4720

Diag. Cht. No. 8102-2

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Topographic

Field No. ..... Office No. 4720

LOCALITY

State S. E. Alaska

General locality East Side

Locality Duke Island

1932

CHIEF OF PARTY

G. Jones

LIBRARY & ARCHIVES

DATE March 20, 1933

B-1870-1 [1]++

4720

4720

4720

Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
R.S. Patton, *Director*

State: S. E. Alaska

DESCRIPTIVE REPORT

Topographic
~~*Hydrographic*~~ } *Sheet No.* 4720

LOCALITY

East side Duke Island - Ray
Anchorage - Horse Cove, S.E.
Alaska.

19 32.

CHIEF OF PARTY

G. C. Jones.

U. S. GOVERNMENT PRINTING OFFICE: 1930

DESCRIPTIVE REPORT

TO ACCOMPANY TOPOGRAPHIC SHEET "C"

EAST SIDE DUKE ISLAND - RAY ANCHORAGE - MORSE COVE

S. E. ALASKA.

- o -

G. C. JONES - CHIEF OF PARTY

SEASON OF 1932.

DESCRIPTIVE REPORT

TO ACCOMPANY TOPOGRAPHIC SHEET "C"

EAST SIDE DUKE ISLAND - RAY ANCHORAGE - MORSE COVE,

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 this 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 "FLAG" 1932, Latitude 54° 58.12', Longitude 131° 14.32' to triangulation station "DUKE" 1895-1915, Latitude 54° 55.0', Longitude 131° 11.37'. It also includes Morse Cove.

CONTROL:

The topography was controlled by the scheme of triangulation in Revillagigedo Channel, executed by E. F. Dickins, in 1895 and by additional triangulation executed by the party in 1932.

All triangulation is based on the North American Datum.

SURVEY METHODS:

The usual plane table survey methods were used. The topographic signals in Ray Anchorage were located by two or more cuts from triangulation stations. All other signals were located by traverse and verified by a cut from a triangulation station when possible.

In general, the traverse method was used in locating the shore line, low water line, and other topographic details. Traverse stations were verified whenever possible by resection from triangulation stations.

Morse Cove, was surveyed by a traverse run from triangulation station "ANCHOR" to the head of the Cove. To check the survey, an

independent traverse, using different stations, was run from the head of the cove back to triangulation station "ANCHOR".

All closures were within the allowable limit.

The low water line and all rocks and reefs were located by rod readings.

FORM LINES:

Elevations are referred to the ground. Fifty feet was used as the height of trees on Duke Hill, elsewhere sixty feet was taken as the height of trees.

All elevations were determined by the usual plane table method.

COMPARISON WITH PREVIOUS SURVEYS:

Bromide 2104b, scale 1-10,000. The greatest difference noted was in the bight, 0.4 mile south of triangulation station "ANCHOR". As shown on sheet "C", the bight extends 140 meters farther in a westerly direction. The beach is sandy here, and therefore, it is possible that the shoreline has changed since the previous survey was made.

Another difference of about fifty meters in the shore line was noted in the bight 0.8 mile west by north of triangulation station "ANCHOR". In this case the old survey shows the bight deeper than the present survey does. This was to be expected since the two streams emptying into this bight show evidences of depositing sediment.

Bromide 2104c, scale 1-10,000. No appreciable descrepancy was noted on this bromide.

Bromide 2104d, scale 1-10,000. The greatest difference noted in the shore line were in the bights. The difference was great as 70 meters in some places. Many differences were noted in the location of rocks, reefs, and the low water line. The present survey is more accurately controlled than 2104d, due to additional triangulation executed during the season. All differences were carefully checked and verified.

GENERAL DESCRIPTION:

The portion of Duke Island, covered by this sheet is heavily wooded and in general is low and flat.

Duke Hill, is the most prominent peak on this sheet. From the east, it shows up as a flat-topped and fairly symmetrical cone 550 feet in height. From the north, it shows up as twin peaks, the western peak being a little higher and larger than the eastern one. The slopes on the western and southern sides are steep, and the northeast side is not so steep.

Duke Point, is on a heavily wooded island 120 feet high. However, from a distance the point is not distinguishable as an island.

A sloping ridge extends to the Southwest from the base of Duke Hill. The highest point on the ridge, 494 feet, is approximately 0.8 mile from Duke Hill.

A ridge extends inland from triangulation station "RAY", terminating in a knoll 455 feet in height, 0.8 mile, West-North-West from triangulation station "RAY".

All islands of any size are wooded.

The area between triangulation station "FLAG" and triangulation station "RAY", to a distance of approximately 0.4 mile offshore is foul and full of kelp.

The best anchorage in Ray Anchorage, is about midway between triangulation station "ANCHOR" and triangulation station "AGE".

The entrance to Morse Cove, passes to the South of Harbor Rocks. The area West of Harbor Rock is foul. Morse Cove, affords good protection from all directions. Craft drawing up to seven feet of water may go through the narrows safely by hugging the North shore. The passage has a large rock near the center and close to the South shore, is full of kelp, and has approximately a three knot current at the strength of the tide.

DISTORTION:

Although the sheet was frequently tested, no appreciable distortion was noted at anytime.

MAGNETIC OBSERVATIONS:

Magnetic observations were made at triangulation station "DUKE", with the declinometer.

Observations were made at triangulation stations "FLAG" and "ANCHOR", with the declinitoire.

Respectfully submitted,

Ernest B. Lewey

Ernest B. Lewey,
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- - - - - - 16.8

Number of statute miles of low water line - - - - - - 14.6

Number of elevations determined - - - - - - - - - - - 52

PLANE TABLE POSITIONS

Object and Description	Latitude	D.M. Meters	Longitude	D.P. Meters	Height in feet above M.H.W.
"XxX" stamped in rock at time of previous survey	54°15'	489.0	131°15'	332.5	2

55'

Form 537a
Ed. Nov., 1929

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 4720

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. C

REGISTER NO. 4720

State ~~Xxxx~~ Alaska

General locality Duke I., Revillagigedo Channel

Locality Ray Anchorage and Vicinity

Scale 1:10,000 Date of survey July, 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 done from ship with launch No. 69.

0 P O

Applied to drawing (compilation) of reconstructed
chart № 8075 ..... S.B.M. Aug. 1934

Applied to drawing of chart 8201 ..... S.B.M. Sept. 1934

" " " " " 8002 ..... S.B.M. " "