

# 5995

Diag. Cht. No. 8865

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

## DESCRIPTIVE REPORT

Type of Survey TOPOGRAPHIC

Field No. \_\_\_\_\_ Office No. T-5995

### LOCALITY

State Aleutian Islands, Alaska

General locality Between Kiska and Attu

Locality Buldir Island

1943-'47

CHIEF OF PARTY  
F.S. Borden, Chief of Field Party  
Div. of Photogrammetry, Wash., D.C.

### LIBRARY & ARCHIVES

DATE June 19 - 1950

B-1870-1 (1)

## DATA RECORD

T- 5995

Quadrangle (II): Buldir Island

Project No. (II): Ph-34(48)

Field Office: Pioneer

Chief of Party:

Frank S. Borden

Compilation Office: Washington

Chief of Party:

Lou Reed, Stereoscopic  
Mapping Section

Instructions dated (II III):

8 April 1948

Copy filed in Descriptive

Report No. T-XXXXX (VI):

Division of Photogrammetry  
Office Files.

Completed survey received in office: 3-4-49

Reported to Nautical Chart Section: 3-9-49

Reviewed: 6-24-49

Applied to chart No.

Date:

Redrafting Completed:

Registered: 9-15-49

Published:

Compilation Scale: 1:20,000

Published Scale: 1:25,000

Scale Factor (III): 1:1

Geographic Datum (III): NA-1927

Datum Plane (III):

Bare Rocks

Rocks Awash

Reference Station (III): BULDIR, 1945

G-6995, Pg. 281

Lat.:

Long.:

Adjusted

Unadjusted

State Plane Coordinates (VI): None

X =

Y =

Military Grid Zone (VI) Universal Transverse Mercator, Zone 60.

Plotted by: K.N. Maki 1-16-50

Checked by: L.M. Gazik 1-20-50

**PHOTOGRAPHS (III)**

<u>Number</u>	<u>Date</u>	<u>Time</u>	<u>Scale</u>	<u>Stage of Tide</u>
(a) <u>Field Inspection Photos:</u> (Army Air Force Photos, 11th Mapping Sq.)				
VI-2	9-29-43		1:24,000	
VI-3	9-29-43		1:24,000	
V2-4	9-29-43		1:24,000	
V3-2	9-29-43		1:24,000	
V3-5	9-29-43		1:24,000	

(b) Compilation Photos: (USC&GS 9-lens Photos):

21,147		11:50		
thru	10-20-47	to	1:20,000	High (approx.)
21,156		12:01		3.0' above MLLW or 0.3' below M <sub>2</sub> HW
B-765	unknown	unknown	1:15,000	(Navy 8 $\frac{1}{4}$ )
B-766	" "	" "	" "	" "

**Tide from (III):** Massacre Bay, Attu Island (observations)

Diurnal Range: 3.3'

~~Mean~~ Range:

~~Spring~~ Range:

**Camera:** (Kind or source)

USC&GS 9-lens (B)

**Field Inspection by:** Frank S. Borden

**date:** Summer 1947

**Field Edit by:** None

**date:**

**Date of Mean High-Water Line Location (III):**

Summer, 1947

**Projection and Grids ruled by (III) Ruling Machine** **date:** 7-29-48

" " " **checked by:** T. J. Jansen **date:** 7-29-48

**Control plotted by:** C. E. Misfeldt **date:** 8-10-48

**Control checked by:** L. J. Reed **date:** 8-12-48

**Radial Plot by:** W. D. Harris & C. E. Misfeldt **date:** 10-25-48

Topo and  
**Detailed by:** (9-lens plotter No.1) C. E. Misfeldt **date:** 11-16-48

**Compiled by:** J. B. McDonald **date:** 11-30-48

**Reviewed in compilation office by:** **date:**

Manuscript

**Elevations on Field Edit Sheet**  
**checked by:**

J. B. McDonald **date:** 11-30-48

STATISTICS (III)

Land Area (Sq. Statute Miles): about 10 sq mi

Shoreline (More than 200 meters to opposite shore): about 13 mi

Shoreline (Less than 200 meters to opposite shore): none

Number of Recoverable Topographic Stations established: none

Number of Temporary Hydrographic Stations located by radial none  
plot:

Leveling (to control contours) - miles: none

Roman numerals indicate whether the item is to be entered  
by, (II) Field Party, (III) Compilation Party, or, (VI) the  
Washington Office.

When entering names of personnel on this record give the  
surname and initials (not initials only).

Remarks:

Summary to Accompany T-5995  
Buldir Island

Field inspection was accomplished in 1947 by personnel of the Ship PIONEER, Frank S. Borden, Commanding. Single-lens photographs taken in 1943 by the U.S. Army were used for field inspection.

The radial plot was run in the Washington Office using templates of 1947 nine-lens photographs on a vinylite base ruled with a polyconic projection at 1:20,000 scale on the North American 1927 Datum. The shoreline and contours were compiled from rectified nine-lens photographs and Navy single-lens photographs on the Reading Plotter using a contour interval of 50 feet. Instrument delineation was supplemented, in part, by shoreline from 1947 Graphic Control Surveys. The compilation was drawn on acetate ruled in the same manner as the base sheet but with the addition of a Military Grid.

Depth curves and critical soundings were applied to the manuscript by the Division of Charts. *These will not be shown on the registered copy of the manuscript.*

A cloth-backed lithographic print at the same scale as the manuscript will be registered with the Descriptive Report. After publication, a cloth-backed color print at 1:25,000 scale will also be registered.

*K. N. Maki*  
K. N. Maki  
6/24/49



## FIELD INSPECTION REPORT

### 1. Description of the Area:

Buldir Island is about four miles long in an east-west direction and about two and one-fourth miles wide at the widest point. It is hilly and mountainous except for the low grassy flat near the north-west end of the island. The narrow rocky beaches are backed by high precipitous bluffs composed of volcanic soil and boulders and there is no shore passage around the rocky points at the east end and along the south side of the island. The bluffs are usually a dirty grey in appearance.

The lower hills are grass covered and the soil varies from a sticky loam to light sand and volcanic ash with a few small rocks. The slopes are moderate except along the shoreline where erosion has made steep slopes. Above about nine hundred feet elevation the hills are bare and cinder and gravel covered with a scattering of boulders. Except for the main peak and its outlying shoulders the slopes are reasonably smooth and the tops rounded. The slopes become steeper in the vicinity of the higher peaks. The main peak is about midway of the south side of the island and is about two thousand feet high.

There is a sand and cobblestone beach along the north side of the low grassy flat at the northwest end of the island. The bluff in back of the beach is about twenty feet high but access to the flat is easy at the mouths of the two streams traversing the flat. During the periods of calm weather the sand builds up outside the cobblestones but during storms the water line recedes to the cobblestones. In calm weather a thirty-six foot landing craft can be beached with a dry ramp. At times not all bottom cobblestones are sand covered and propellor damage may be sustained. During the summer there is a heavy kelp patch offshore from the beach. Good anchorage during southerly weather is available in fifteen fathoms of water, sandy bottom, off this beach.

A small cabin is located inshore along the west side of the flat. It was built by the Army during the war and will probably not last many more winters. There are numerous small streams, especially at the northwest end of the island, and any draw of much size and length will contain a small stream. The two streams traversing the grassy flat contain many small trout. There are many

birds on the island and during the summer flocks of geese nest on the grass covered hills. Several species of birds are particularly noisy at night.

A chain of bold rocks and small islands extends northwest about one mile from the northwest end of the island. There is no visible evidence of submerged rocks around the perimeter of the group of rocks. At the east end of the island there are several groups of rocks, the farthest about one-fourth mile east of the end of the island. These rocks are kelp covered when less than about ten feet high. There is no evidence of sunken rocks beyond the easterly group of rocks. The south coast of the island is foul inshore and should be approached with caution, other shores are more free of rocks. An inshore band of kelp nearly encircles the island.

2 thru 25:

Photogrammetric field surveys were made prior to compilation by parties of Ship PIONEER as part of the hydrographic work in this area. The field report on this work is included in descriptive reports T-7051 and H-7595.

COMPILATION REPORT

26 Control: See attached lists of triangulation station positions and plane table positions. In addition, a list of hydrographic control points from field radial plot can be found in Descriptive Report Registry No. T7051 A&B. The latter two lists were not used to control the radial plot.

In general, field identification of control was very poor. This was caused in part by the field use of single lens photos for the identification, but primarily by below-caliber field work. However, since it was the only map control available, it was used to the best advantage thru combining office identification with it and during the plot selecting the majority that could be held. A surprisingly good plot resulted.

The major portion of the triangulation stations were not held during the laying of the radial plot; those that held, the shorter list, are as follows: OUTER ROCK (mike), INVER ROCK (joe), END, NORTH ROCK NO. 3, HILL S.S., LARGE ROCK OFF POINT, BEND, and SCOTT.

27 Radial Plot: The plot was laid on a vinylite base projection on which all triangulation stations were plotted by G.P.s and all plane table positions and field radial plot positions were transferred by holding to the triangulation stations. Eight photographs were used, 21149 thru 21156, and vinylite templates made for each. The final plot was reached only after several attempts at lay-down, it being the one that held to the best combination of points and to the most in number. Actually, it was a very strong plot.

Under normal mapping conditions the control density on the island would not be considered adequate: the east half has no stations at all, except those located by a field radial plot using the AAF 6" photos. However, since the office plot used 9-lens photos in every one of which the whole island was imaged, the office location of the east half of the island is considered as accurately located as the triangulation of the west half. Incidentally, the office location of the east half checked the same location by the field plot so closely that the shoreline tied to the field plot was not altered in office compilation.

Photo coverage was entirely adequate.

28 Detailing: Field inspection was accomplished on AAF 6" single-lens photos of smaller scale than compilation photos (1:24,000 against 1:20,000). This fact is not in line with good field inspection practices, but disregarding it, a good partial job was turned in by the field party and a good shoreline compilation has been completed. Shoreline inspection was accomplished on these same photos. Field inspection data was thoroughly digested and applied to the instrument compilation on the manuscript.

29 Supplemental Data: Sections of shoreline were furnished by the field on two plane table sheets, the two sections combined covering a little less than half of the total shoreline of the island. The two sheets are listed as:

PI-A-47	7051a	1:10,000	West third of north shore / NW Point
PI-B-47	7051b	1:20,000	NW Point to SW Point



29. Supplemental Data (continued): USED Quad BULDIR ISLAND at 1:25,000, 1943 edition, was used for comparison purposes only. In general, the details of this publication agree favorably, with the exception that the USED shoreline was more generalized.

30. Mean High-Water Line: Shoreline on two plane-table sheets is MHW and was taken direct to compilation, the balance of the shore line was delineated on the compilation photos during instrument detailing and balanced against shoreline shown on field inspection photos. The datum of the field inspection photograph was translated to MHW for the determination of offshore elevations shown thereon referenced to the water level of the photograph.

31. Shoal Line: The 9-lens photos used in instrument compilation were taken at the time of a very rough sea. A white ribbon of surf surrounds the island and shows up very distinctly. It may not be considered a shoal line because the plane table sheet shows the island to be encircled with heavy kelp which reaches seaward much farther than this surf line. The surf line has been delineated on the plotting instrument and is available on the work sheets for what it may be worth. In general, the area inside this line may be considered as a foul area.

32. Details Offshore from the High-Water Line: Offshore details were delineated on the instrument as depicted by the field inspection photography. During compilation this delineation was checked for completeness and a comparison was made against the hydrographic sheet. A few rocks, additional on the hydro sheet, were applied to the manuscript.

37. Hydrographic Data: It will be added to this manuscript to the limits of the sheet by the Nautical Chart Branch.

*See attached "History of Hydrographic Information".*

38. Topography: All contours were delineated on the 9-lens Reading Plotter. They conform to the national standards of accuracy for a contour interval of 50 feet, except for one contour, the 25-ft. above sea level, which conforms to the national standards of accuracy for a contour interval of 25 feet. This lone contour is only about  $1\frac{1}{2}$  inches long on the manuscript where it is shown as a dashed brown line. It is located in a cove on the north shore of the island near NW point. Since it is a supplemental contour, it is shown with the long dash and label symbol.

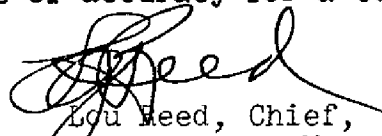
Datum for the compilation was MSL. Elevations shown in brown were read on the Reading Plotter during instrument compilation. The elevation on station BULDIR was a no-check elevation established by a single shot from another island.



Our instrument elevation checked it to less than 10 feet, and therefore it was used in conjunction with seven plane table elevations, plus sea level, as a basis for contour control for the compilation of the entire island. No-check elevations are shown in brown. Planetable elevations checked by the compilation instrument are shown in black after conversion to MSL.

The area along the north shore between  $\triangle$  NORTH and the east cape of the island, between the shoreline and the high island peaks, was obscured by shadows from the peaks in the 9-lens compilation photos and in the single-lens field inspection photos. Single-lens photographs taken by the Navy Aleutian Survey of 1934 were employed on the Reading Plotter to contour this gap. They were taken with an  $8\frac{1}{4}$ " camera and had a scale of 1:15,000. Two photos were employed, B-765 and B-766.

**40. Quality of Contours:** All contours on this sheet conform to the national standards of accuracy for a contour interval of 50 feet



Lou Reed, Chief,  
Stereoscopic Mapping Section

# GEOGRAPHIC NAMES

Survey No. T-5995

GEOGRAPHIC NAMES											
Survey No. T-5995											
Name on Survey	On Chart No.										
	A	B	C	D	E	F	G	H	K		
Alaska											1
Aleutian Islands											2
Pacific Ocean											3
Bering Sea									USGB		4
Buldir Island									"		5
East Cape											6
Southeast Point											7
Southwest Point											8
Northwest Point											9
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Names underlined in red are approved

6-13-49 L. Heck

✓ 3-16-50 C. G. ...

Division of Photogrammetry  
Review Report of T-5995

39 Geographic Names

A list of Geographic Names compiled by the Geographic Names Section, Division of Charts has been attached to the Descriptive Report.

44 Comparison with Existing Topographic Quadrangles

Buldir Island, U.S.E.D., 1:25,000, 1943

44a Comparison with Previous Surveys

*T-7051a	1:10,000	1947
*T-7051b	1:20,000	1947
H-7595	1:20,000	1947
H-7597	1:120,000	1947
H-6935	1:200,000	1943

Sections of shoreline in the west and northwest part of Buldir Island were applied directly to the manuscript from the two\*graphic control surveys to supplement the instrument delineation of shoreline. Refer to items 25 and 30 of the Compilation Report.

The hydrographic surveys were used to furnish supplemental data on details offshore from the high-water line.

45 Comparison with Nautical Charts

8864	1:300,000	3-8-48
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47 Adequacy of the Compilation

This map, T-5995, is a complete topographic map and has been compared and reconciled with all hydrographic and topographic surveys of record in this Bureau and becomes, therefore, the most authoritatively complete and accurate topographic map of record for Buldir Island as of the date of this report.

48 Accuracy Tests.

Horizontal

Adequate photo coverage, adequate horizontal control and instrument compilation methods ensure that this map meets the National Map Accuracy Standards.

Vertical

No vertical accuracy tests have been made in the area of this map. All contours are within the accuracy requirements for a contour interval of 50 feet.

## Review Report of T-5995 - - - - - Page 2

Note: The area of this map is unclassified.

Reviewed by:

K. H. Mahi

6/24/49

Approved by:

S. V. English

Chief, Review Section

H. C. EdmisterChief, Nautical Chart Branch  
Division of ChartsO. S. Reading

Chief, Division of Photogrammetry

W. M. Scaife

Chief, Div. of Coastal Surveys

HISTORY OF HYDROGRAPHIC INFORMATION

5995  
T-9125

Buldir Island Quadrangle, Aleutian Islands

The soundings and depth curves are referred to mean lower low-water, and originate with surveys by this Bureau: *omitted from registered office*

H-7595 (1947) 1:20,000

H-7597 (1947) 1:120,000

supplemented by H-6935 (1943) 1:200,000

The danger curve (foul line) originates with the photographs except for minor adjustments made in applying the hydrography.

Hydrography applied by: R. E. Elkins - 5/3/49

Hydrography checked by: G. F. Jordan - 5/6/49

*R. E. Elkins*

R. E. Elkins  
5/10/49



## NAUTICAL CHARTS BRANCH

SURVEY NO. 5995

### Record of Application to Charts

[illegible]

M.2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.