4381

4381

Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

State: SW Alaska

11—5613

DESCRIPTIVE REPORT.

Hydrog *Sheet No.* 4381

LOCALITY:

Alaska Peninsula

Canoe Bay

1924

CHIEF OF PARTY:

R.R Lukens

DESCRIPTIVE REPORT

for

HYDROGRAPHIC SHEET #L - - - - -CANOE BAY

U.S.C.G.STEAMER PIONEER - - -R. R. LUKENS, COMDG.

S. W. ALASKA 1924

DESCRIPTIVE REPORT

HYDROGRAPHIC SHEET FIELD NO. "L"

U.S.C.&G.S.S. PIONEER R. R. LUKENS - CMDG.

1924

LIMITS: Longitude 161° - 06' - 161° - 24'
Latitude 55° - 31' - 55° - 37'

GENERAL DESCRIPTION: This sheet embraces that area known as Canoe Bay. This body of water lies directly to the eastward of the head of Pavlof Bay and is entered through a very short and narrow channel. The distance from shore to shore is but one hundred fifty meters at the narrowest point in the channel. It may be said that the passage between Pavlof and Canoe Bays is typically a"bottle-necked" one. The length of the bay extends in a southeasterly direction a distance of about five miles. The body of this bay is about two miles in width.

SURVEYING METHODS: The sounding was done by two launch parties; one in charge of Lieut. (jg.) Itter and the other in charge of Lieut. (jg.) Bloomberg. In general the hand lead line was cast in depths up to fifteen fathoms, and the machine lead method of sounding was used in greater depths. Mr. Bloomberg's launch was equipped for hand lead sounding only, the other launch being equipped with a wire sounding machine. Some sounding were therefore made by the use of a long leadline. The triangulation and topographic signals furnished splendid control for the hydrography executed in this bay.

BOTTOM: In general the bottom is smooth and regular. There were no "jumpy" soundings taken in offshore waters. The bottom near the shores is sandy. The larger part of the bottom area, that is to say the large central section of deeper waters of the bay, has a sticky or mud bottom. The reason for this is readily seen upon examination of the topographic sheets and depth curves. The cup shaped hole which forms Canoe Bay is an ideal form for retaining all eroded materials that may be washed into it from the sides of the steep mountains which almost encircle the bay. The greatest depth sounded was forty fathoms. This is too great a depth for convenient anchoring of a ship but the inner end of this bay will provide a fairly good anchorage in about twenty fathoms of water. Between the entrance and the twenty fathoms curve the bottom is hard and does not afford good holding ground.

INSHORE DANGERS: The inshore waters of the steeply sloping north shore are quite free from submerged boulders. This is especially to be remarked because the southern part of the bay close inshore is very foul. In fact, there are here found a

great many submerged boulders extending all the way from the entrance to the shallow water near the head of the bay. The waters of that bight of Canoe Bay between the triangulation stations "Half" and "Point" are very foul. A few lines of hydrography were run in this bight, and although no very thorough survey was made, the running of these lines indicated that this bight is too shoal for safe navigation of even small launches. A reef awash at half tide extends off the point on which triangulation station "Half" is located. This is one of the greatest dangers to inshore navigation to be found in the bay.

TIDAL DATA: All soundings on this sheet were reduced from the Canoe Bay tide staff records. The location of the staff is shown on the hydrographic sheet. A tidal comparison was made with the King Cove automatic gauge for determination of the plane of mean lower low water. The comparison showed that high and low waters occur one hour and six minutes later in Canoe Bay than they do at King Cove. A comparison with the Settlement Point gauge results shows that the tide in Canoe Bay also lags behind that of Pavlof Bay by about one hour and six minutes.

CURRENTS: A current of five to seven knots estimated maximum strength is found in the entrance at certain stages of the tide. From rough observations slack water in this passage was observed to occur just about the time of high water in Canoe Bay.

BARS AND CHANNELS: A middle ground with least depth of three fathoms lies W x S (true) one half mile off the Canoe Bay entrance. The best wat to enter Canoe Bay is to sail in deep water until Canoe Bay entrance bears N. 58° E. (T.). Then hold this course through the entrance and remain on course until the vessel has left the entrance one third nautical mile astern. Then change course to S. 73° E. (T.). Sailing this course will soon take a vessel into twenty fathoms of water. The least depth found on these courses is twenty-three feet, which is also the limiting depth for entering the bay.

Respectfully submitted

P.R. Lukens
for
C.J. Ritter

STATISTICS SHEET

U.S.C.&G.S.S. PIONEER R. R. LUKENS Cmmdg.

Date 1924	Letter	Volume	Positions	Soundings	Statute Miles	Vessel
Sept.3	A	1	167	435	22.7	M.S.#1
Sept.4	B	1	166	400	16.5	M.S.#1
Sept.5	C	2	12	85	2.2	M.S.#1
Sept.4	A	1	137	492	17.0	M.S.#2
Totals			482	1412	58.4	

Field Records

Division of Hydrography and Topography: January 5, 1925

Division of Charts:

Tide ~~reducers~~ reductions are approved in
3 volumes of sounding records for

HYDROGRAPHIC SHEET 4581

Locality: Cance Bay, Pavlof Bay, S.W.Alaska

Chief of Party: R R Lukens
Plane of reference is Mean lower low water, reading
2.7 ft. on tide staff at Cance 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 beginnding 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 tubeused not stated.
11. Sounding tube No. entered in column of"Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks

G Rude

Chief, Division of Tides and Currents.

✓

Section of Field Records.
Report on Hyd. Sheet 4381
Canoe Bay, Alaska Peninsula.

Chief of Party: R. R. Lukens
Surveyed by: C. J. Utter and H. L. Bloomberg
Date of Survey: Sept. 1924
Scale: 1:20,000
Protracted by: C. L. Nyman
Soundings Plotted by: C. L. Nyman
Verified and Inked by: John C. MacNab

Records:

In general the records were very clear and complete however there are several omissions and errors to be noted.

1. In several instances the location of the starting point of a new line of soundings was omitted.

2. The course of the launch was omitted throughout entire records.

3. Bottom specimens were scarce in about two thirds of the records. A minor detail was the abbreviation of sticky, as stky and in the Dep't Inst. Para 300, stk is specified.

The organization of the party, check of instruments, etc appear at the beginning of each day's work and the required totals, etc appear at the end of each day's work.

Protracting:

The protracting was accurate.

Soundings:

Time intervals were carefully adhered to except in a few cases.

In many instances more soundings were added to the sheet from the records by the verifier.

As to value nearly all soundings had to be changed because of a change in the tide reducer affected in the office.

Development:

The development in channels and on shoals were sufficient for the requirements of this survey.

Remarks:

1. A group of three rocks near ⊙Ter are plotted on the smooth sheet and appear to have been transfered from the Topographic Sheet. A sounding line runs directly across these rocks and no mention is made of them in the records.

2. At the junction of the work done by the two launches the lines of soundings forming the junction are exactly on top of each other, yet the soundings of one launch appear to be consistantly one fathom deeper than those of the other launch.

3. The drafting conformed to Gen'l Inst. for field work except in a few cases.

(a) "The low water line and other features outside of high water line should, however, be left in pencil until the hydrography is plotted." (Para 319 Gen. Inst.)

(b) The pencil used was too hard (Para 329 Gen. Inst)

The sheet was clean and legible.

The protracting of Mr C.L. Wyman was particularly commendable.

Respectfully submitted,

J.C. MacNab.

January 31, 1925.

ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY

AND REFER TO No. 4-DRM

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

WASHINGTON February 11, 1925.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No.4381

Canoe Bay, Alaska Peninsula

Surveyed in 1924

Instructions dated February 8, 1924.

Chief of Party, R. R. Lukens.

Surveyed by C. J. Itter and H. L. Bloomberg.

Protracted and soundings plotted by C. L. Nyman.

Verified and inked by J. C. MacNab.

√1. The records conform to the requirements of the General Instructions, except that boats' courses were omitted throughout, and bottom characteristics were noted on less than one-half of the pages.

√2. The plan and character of development satisfy the specific instructions.

3. The junction with the adjoining survey at the entrance to the bay cannot now be stated as the outside work has not been plotted. The junction of the work done by the two launches on this sheet shows that the soundings done by Launch No. 2 are uniformly 1 fathom deeper than those obtained by Launch No. 1. As a careful examination of the tidal data shows no difference in the planes used by the two launches, it is assumed that the apparent error is restricted to the two lines that coincide.

√4. The information is sufficient for drawing the usual depth curves, except in the bight between points Half and Point. This bight is too foul to be navigable.

√5. The usual field plotting was done by the field party.

6. No further surveying is required within the limits of the sheet, except that additional development of the entrance to the bay would have been desirable.

√7. The character and scope of the surveying and field drafting are ~~excellent~~. very good

8. Reviewed by E. P. Ellis, February, 1925.

Approved -
R B
3/4/25.

GPO

Form 537
11—6813

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

4381

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 (4) 4381

State . . . . . ~~South Western~~ Southwest Alaska . . . . . .

General locality . . . ~~Pavlof Bay~~ Alaska Peninsula . . . . . .

Locality . . . . . Canoe Bay . . . . . .

Chief of party . . . . . R. R. Lukens . . . . . .

Surveyed by . . . C. J. Itter and H. L. Bloomberg . . . . . .

Date of survey . . . . . Sept. 1924 . . . . . .

Scale . . . . . 1 : 20,000 . . . . . .

Soundings in . . . . . Fathoms . . . . . .

Plane of reference . . . . . Mean Lower Low Water . . . . . .

Protracted by C. L. Nyman Soundings in pencil by C. L. Nyman

Inked by . . . . . Verified by . . . . . .

Records accompanying sheet (check those forwarded):

Des. report, 1 Tide books, ... Marigrams, 2 Boat sheets,

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

Data from other sources affecting sheet . . . . . .

Remarks: The depth curves on this sheet are drawn for 3,5,10,15, 20, and 30 fathoms