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Department of Commerce and Labor
COAST AND GEODETIC SURVEY

J. H. Wittman
Superintendent.

State: *Alaska*

DESCRIPTIVE REPORT.

Hyd. 3001
Sheet No.

LOCALITY:

*Head of Orea Bay,
Prince William Sound*

1909

CHIEF OF PARTY:

Gilbert I. Rude

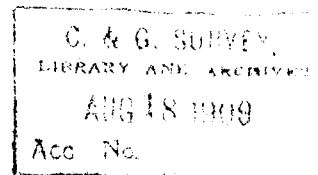
3001

DESCRIPTIVE REPORT to accompany Topographic Sheet showing

Head of ^{Orca}~~Cordova~~ Bay, Alaska.

Gilbert T. Rude, Asst.

Chief of Party



3901

Topography by

Alden Wells, Aid.

METHOD. The survey was made by the plane table stadia method. Scale 1 / 10,000. Contour interval - 50 feet, heavy lines 250 feet apart. The work was done during the month of June, 1909. While engaged in the survey of that part of the bay shown on the south end of the sheet the party lived on board the Steamer Taku. While busy near the head of the bay and lower part of the valley extending from it the party lived at the house of Mr. A. B. Cooper near high water mark at the head of the Bay. While engaged on the work shown at the north end of the sheet the party lived in camp about two miles up Cordova Creek. The swift currents in that Creek and the dense brush made it necessary for the party to live near their work. The tidal mud flats at the head of the Bay also hindered the party.

CONTROL. The topography is controlled by a scheme of tertiary triangulation run up to the head of the bay and up the valley for that purpose.

MOUNTAINS. Mountains rise on both sides of the bay and valley to heights of about 2500 feet. These mountains were observed upon in connection with the triangulation. The topographic sheet shows only the slopes.

SHORES OF BAY. On either side the bank rises steeply from the water. In many places there is no beach between high and low water line. Shores are rocky with occasional spits of shingle.

SEA WATER. The water in this part of the bay is opaque and grey due to sediment of glacial deposit. Unable to see bottom at a depth of two feet.

STREAMS. Many small streams flow into this part of the bay from the valley at its head.

VOLUME AND VELOCITY. Estimated volumes are marked on the principal streams, expressed in gallons per minute. To assist in estimating streams one stream from the falls back of A. B. Cooper's house was selected. This is the first stream on the east side of the valley beyond high water mark. The velocity was measured by timing a float several times over a measured distance. The cross section of this stream was measured, and the volume computed. Other streams were estimated by comparison with this. Estimated velocities, determined in the same way, are marked on some of the streams flowing through the valley at the head of the bay. These velocities are marked with an arrow point and a number expressing miles per hour. Volumes are subject to a wide variation with season and weather.

WATER OF STREAMS. After the glaciers in the canyons at the head of the valley begin to work in the spring the water of Cordova Creek is gray in color, opaque, due to fine sediment carried by it. Much of this sediment is so fine that it is very slow to settle in quiet water. The water of Lake Creek is slightly clearer. The water of the small streams from the mountains is clear.

STREAM BEDS. The bed of Cordova Creek is composed of black sand and black and gray gravel. That of the upper part of Lake Creek of red sand stone gravel.

BOATS IN STREAMS. Small boats can be taken up Cordova Creek for about two miles or more, and up Lake Creek to the point where it forks. To do so it is necessary to line the boats from shore. It takes a party

of four men about two hours to take a boat a mile up stream. The swift current and the brush on the banks makes this work slow.

WATERFALLS. Notes on sheet indicate the position and approximate heights of the principal waterfalls. It was found impracticable to determine the positions of a few of these falls with the plane table on account of dense brush, but the approximate position is shown.

TIMBER. The location of timber is shown by notes on the sheet. Much of the low flat land in the valley is covered with dense alder brush. On the west side there is a scattering of hemlock and poplar in this brush. The lower mountain sides along the shores of the bay are covered with timber, small and poor. The mountain slopes on either side of the valley north of the bay are covered to a height of about one thousand feet with ~~SPRUCE~~, of good quality and from one to two feet diameter.

TIDAL MUD FLATS. These flats at the head of the bay extend out from high water mark about a mile and are not covered till three quarter tide. At low tide they may be crossed. Cordova Creek and other streams spread out into many small streams when crossing these flats.

VALLEY LANDS. For about a mile above high water mark the flat land in the valley is open, marshy, streaked with gravel beds, and crossed by many small streams besides the large ones shown on the sheet. For about a mile above this the valley is filled with dense brush. Where Cordova Creek divides into several streams about two miles up the valley as shown near end of the sheet, there are many stretches of gravel land amongst the brush and the whole is crossed by dead streambeds. The location of these streams probably changes frequently.

ELEVATIONS. Elevations were carried up the main stream with the plane table. The elevation of many stations ~~is~~ shown on the sheet. Also elevations of many points on mountains are shown. There are no special rapids in the main streams except in one place where there is a note to

show the small falls. This point is on the east side of the valley near the end of the sheet.

MINES. A copper mine on the mountain slopes on the east side of the valley was plotted with protractor from angles taken with theodolite. This mine is owned by the Cordova-Tacoma Copper Co. There are other claims staked on this side of the bay.

Alden Wells
Aid.

Approved

Gilbert J. Rude.

Asst., Chief of Party.

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Hyd Sheet No. 3001.

Sept. 30, 1909.

The ground is fairly well covered with the exception
of the area between the shoreline and the 120 ft curve.
The records were kept in a satisfactory manner.

H. L. Simons