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U. S. COAST AND GEODETIC SURVEY.

Henry S. Pritchett, Superintendent.

State: *Alaska.*

Reconnaissance.
DESCRIPTIVE REPORT.

Topographic Sheet No. *(2328)*
(2329)

LOCALITY:

Delta of the Yukon River
Aphoon Pass
Kwikpak & Kussilvak

1898.

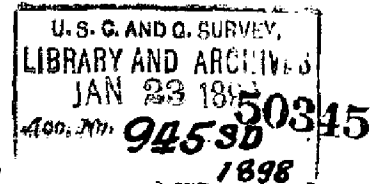
CHIEF OF PARTY:

J. F. Pratt.

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U. S. Coast & Geodetic Survey,

Dr. H. S. Pritchett, Superintendent.

Reconnaissance

in two sheets

of the

Delta of the Yukon River,

The Aphoon Pass on a scale of $1/30,000$,

and the

Kwikipak and Kussilyak on a scale of $1/50,000$

by the officers

of the

U. S. C. & G. Steamer Taku,

in command

of

G. R. Putnam, Assistant,

during

August and September,

1898.

J. F. Pratt, Assistant,

Chief of party.

(Title and six pages)

Reconnaissance of the Delta of the Yukon River, Alaska.

Descriptive Report.

Control:-

These sheets are based on observations made during the first voyage of the "Taku" from St. Michael to the Kusilvak Mouth, with additions during the return and second voyages and some information collected from the Eskimos (shown dotted). The control depends entirely on the triangulation station at Kotlik, the very approximate astronomical determination at Head of Aphoon, and the astronomical station at Kwiklokchun. the work was plotted from compass readings taken every two minutes and patent log distances, with an estimated allowance for current and the whole was finally adjusted between the fixed points; as no position could be obtained near the head of the Delta, without delay, this part of the sketch is most uncertain, in position; also because of the wide extent of bars and channels it was difficult to estimate the width of the river in this portion. It is assumed that the Taku went practically to the head of the Delta, although as is seen, the river was still divided into several channels close together.

Main Channels and Depths:-

As far as examined, both both the Kusilvak (native

Kwiklowak or "old river") and the Kwikpak (native for "great river") have remarkably good channels which are easy of navigation and free from rocks and snags, no shoals were found except where the Taku was apparently out of the channel. The Kusilvak appeared to carry much the larger volume of water, and apparently has a minimum depth of about 20 feet in the channel to the head of the Delta. There are several stretches where the depth is over 50 feet, and opposite the Catholic Fishing Station no bottom was found at 60 feet.

The Aphoon:-

The (pronounced Ap-hoon) is a narrow and tortuous channel averaging less than one third of a mile in width and about 36 miles (statute) in length from the mouth to where it leaves the Kwikpak. The Eskimo name is also Kwikpak. The channel is rather difficult from the entrance to opposite Kotlik, the worst place being the shoals at the mouth of the Kotlik River, there is a narrow channel here (five feet at low tide) close to the lower point of the island in front of Kotlik. Above this there is good water and no difficulty except between the shoals where the Okwego makes off (about 7 feet here) and again about a mile below where the Aphoon leaves the Kwikpak: the steamers go between the bars here with about five feet close to the upper edge of the lower bar. In several of these more difficult

places it is said the channel has changed within recent years. The old companies do not load their ^{boats} to more than about five feet draft, when sending them up the Aphoon.

The Okwega:-

The Okwega is an outlet to the sea, forming an island west of the Aphoon: the Eskimos state that one river steamer came into the Okwega from Berings Sea this season.

The Aproga:-

Deep narrow channels are characteristic of the delta country. One of the most remarkable of these is the A-prō-ga or A-prō-ga'-ōk, forming a short cut across the delta between the Kwikpak and Kusilvak, this was used by the Yukon and Taku several times this season, being about 7 miles in length, whereas it is 47 miles to go between the same points by way of the head of the delta; this channel is as much as 40 feet deep in places, while averageing only about 75 metres in width: there are difficult shoals where it joins the main river at each end, with about four feet at each place at low tide.

Utakaht:-

The Utakaht is a similar channel about two and one half miles in length, cutting off the great bend in the Kusilvak; it is deep and narrow and has good water at both ends.

Other small Channels:-

Of other Channels that have been navigated, by small steamers, (as that belonging to the Catholic Mission) there may be mentioned ~~the~~ Kravak'sarok (or little Aphoon) and the Nunachik connecting the Aphoon with the Kwikpak; and the Akularak, which leaves the Kussilvak above the great bend and rejoins it again (then called the Kwemeluk) at the Kussilvak mouth. The Akularak is thus really the most southerly channel of the Yukon. The entrance to the Akularak is said to be difficult, with only about four feet of water.

Elevated Land:-

The only elevated land in the delta country is found between the Akularak and its branch the Kauelik, apparently low flat topped hills, which may be seen from near the Kussilvak Mouth, from where they appear as a plateau.

Head of Delta:-

At the head of the Delta, the river is apparently three or four miles wide between its wooded banks, with numerous bars and channels. This portion of the river is called by the Eskimos Ne-ra-luk. There is apparently a tide of about eighteen inches here.

Soundings:-

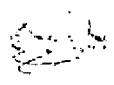
The soundings on these reconnaissance sketches have not

been corrected for tide, except that at the critical points the lowest observed depths found during the several voyages, are given.

Vegatation:-

The shores are in general covered with a thick growth of willow and alder bushes with occasional clumps of high cottonwoods; the latter forming prominent landmarks. The banks are usually abrupt and rapidly caveing in on the channel or outer side of the curves.

Population:-

Eskimo settlements as far as known have ^{been} named on the  sheets. The population is very small compared with that near the mouths and most of the settlements are rather temporary in charecter. The only white men living in the delta, aside from temporary camps of the miners, are at Kotlik, (a few ^{Rusian} half breed traders), at Fort Hamilton, (said to be a post of the N.A.T. & T.Co.) and at the Catholic Mission on the Akulárak (temporially abandoned). According to the Eskimos there is no land on the lower portion of the Kussilvak Channel which is not subject to overflow during the spring floods. The land a short distance up the Kwemeluk from the mouth appeared to be above the flood level.

Currents:-

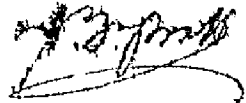
Two current observations were made; Aug. 24, 1888 12 30

P. M. near sharp bend in Aphoon C, 90 knots per hour; Aug. 3, 1898, 4 50 P.M. Kwikpak Channel 2 miles above the Aphoon, 0,95 knots per hour. Very little lurrent was generally found in the narrow passages.

Commerce:-

The regular river steamers all follow the Aphoon and Kwikpak channels, probably in about the route taken by the Taku.

(For further notes, see Descriptive Report of Aphoon Entrance Sheet.)



Assistant.

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COAST AND GEODETIC SURVEY

Henry S. Prichett
Superintendent.

State: *Alaska*

DESCRIPTIVE REPORT.

Topic Sheet No. *2329*

LOCALITY:

Delta of the Yukon River
Upoon Pass
See

2328

1898
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CHIEF OF PARTY:

J. T. Pruss

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