R. L. Johnston

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
WASHINGTON June 23, 1925.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4429

Southwest Coast of Baranof Island

Surveyed in 1924

Instructions dated February 6, 1924.

Chief of Party, A. M. Sobieralski.

Surveyed by H. E. Finnegan.

Protracted by H. E. F.

Soundings plotted by A. G. Zimmerman.

Verified and inked by R. L. Johnston.

1. The records conform to the requirements of the General Instructions except that very few boat courses were given.
2. The plan and character of development conform to the requirements of the General Instructions.
3. The plan and extent of development satisfy the specific instructions except that some of the shoal spots should have been better developed. Also at the southern end of the sheet the lines were run approximately 300 meters apart instead of 1200 meters as called for.
4. There were no cross lines run on the survey. Owing to the irregular character of the bottom, it is difficult to say, from a mere inspection of adjacent sounding lines, whether or not the crossings are adequate.
5. The usual field plotting was done by the field party.
6. The junction with H. 4432 on the west is adequate. The overlap with this sheet is unusually large, covering a strip approximately one to two miles in width.

On the south the junction with H. 4395, particularly on the western end, is not so good. The soundings on H. 4395 are much deeper than those on this sheet. This, however, may be due to the unusual irregularity of the bottom.

On the north where this sheet joins H. 4430 the soundings on the latter sheet appear to be from 5 to 10 fathoms deeper. There seems to be no way of accounting for this difference except the extreme irregularity of the bottom.

7. The survey disclosed numerous indications of possible dangers. Owing to the very irregular character of the bottom additional lead line development would hardly suffice to disclose the dangers. The entire area should therefore be wire dragged.
8. The character and scope of surveying is excellent. The protracting is excellent. The plotting of the soundings is good.
9. Reviewed by A. L. Shalowitz, June, 1925.

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. 22 4429

State **SOUTHEAST Alaska**
 General locality **Baranof Island, ~~S.E. Alaska~~ - SW Coast**
 Locality **Healy Bay to Pt. Lauder.**
 Chief of party **A.M. Sobieralski**
 Surveyed by **H.E. Finnegan**
 Date of survey **July 25 to Sept. 11, 1924.**
 Scale **1:20,000**
 Soundings in **Fathoms.**
 Plane of reference **M.L.L.W.**
 Protracted by **H.E.F.** Soundings in pencil by **A.C. Zimmerman**
 Inked by **R.Z.** Verified by **R.Z.**
 Records accompanying sheet (check those forwarded):
 Des. report, Tide books, Maniograms, **1** Boat sheet, **2 B.R.**
 5 Sounding books, Wire-drag books, Photographs.
 Data from other sources affecting sheet

Remarks: