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Department of Commerce and Labor
COAST AND GEODETIC SURVEY

W. H. Hittman
Superintendent.

State: *Alaska*

DESCRIPTIVE REPORT.

Sydney Sheet No. **3694**

LOCALITY:

Passage Canal
Lower Part

1914

CHIEF OF PARTY:

Albert T. Rude

11-4845

3694

HYDROGRAPHIC SHEET X 3694

Scale 1:10000

PASSAGE CANAL

PRINCE WILLIAM SOUND

ALASKA

Point Decision to Billing's Delta

Steamer TAKU, Season 1914

June 23 - Aug. 7

Gilbert T. Rude, Chief of Party
and hydrographer.

Positions plotted by R. C. Briggs, Aid

Soundings " " Raymond V. Miller, Aid

Projection by R. C. Briggs, Aid

Tide Gauge - Passage Bay

Soundings in Fathoms

DESCRIPTIVE REPORT.

to accompany

Hydrographic Sheet No. 3694

Passage Canal, Alaska,

From Point Decision to Billings Delta.

Steamer TAKU, Season 1914.

Gilbert T. Rude, Chief of Party and Hydrographer.

DESCRIPTIVE REPORT.

to accompany

Hydrographic Sheet No 3694

Scale 1:10,000.

Passage Canal, Point Decision to Billings Delta,

A L A S K A .

Steamer TAKU, Season 1914.

Gilbert T. RUDE, Chief of Party and Hydrographer.

Limits of sheet and time:

This work was begun on June 23rd and completed on August 7th. This time was not spent wholly on this sheet. Work was done on Sheets A and C at various times during this period.

The hydrography within the limits of this sheet extends from Point Decision to Billings Delta, joining at the latter place work executed by the Taku in 1913 and including Poe and Passage Bays.

Character of bottom:

The bottom is mostly blue glacial clay, changing to rocky close inshore, and up the main channel is generally very even. In the Canal proper the deep water extends practically from shore to shore, the hundred fathom curve lying close in to shore, except off Logging Camp Bay, Gradual Point and Station Saw. At the first named place a shoal area extends a short way off shore, the one hundred fathom curve lying one half mile off. Off Gradual Point this curve swings well over toward Passage Bay. I am inclined to the theory that this shoaling is due, not to a lateral moraine, left from the junction of two glaciers, but to the deposit of sediment in an eddy. Undoubtedly the tidal current, entering the Canal and making

the turn around Point Decision, swings over toward the north shore east of Poe Bay; thence across toward Passage Bay when making its next turn, leaving an eddy off Gradual Point. The same reasoning would hold good for the shoaling of the water off Station Saw, where the one hundred fathom curve again swings well offshore.

Bays:

Poe Bay, indenting the north shore of the Canal about a mile east of Gradual Point, is deep in the main Bay, shoaling abruptly at the head, due to the deposit of glacial mud from Poe Glacier.

Work was done in the outer part of this bay with the Taku; at the head and along the shores with the whaleboat.

Passage Bay, indenting the south shore of the Canal, is long and narrow, averaging about thirty fathoms in depth ~~up~~ up the main bay and fifteen fathoms in the hollow under Neptune Point.

The Bay is clear except for the rocks at and near Signal Beacon at the head of the bay and the rock covered by four feet of water at Lower low water one half mile 227 degrees true from Point Neptune.

The least water was obtained at this last named rock by feeling around with handlead in dinghy and following the lead to the summit of the pinnacle.

Rocks and shoals:

No rocks nor shoals lie within the limits of this sheet except the rock mentioned above just inside Neptune Point.

Anchorage:

Good anchorage with swinging room for one vessel up to three hundred and twenty-five feet in length and maximum draft, may be found in Pas-

sage Bay in the hollow just inside Neptune Point in fourteen fathoms, mid bottom.

Fair anchorage with swinging room for one vessel up to three hundred and twenty-five feet in length and maximum draft, may be found in fourteen fathoms, gravel bottom, at the head of Passage Bay.

Control and Signals:

This work is controlled by the main scheme of triangulation executed by the party on the Taku during this season, together with intersection stations Spot, Sharp, Tag, Trap, Rag, Isle, Dab, Bur, No, Rub, Decision, Tit and Tri, and also the following stations located by plane table: Flange, Quartz, Water, Flart, Fling, Pig, Scot, Bil, Fin, Cow, Lion, Look, Get, Prob, Dead, May, Be, Name, Lo, Donk, Log, Pug, Hi, Yellow, Whit, Pen, Off, Term, Jon, Pie, So, Out, Prox, Bing, Ped, Lat, White, End, Flirt, Stub, Nose, Camp, Tide, Head, Wrap, Flig, Wash, Patch, Boulder, Range, Tar, and Near. These topographic stations are shown on Topographic Sheets Nos, B, C and D, Passage Canal.

Aids to Navigation:

Should Passage Canal become important commercially it is recommended that an Acetylene Light be established on Point Decision; a post light on the small point just inside Point Neptune to assist in entering that little anchorage; and a buoy on the rock, 4 feet at L. L. W., one half mile 227 degrees true from Point Neptune.

No other aids to navigation are considered necessary over the area covered by this sheet.

Methods:

No unusual methods were used in the execution of this work. A Cosmos sounding Machine was used on the ~~Taku~~ for all deep work, the steamer backing up for each sounding. A Bassnett Pressure Tube was used in a few places- along the shores and running into Passage Bay when in less water than thirty-five fathoms. This tube is not considered reliable for survey purposes beyond that depth.

Whaleboat work using handlead was done in the following places: Along the shore and in the coves between Stations Rag and Bur; along the shore from Station Bur to the head of Passage Bay; at head of Passage Bay; over the shoal area on the east side of Passage Bay one half mile inside Point Neptune; in the two coves one mile west of Point Decision; around Point Decision; along the shore from Station Spot to Logging Camp Bay and into this bay; at the head of and along the shores of Poe Bay; and along the shore from Poe Bay to Station Trap.

Shores:

The shores bordering these waters are generally ~~are generally~~ clear, with few offlying rocks or islands. The land rises directly from the water to an elevation of from two to three thousand feet.

These characteristics, together with its lack of any strong surface current, renders it an ideal channel for navigation.

No drift ice has ever been seen by the party on the TAKU in any of the waters covered by this sheet.

Sailing Directions:

Sailing Directions covering this Canal are embodied in my Season Report dated November 27th, 1914

Office Work:

Projection for fair sheet was made in the Seattle Office; soundings and positions plotted, and depth curves drawn by the field party.

The soundings are plotted on the sheet in fathoms.

Names:

The following names are official and appear on Chart 8550: Point Decision and Passage Canal. The following were supplied by the Chief of Party: Logging Camp Bay, from logging camp at this place during the summer; Poe Bay and Poe Glacier, for the post; Billings Delta, named for the Glacier of that name; Trinity Point, the point on which Station Dab is located; Emerald Isle, the small island on which Station Iale is located; Bur, the west point at the entrance to Passage Bay; Neptune Point, the east point at the entrance to this Bay; and Passage Bay.

Respectfully submitted,

Gilbert J. Rude.

Assistant, Coast and Geodetic Survey,
Chief of Party and Hydrographer.

STATISTICS FOR SHEET 3694

Scale: 1:10000

PASSAGE CANAL ALASKA

STEAMER TAKU SEASON OF 1914

| Date | Letter | Volume | Soundings | Miles | Angles | Vessel |
|---------|--------|--------|-----------|-------|--------|-----------|
| June 23 | a | 1 | 20 | 4.5 | 40 | TAKU |
| " 25 | b | 1 | 94 | 7.3 | 168 | TAKU |
| " 26 | c | 1 | 69 | 10.7 | 122 | TAKU |
| July 1 | d | 1 | 26 | 4.5 | 42 | TAKU |
| " 2 | e | 1 | 48 | 6.5 | 62 | TAKU |
| " 9 | f | 1 | 113 | 13.6 | 188 | TAKU |
| " 14 | g | 1 & 2 | 113 | 14.5 | 198 | TAKU |
| " 15 | h | 2 | 41 | 4.1 | 66 | TAKU |
| " 18 | i | 2 | 70 | 4.2 | 60 | TAKU |
| " 20 | k | 2 | 168 | 13.4 | 236 | TAKU |
| Aug. 1 | l | 2 | 83 | 5.0 | 114 | TAKU |
| " 3 | m | 2 & 3 | 299 | 16.9 | 338 | TAKU |
| " 4 | n | 3 | 123 | 8.7 | 146 | TAKU |
| " 6 | o | 3 | 25 | 2.9 | 46 | TAKU |
| " 7 | p | 3 | 1 | -- | 2 | TAKU |
| July 21 | a | 1 | 358 | 8.3 | 164 | Whaleboat |
| " 22 | b | 1 | 159 | 4.0 | 98 | Whaleboat |
| " 23 | c | 1 | 341 | 5.4 | 166 | Whaleboat |
| " 29 | d | 1 & 2 | 456 | 11.6 | 278 | Whaleboat |

VEC
Jan. 6, 1915

HYDROGRAPHIC SHEET 3694.

Passage Canal, Prince William Sound, Alaska, by
Assistant G. T. Rude in 1914.

TIDES.

| | Passage Bay ft. |
|---|--------------------|
| Mean lower low water, or plane of reference on staff | 4.1 |
| Lowest tide observed " " | 1.2 |
| Highest tide " " " | 18.6 |
| Mean range of tide | 9.6 |

Hyd. Sheet No 3694

The ground within the limits of this sheet has been systematically covered and shoal areas well developed.

The records were clear and carefully kept.

R. L. Johnston

Verified

Feb, 1915.

Soundings plotted in fathoms.

Protracted by field party.

Plotted by field party.

Verified and inked by R. L. J.