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Department of Commerce and Labor
COAST AND GEODETIC SURVEY

Superintendent.

State: *Alaska*

DESCRIPTIVE REPORT.

Top.

Sheet No. *3311*

3312

LOCALITY:

Alaska - West Coast
Cape Arwenham to Chagran Bay
and
Chagran Bay to Goddard Bay

1912

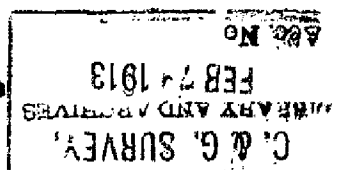
CHIEF OF PARTY:

R. S. Patton

11-4645

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Topographic Sheet Chagvan Bay to

Cape Newenham Alaska

U. S. S. EXPLORER

August 1912

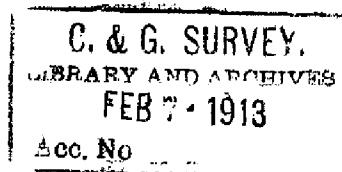
R. S. Patton, Assistant

Commanding

Scale1: 20 000

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3312



Topographic Sheet - Goodnews Bay to

Chagvan Bay Alaska

U. S. S. EXPLORER

R. S. Patton, Assistant

Commanding

July & August 1912

Scale 1: 20 000

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Descriptive Report.

To accompany topographic sheets A and B,
Survey of approaches to Yukon River, Bering Sea.

Sheet A, Goodnews Bay to Chiguan Bay
Sheet B, Chiguan Bay to Cape Newenham.

As a special report has already been made covering this region, and containing, among other information, much that would otherwise be incorporated in the descriptive reports, the scope of this present one will be limited to technical matters relative to the survey. Also, as the methods used were largely the same for both sheets, one report is made covering the two.

Sheet A, at its northern limit, joins on to the survey made by the party of 1911. The junction is only approximate; the limits of the previous work were taken from a previous sketch, and the present work began on the shoreline near that point.

No triangulation had been done over the area to be surveyed, which was, therefore, entirely without points of control. The instructions for the work were to do no triangulation, but merely run a traverse along the beach, sketching the shoreline, and locating such objects as could

be used in the hydrography. (To more detailed topography than this was to be done.)

To obtain a starting point for the traverse, a triangulation station (Δ Soz) was established near the southern limit of the previous season's work, and the traverse started from this point. The plane table was used at first, but it was soon evident that the plane table was unsuited for work under the prevailing weather conditions. Constant misty rain and fresh breeze so delayed the work that in ~~the~~ three weeks the traverse was carried ahead only six miles, and even at that distance there was some evidence to show that it was slightly in error. It was decided, therefore, to continue the traverse by means of the transit and stadia.

On sheet A, therefore, the work between Δ Soz and $\circ$ Black was done with the plane table, and the remainder by transit and stadia. On sheet B, the transit and stadia were used throughout. To obtain a starting point for the transit and stadia traverse, the position of $\circ$ Black was scaled from the sheet, and the azimuth computed from a long orienting line to an adjacent signal.

As this traverse progressed, it became increasingly evident that it was in error, and therefore, late in the season, it was decided to determine, by triangulation, sufficient intersection stations along its course to furnish points of control for its adjustment.

The method of adjustment was as follows:

The traverse as run, was divided into two sections;
 o Black to Δ Pin, and o White to Δ Ham. The gap between Δ Pin and o White, Security Cove, was surveyed by a second party. This Security Cove work was an expansion of the base = Δ Pin to Δ Tell, and the position of o White was, therefore, well determined. The position of o Black was determined by triangulation. Each half of the traverse, therefore, began and ended on a known point. The traverse was computed, and the difference between the positions of stations Pin and Ham, as determined by triangulation and traverse respectively, was taken as the error of the traverse. These errors, as they appeared to be systematic, were distributed throughout the traverse in proportion to the distance from the origin.

The sheets are accompanied by the record books and computation of the traverse.

The work was done by Mr. A. M. Trueblood, who, however, was detached from the party before his reports were written.

Statistic of sheets: Shoreline, A, 17 miles, B, 17, miles.

Respectfully submitted,

R. S. Patton,
 Chief of Party