4715

Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

R.S.Patton, *Director*

State: Alaska

DESCRIPTIVE REPORT

Topographic | *Sheet No.* 4715
~~*Hydrographic*~~ | "A"

LOCALITY

Behm Canal - Revillagigedo Channel

Cone I., to Rudyerd I.

19 32

CHIEF OF PARTY

G. C. Jones

U. S. GOVERNMENT PRINTING OFFICE: 1931

DESCRIPTIVE REPORT

TO ACCOMPANY TOPOGRAPHIC SHEET "A",

BEHM CANAL - REVILLAGIGEDO CHANNEL

S. E. ALASKA.

INSTRUCTIONS:

The work done on this sheet was authorized by the Director's Instructions for Project No. HT-99, dated March 24, 1932.

PURPOSE:

The purpose of the topographic survey was to locate and show the nature of the shoreline, islands, rocks, and reefs within the limits of the sheet. Also, to furnish control for the hydrography done in this vicinity.

LIMITS:

This sheet extends from triangulation station "SHARP", 1931, Latitude 55°20.7', Longitude 131°01.25', to triangulation station "CONE" 1914, Latitude 55°14.6', Longitude 131°19.4', on the West side of Behm Canal and the North side of Revillagigedo Channel; from triangulation station "NELSON", 1929, Latitude 55°17.7', Longitude 130°56.6', to triangulation station "RED 2", 1929, Latitude 55°11.9', Longitude 131°05.0', on the East side of Behm Canal. It also includes Twin Islands and Hog Rocks.

CONTROL:

The topography was controlled by the second order scheme of triangulation in Behm Canal executed by J. M. Smook, Chief of Party, in 1929, and by additional triangulation executed by G. C. Jones, Commanding Str. EXPLORER, in 1932.

All triangulation is based on the North American Datum.

SURVEY METHODS:

The usual plane table survey methods were used. In general the topographic signals were located by two or more cuts from triangulation stations and verified by traverse when the shore line was run in.

A combination traverse and resection method was used in locating the shore line, low water line, and other topographic details.

A traverse was run from topographic signal "CON", Latitude 55°13.6', Longitude 131°17.3' to triangulation station "CONE", 1914, on the North side of Revillagigedo Channel.

Only one cut from a triangulation station was available for locating some of the topographic signals and shoreline between triangulation station "LUCK", 1914, and topographic signal "CON". A three point fix was obtained at "CON" and the traverse adjusted to that point.

All closures were well within the limit as allowed by the required Standard of Accuracy.

All rocks and reefs were located by rod readings.

FORM LINES:

All elevations on this sheet were determined by the usual plane table method. Each elevation was determined by two or more cuts.

The shore line of Rudyerd Island was traced from Topographic Sheet "G", 1931, as an aid in drawing the form lines for this island.

All elevations obtained on the East side of Behm Canal were transferred to Contour Sheet "C", 1932.

COMPARISON WITH PREVIOUS SURVEYS:

Topographic Sheet "G", 1931, scale 1:20,000. The shore line between triangulation station "NARROWS", 1931, and triangulation station "TRY" 1929, on the West side of Behm Canal and the shore line from topographic signal "NUT", Latitude 55°15.7', Longitude 130°58.3', to triangulation station "EAT", 1891-1929, on the East side of Behm Canal was rerun at the suggestion of Chas. M. Thomas. Mr. Thomas did these sections of shoreline hurriedly and suggested that they be checked this season. However, no appreciable discrepancy was noted.

Topographic Sheet No. T-3548, scale 1:20,000. The shoreline around Point Alava from topographic signal "FITZ", Latitude 55°12.4', Longitude 131°08.75' to triangulation station "LUCK", 1914, as shown on sheet T-3548 differs from zero meters to one hundred meters from the shoreline as shown on this sheet. Also, there is some differences in the location of rocks and reefs within this section. This sheet is more accurately controlled than T-3548 and the topography carefully

executed. Also, all differences were carefully checked.

Topographic Sheet No. T-3547, C. G. Quillian, 1915, scale 1:20,000. The shoreline from topographic signal "JULY", Latitude 55° 13.7', Longitude 131°16.6' to triangulation station "CONE", 1914, on sheet T-3547, differs as much as eighty meters in places from the shore line as shown on this sheet.

There is also some slight differences in the shoreline, rocks, and reefs at Twin Islands and Hog Rocks. All of these differences were carefully checked and verified.

GENERAL DESCRIPTION:

The shore line, and slope back of the shoreline, on both sides of Behm Canal and the North side of Revillagigedo Channel is heavily wooded. The mountain tops are covered with grass and scrub trees or with grass and bushes.

Alava Bay is a large irregular bight in the shoreline two and three quarter miles Northeast from Point Alava. There are three heavily wooded islands in the Bay, 186, 150, and 130 feet in height. Northeast of the easterly one of these islands and one-half the distance to Ape Point, a rocky reef bears six feet at M.L.L.W. Two hundred fifty meters East of the North end of this same island a rock extends four feet above high water.

Alava Ridge, extends from Alava Bay, in a Northwesterly direction rising slowly at first, then rapidly to a shoulder 1529 feet in height, and then slowly again to a height of 1876 feet.

Two miles North of Alava Bay, stands a steep round mountain 1731 feet in height. A deep and narrow valley extending from Alava Bay runs between this mountain and Alava Ridge. To the Northwest of the mountain and across a saddle approximately 1200 feet in height are several high peaks, the highest being 2352 feet in height. These peaks are sharp and irregular and are covered with small bushes with occasional rock outcrops.

As viewed from the South and Southeast, Point Alava, is a rounded point surmounted by a prominent nearly symmetrical mountain 1617 feet in height. Two miles to the North and a little to the West of this mountain is a prominent bumpy ridge-like mountain 2243 feet high. This is Saw Ridge and extends in a Northeast - Southwest direction. Between Saw Ridge and the mountain surmounting Alava Point is a deep

valley. North of Saw Ridge there is a round mountain peak 2050 feet in height. Notch Mountain, a prominent irregular topped mountain 1990 feet in height, is one and one-half miles Northwest of Saw Ridge. Notch Mountain, slopes off rapidly to Thorne Arm on the Northwest.

About midway between Point Alava and Cone Point and one and one-quarter miles inland is Mound Hill. This is a cone-like hill 954 feet high and is fairly prominent to the South and West. About one-third mile East of Mound Hill is a similiar but lower hill.

Lucky Cove, is a small indentation in the shoreline two and three-quarters miles Southeast of Cone Island. A small wooded island 74 feet in height on the South side of the Cove gives fair protection to small craft anchored in the Cove.

From the South, Cone Island is quite prominent and shows up as a symmetrical dome about 450 feet in height. From the Southwest and West, this island blends in with Cone Point and is hardly distinguishable as an island.

In general, the slopes on the East side of Behm Canal rise gradually and steeply from the shoreline.

An abandoned cannery stands one-half mile East of triangulation station "EAT", 1929. Several small buildings and the dock piling are still standing.

Seven hundred meters Northeast of triangulation station "EAT", 1929 and three hundred meters Northwest of the old dock piling in front of the abandoned cannery a rocky reef extends four feet above high water.

Sykes Cove, just North of Sykes Point, is a narrow Cove about two hundred fifty meters wide extending in a Southwesterly direction. This Cove affords good protection for small craft.

Hog Rocks, are two groups of rocks about one mile apart, the highest being eight feet above high water. On the largest rock in the Easternmost group is Hog Light, a white square concrete structure.

Twin Islands, are low and wooded. The Southeastern Island is nearly round; the Northwesterly one is irregular and narrow, extending in a Northeast-Southwest direction.

All islands of any size within the limits of this sheet are wooded.

Where low water is not shown, the distance between high and low water is negligible.

DISTORTION:

No appreciable distortion was noted at any time, although the sheet was frequently tested. The sheet was well seasoned before the projection was made.

MAGNETIC OBSERVATIONS:

Magnetic observations were made at triangulation station "TRY 2", "PIX 2", and "ODD 2" with the declinometer.

An observation was made at triangulation station "NARROWS", with the declinitoire.

Respectfully submitted,

Ernest B. Levey

Ernest B. Levey,
Jr. H. & G. Engr.,
U.S.C. & G.S.S. EXPLORER.

APPROVED AND FORWARDED:

G. C. Jones

G. C. Jones,
Commanding Officer,
U.S.C. & G.S.S. EXPLORER.

LIST OF STATISTICS

Number of statute miles of high water line	52.0
Number of statute miles of low water line	23.2
Number of elevations determined	188

REVIEW OF TOPOGRAPHIC SURVEY No. 4715

Title (Par. 56) Cone Island to Rudyerd Island, Revillagigedo Channel, Behm Canal, Alaska

Chief of Party G. C. Jones Surveyed by E. B. Lewey Inked by E. B. Lewey

Ship Explorer Instructions dated March 24, 1932 Surveyed in May-June 1932.

1. The survey and preparation for it conform to the requirements of the Topographic Manual. (Par. 7, 8, 9, 13, 16.) ✓

2. The character and scope of the survey satisfy the instructions. ✓

3. The control and closures of traverses were adequate. (Par. 12, 29.) ✓

4. The amount of vertical control that the Manual specifies for -~~contours~~-formlines- was accomplished. (Par. 18, 19, 20, 21, 22, 23.) ✓

5. The delineation of -~~contours~~-formlines- is satisfactory. (Par. 49, 50.) ✓

6. There is sufficient control on maps from other sources that were transmitted by the field party to enable their application to the charts. (Par. 28.) none submitted.

7. High water line on marshy and mangrove coast is clear and adequate for chart compilation. (Par. 16a, 43, 44.) ✓

8. The representation of low water lines, reefs, coral reefs and rocks, and legends pertaining to them is satisfactory. (Par. 36, 37, 38, 39, 40, 41.) ✓

9. Rocks and other important details shown on previous surveys and on the chart were verified. (Par. 25, 26, 27.) ✓

10. ~~The span, draw and clearance of bridges are shown.~~ (Par. 16c.)

11. Locations and elevations of summits are given. (Par. 19, 51.) ✓

12. The tree line was shown on mountains. (Par. 16g.) ✓

NOTE: Strike out paragraphs, words or phrases not applicable and modify those requiring it. Paragraph numbers refer to those in the Topographic Manual. Use reverse side for extending remarks.

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13. The descriptive report covers all details listed in the Manual, in so far as they apply to this survey. (Par. 64, 65, 66, 67.) ✓ A note in Desc. Rep. states that "all differences [from previous surveys] were carefully checked."

14. The descriptive report also contains additional information required in aero-topography relative to type of photographs, method of compilation and type of ground control.

15. ~~The~~ No descriptions of recoverable stations and references to shore line were accomplished on Form 524. (Par. 29, 30, 57, 67 except scaling of DMs and DPs, 68.) Triangulation stations were placed about every two miles along the coast by a previous party.

16. ~~No~~ list of landmarks for charts was furnished on Form 567 and plotting checked. (Par. 16d, e, 60.)

17. The magnetic meridian was shown and declination was checked. ✓ (Par. 17, 52.)

18. The geographic datum of the sheet is North American 1927 and the reference station is correctly noted. ✓ (Par. 34.)

19. Junctions with contemporary surveys are adequate. ✓ Formlines on east side of Behm Canal are shown on T4717. Formlines on T3547 (west end of Revillagigedo Island) should be superseded by T4715.

20. Geographic names are shown on the sheet and ~~are covered by the Descriptive report~~. (Par. 64, 66k.) ✓ No new names recommended, all names shown were used on published charts

21. The quality of the drafting is good. (Par. 31, 32, 33, 35, 36, 37, 38, 39, 40, 41, 42, 45, 46, 47, 48, 49, 50.) ✓

22. No additional surveying is recommended. ✓

23. The Chief of Party inspected and approved ✓ the sheet and the descriptive report after review by

24. Remarks: The Descriptive Report notes discrepancies in former surveys. These sheets (T3547, T3548) should be superseded by T4715 so far as they cover the same areas.

Reviewed in office by R. J. Christman, Sept. 8, 1933.

Examined and approved:

K. T. Adams
Chief, Section of Field Records

F. S. Borden
Chief, Section of Field Work

L. O. Colbert
Chief, Division of Charts

G. R. Clarke
Chief, Division of Hyd. and Top.

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Form 537a
Ed. Nov., 1929

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 4715

TOPOGRAPHIC TITLE SHEET

The Topographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. "A"

REGISTER NO. 4715

State Alaska

General locality ~~Revillagigedo & Behm Canals~~ Behm Canal - Revillagigedo Channel

Locality Cone I., to Rudyerd I.

Scale 1:20,000 Date of survey May & June, 1932.

Vessel U.S.C. & G.S.S. EXPLORER

Chief of Party G. C. Jones

Surveyed by Ernest B. Lewey

Inked by Ernest B. Lewey

Heights in feet above M.H.W. to ground ~~to tops of trees~~

~~Contour, Approximate contour~~, Form line interval 100 feet

Instructions dated March 24, 1932.

Remarks: Work was done from chartered launch "CAPON" and from the ship with Tender No. 2.

GPO