**U.S. COAST AND GEODETIC SURVEY**  
**DEPARTMENT OF COMMERCE**

### DESCRIPTIVE REPORT

<table>
<thead>
<tr>
<th>Type of Survey</th>
<th>Topographic</th>
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<tbody>
<tr>
<td>Field No. Ph-34 (48)</td>
<td>T-9972</td>
</tr>
<tr>
<td>Office No.</td>
<td>T-9973</td>
</tr>
<tr>
<td></td>
<td>T-9974</td>
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### LOCALITY

<table>
<thead>
<tr>
<th>State</th>
<th>Alaska</th>
</tr>
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<tbody>
<tr>
<td>General locality</td>
<td>Aleutian Islands, Fox Islands, Krenitzin Islands</td>
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<tr>
<td>Locality</td>
<td>Akun Island</td>
</tr>
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</table>

<table>
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**CHIEF OF PARTY**

**Div of Photogrammetry, Washington, D.C.**

**LIBRARY & ARCHIVES**

<table>
<thead>
<tr>
<th>DATE</th>
<th>JUL 19, 1955</th>
</tr>
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</table>
DATA RECORD

T-9972, 9973, 9974

Project No. (II): Ph-34(48) Quadrangle Name (IV):
T-9972 = BILLINGS HEAD
T-9973 = LITTLE BAY
T-9972 = HT GILBERT, WEST SHORE
West of Mt Gilbert

Field Office (II): Chief of Party:
Photogrammetric Office (III): Washington, D.C. Officer-in-Charge: Louis J. Reed, Chief
Instructions dated (II) (III):

Method of Compilation (III): Single Lens - Keesle Plotter, with pantograph
Manuscript Scale (III): 20,000
Stereoscopic Plotting Instrument Scale (III): 5500
Scale Factor (III):

Photograph Scale = 41,000
Pantograph Reduction = 5500 to 20,000

Date received in Washington Office (IV): DEC 16 1952
Date reported to Nautical Chart Branch (IV): DEC 19 1952

Applied to Chart No. Date: Date registered (IV): 6-27-55

Publication Scale (IV):
Geographic Datum (III): MA 1927
Publication date (IV):
Vertical Datum (III):
Mean sea level except as follows:
Elevations shown as (2) refer to mean high water
Elevations shown as (3) refer to sounding datum
i.e., mean low water or mean lower low water

Reference Station (III):
Lat.: Long.: Adjusted

Plane Coordinates (IV):
State: Zone:
Y =
X =

MILITARY GRID = UTM, Zone 3, 2500 meter interval

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

When entering names of personnel on this record give the surname and initials, not initials only.
Areas contoured by various personnel
(Show name within area)

Compiled on the Kelsh Plotter, model "B", by:

J = Ivan R. Jarrett
C&J = Bernard J. Colner and Ivan R. Jarrett

INDEX OF TOPOGRAPHIC SURVEYS AND HYDROGRAPHIC SURVEYS

Shoreline (—) = T-4931 and H-5970
Shoreline (—) = T-6601 and H-6319
DATA RECORD

Field Inspection by (II): None

Planetale contouring by (II): None

Completion Surveys by (II): None

Mean High Water Location (III) (State date and method of location):
MHWL on these manuscripts is dated 1951 since the photographs used for the instrument delineation were taken in 1951.

Projection and Grids ruled by (IV):
Jack Allen on the Reading Ruling
Projection and Grids checked by (IV):
Howard D. Wolfe

Control plotted by (III):
David F. Romero

Control checked by (III):
Louis J. Reed

Reduction of Stereoscopic
Control extension by (III):
Ivan R. Jarrett and
Bernard C. Colner

Delineation:
Stereoscopic Instrument Equations (III):
Ivan R. Jarrett and
Bernard C. Colner

Collected:
Planimetry

Compiled:
John B. McDonald

Photogrammetric Office Review by (III):
Louis J. Reed and
William D. Harris

Elevations on Manuscript
checked by (II) (III):
Louis J. Reed and
William D. Harris

Date:
6 Jun 52
Date:
6 Jun 52
Date:
16 Jun 52
Date:
16 Jun 52
Date:
18 Jul 52
Date:
18 Jul 52
Date:
2 Dec 52
Date:
12 Dec 52
Date:
12 Dec 52
Camera (kind or source) (III): U.S. Navy 6" wide-angle

PHOTOGRAPHS (III)

<table>
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<tr>
<th>Number</th>
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<th>Time</th>
<th>Scale</th>
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<tr>
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<td>19 Jun 51</td>
<td>2324 Z</td>
<td>1:41,000</td>
<td>2 ft below MSL</td>
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<tr>
<td>thru</td>
<td></td>
<td></td>
<td></td>
<td>3 ft below MHHW</td>
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<td>029-03V</td>
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NOTE: Tide data computed by Mr. Wilcox of Tides and Currents, 10 Dec 52.

Tide (III)

Reference Station: Dutch Harbor
Subordinate Station: Akun

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<th>Ratio of Mean</th>
<th>Range</th>
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<tr>
<td></td>
<td>0.8</td>
<td>2.2</td>
<td>3.7</td>
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<tr>
<td></td>
<td>1.6</td>
<td>2.2</td>
<td>3.7</td>
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Washington Office Review by (IV):

Final Drafting by (IV):

Drafting verified for reproduction by (IV):

Proof Edit by (IV):

Land Area (Sq. Statute Miles) (III): T-9972 = 0.5 sq mi; T-9973 = 1.1 sq mi; T-9974 = 0.9
Shoreline (More than 200 meters to opposite shore) (III): T-9972 = 2 mi; T-9973 = 2.2; 9974 = 3
Shoreline (Less than 200 meters to opposite shore) (III): None
Control Leveling - Miles (II): None
Number of Triangulation Stations searched for (II): None
Number of BM's searched for (II): None
Number of Recoverable Photo Stations established (III): None
Number of Temporary Photo Hydro Stations established (III): None

Remarks:
Summary

T-9972, T-9973, and T-9974

These maps are three of seven 7.5 x 10 minute quadrangles that cover Akun Island in the Aleutian Islands and are part of Project Ph-34. This project will be discussed in its entirety in the Project Completion Report when all of the maps are registered.

These maps were compiled by Kelsh Plotter from 1:40,000 scale Navy photographs taken in 1951. There was no field inspection or field edit on these maps. Topographic and hydrographic surveys completed 1934 to 1937 were used for control identification and as an aid in delineating foreshore features. The compilation is at 1:20,000 scale with a contour interval of 50 feet with an occasional 25 foot supplementary contour where needed.

Depth curves, soundings and all available hydrographic information will be added to the map manuscripts from hydrographic surveys for publication.

Cloth-backed lithographic prints of each map at compilation scale will be registered with the Descriptive Reports in the Bureau Archives. After publication by the Army Map Service, a cloth-backed color print of each map will also be registered.
31. Delineation:

In the absence of field inspection or control identification for this project, 1935 topo and hydro surveys have served both purposes. Therefore no field inspection report is written as a part of this report; only the reports with each topo and hydro survey are involved. [Filed in Bureau Archives]

No Radial Plot Report is included as a part of this report since no radial plot was required by the compilation process employed. Delineation was accomplished on the Kelsh Plotter by direct setting of each model to the topo survey of the area of each model. Established triangulation was first plotted on the manuscript sheets, and while holding this same control on the topo sheet, two stations at a time, the shoreline and offshore rocks were transferred to the manuscripts. Any of this transferred detail then became the control for establishing the scale and orientation of each model. Offshore rocks in the near vicinity of each station were considered the more stable control and were given preference when conflicts occurred. For leveling each model for contouring purposes, the sea-level datum at the shoreline was used, with occasional checks on inland elevations established during the plotable operations. A great deal of shoreline existed in each model and therefore each model was established separately, both horizontally and vertically.

The entire land area of these three quads has been mapped.

32. Control:

Twenty-one triangulation stations exist in the area of the three quads of this report, a majority of these being along the shoreline. Several hydro signals were established along the shoreline also, between the primary control stations. No identification cards exist for any of these control points; the triangulation stations were described in the printed Description List, No 21.

As stated in section header 31 above, vertical control consisted of sea-level at the shoreline and points of elevation fixed during the field topo survey.

Both horizontal and vertical control was sufficient for controlling this compilation. Very few of the permanent stations were held directly because of lack of identification, but the great number of detail points near each station permitted a choice or selection of control points such that a majority of the group were held to.

33. Supplemental Data:

a. Hydro Surveys:

33. Supplemental Data (continued):
   a. Hydro Surveys (continued):
      H-6319: AKUN COVE, AKUN ISLAND, ALEUTIAN ISLANDS, 1937–8,
      1:20,000, USG&GS SHIP SURVEYOR, A.M. Soberalski comdg
   b. Topo Surveys:
      T-4931: NORTH COAST OF AKUN ISLAND, ALEUTIAN ISLANDS, Alaska,
      1:20,000, 1935 season, USG&GS SHIP SURVEYOR,
      A.M. Soberalski comdg.
      T-6601: AKUN COVE, AKUN ISLAND, ALEUTIAN ISLANDS, ALASKA,
      1:20,000, 1937 season, USG&GS SHIP SURVEYOR,
      A.M. Soberalski comdg.

34. Contours and Drainage:
   The photographic quality of the photographs used was only average, yet satisfactory except in shadow areas caused by extreme high and steep terrain. Only questionable contours could be mapped in these shadow areas and they can be identified on the manuscript as dashed contours.

35. Shoreline and Alongshore Details:
   In the absence of field inspected shoreline, the shoreline transferred from the topo surveys to the manuscript or instrument worksheets served as a guide during instrument delineation of the shoreline. The entire shoreline was re-compiled because the tendency was for the majority of it to need remapping; changes were never very great in distance, mostly in shaping. All offshore details shown on the Topo or Hydro surveys were investigated in the models; if visible they were detailed. After compilation, a comparison was made with the hydro surveys and all unmapped details thereon that had not been seen and detailed were added to the manuscripts in red ink; these details included a few rocks, most of the broken rocks, and kelp. The shoreline and alongshore details as shown on the manuscripts, the combination of both instrument details in black and those from the hydro surveys in red, are not in disagreement with the soundings and depth curves on the hydro sheets.

36. Offshore Details: Covered in side-heading 35 above.

37. Landmarks and Aids: None recommended - Billings Head Light not visible in photographs.

38. Control for Future Surveys: Not applicable.

39. Junctions:
   Maps joining the three maps of this report are shown on the map layout sketch, page 5. All junctions are in agreement since the total area of Akun Island was mapped as one project.
40. Horizontal and Vertical Accuracy:

The scale of these maps is 1:20,000 and the contour interval is 50ft. They meet the requirements set up by map accuracy standards for maps of that scale and interval.

46. Comparison with Existing Maps:

No maps of comparable scale exist; the following map does cover the same area:


47. Comparison with Nautical Charts:

The largest scale chart covering the north portion of Akun Island that falls within the three sheets of this report is: "KREMITHZIN ISLANDS", No 6720, 1:60,000, June 1943 (1st edition), last correction date of 1 January 1952.

ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY = None
ITEMS TO BE CARRIED FORWARD = Billings Head Light


49. Notes for the Hydrographer: Not applicable.


Submitted by

[Signature]
Stanley W. Terry, Chief,
Single Lens Plotting Instrument Unit

Approved by

[Signature]
Louis J. Reed, Chief
Stereoscopic Mapping Section
Photogrammetric Engineer
<table>
<thead>
<tr>
<th>Name on Survey</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
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</table>

Does not belong here; it applies to extremity of T-9974.

| T-9974        |   |   |   |   |   |   |   |   | 13|
| AKUN BAY      |   |   |   |   |   |   |   |   | 14|
| AKUN ISLAND   |   |   |   |   |   |   |   |   | 15|
| BERING SEA    |   |   |   |   |   |   |   |   | 16|
| BILLINGS HEAD |   |   |   |   |   |   |   |   | 17|

Names approved

4-5-54 J.H. Heck
PHOTOGRAMMETRIC OFFICE REVIEW

T. 4972, 73, 74


CONTROL STATIONS

5. Horizontal control stations of third-order or higher accuracy  ✔  6. Recoverable horizontal stations of less than third-order accuracy (topographic stations)  ✔  7. Photo hydro stations  ✔  8. Bench marks  ✔

ALONGSHORE AREAS
(Nautical Chart Data)

12. Shoreline  ✔  13. Low-water line  ✔  14. Rocks, shoals, etc.  ✔  15. Bridges  ✔
16. Aids to navigation  ✔  17. Landmarks  ✔  18. Other alongshore physical features  ✔  19. Other alongshore cultural features  ✔

PHYSICAL FEATURES


CULTURAL FEATURES


BOUNDARIES

31. Boundary lines  ✔  32. Public land lines  ✔

MISCELLANEOUS


41. Remarks (see attached sheet)

FIELD COMPLETION ADDITIONS AND CORRECTIONS TO THE MANUSCRIPT

42. Additions and corrections furnished by the field completion survey have been applied to the manuscript. The manuscript is now complete except as noted under item 43.

[Signature]
Supervisor

43. Remarks:  [Signature]
Review Report
T-9972, T-9973, and T-9974

62. Comparison with Registered Topographic Surveys. -

<table>
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<tr>
<th>Survey</th>
<th>Scale</th>
<th>Year</th>
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<td>T-2546</td>
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<td>T-4931</td>
<td>1:20,000</td>
<td>1935</td>
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<tr>
<td>T-6601</td>
<td>1:20,000</td>
<td>1937</td>
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T-4931 and T-6601 were used to supplement the photogrammetric compilation. See items 31 and 35 of the Compilation Report. These surveys are superseded by the map manuscripts for nautical charting purposes.

63. Comparison with maps of other Agencies. -

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<th>Agency</th>
<th>Scale</th>
<th>Year</th>
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<tbody>
<tr>
<td>Unimak</td>
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<td>1951</td>
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</table>

Scale difference makes comparison impractical.

64. Comparison with Contemporary Hydrographic Surveys. -

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<th>Survey</th>
<th>Scale</th>
<th>Year</th>
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<tr>
<td>H-5970</td>
<td>1:20,000</td>
<td>1935</td>
</tr>
<tr>
<td>H-6319</td>
<td>1:20,000</td>
<td>1937-38</td>
</tr>
</tbody>
</table>

There are no discrepancies between the map manuscripts and these surveys.

65. Comparison with Nautical Charts. -

Chart No. 8720 1:80,000 1943

Billings head light was not visible on the photographs and is not shown on T-9973.

66. Adequacy of Results. - These maps are adequate for use in hydrographic surveys and nautical chart construction.

Reviewed by:

[Signature]
C. Theurer

APPROVED

[Signature]
L.C. Lunde
Chief, Review Branch
Div. of Photogrammetry

[Signature]
W. Edmiston
Chief, Nautical Chart Branch
Division of Charts

[Signature]
Undersigned
Chief, Div. of Photogrammetry

[Signature]
July 5, 1971
Chief, Div. of Coastal Surveys
History of Hydrographic Information
Quadrangle T-9972
Akun Island, Alaska

Hydrography was applied to the map manuscript of this quadrangle in accordance with Division of Photogrammetry, General Specifications, dated 18 May 1949 and Army Map Service TM 45-14, Chapter 14.

The depths are in fathoms at mean lower low water and originate with the following surveys:

- H-5970 (1935) 1:20,000
- H-5971 (1935) 1:20,000

Depth curves are shown at 5 and 10 fathoms. Hydrography compiled by C. Theurer and checked by O. Svendsen 14 May 1954.

[Signature]
C. Theurer
Div. of Photogrammetry
5/14/54
History of Hydrographic Information
Quadrangle T-9973
Akun Island, Alaska

Hydrography was applied to the map manuscript of this quadrangle in accordance with Division of Photogrammetry General Specifications dated 18 May 1949 and Army Map Service TM 45-14, Chapter 14.

The depths are in fathoms at mean lower low water and originate with the following surveys:

H-5970 (1935) 1:20,000
H-5971 (1935) 1:20,000

Depth curves are shown at 1, 3, 5, and 10 fathoms. Hydrography compiled by C. Theurer and checked by O. Svendsen 14 May 1954.

[Signature]
C. Theurer
Division of Photogrammetry
5/5/54
History of Hydrographic Information
Quadrangle T-9974
Akun Island, Alaska

Hydrography was applied to the map manuscript of this quadrangle in accordance with Division of Photogrammetry General Specifications dated 18 May 1949 and Army Map Service TM 45-14, Chapter 14.

The depths are in fathoms at mean lower low water and originate with the following surveys:

- H-5761 (1934-35) 1:40,000
- 5971 (1935) 1:40,000
- 6319 (1937-38) 1:20,000

Depth curves are shown at 3, 5, and 10 fathoms. Hydrography compiled by C. Theurer and checked by O. Svendsen 11 May 1954.

C. Theurer
Div. of Photogrammetry
5/14/54
### INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.

1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

<table>
<thead>
<tr>
<th>CHART</th>
<th>DATE</th>
<th>CARTOGRAPHER</th>
<th>REMARKS</th>
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<tbody>
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</table>

**Sample Entry:**

*Part Before After* Verification Review Inspection Signed Via
Drawing No. Examined only correspondence made at time received.

Full Part Before After Verification Review Inspection Signed Via
Drawing No. Applied Peak elevations only.

Full Part Before After Verification Review Inspection Signed Via
Drawing No.

Full Part Before After Verification Review Inspection Signed Via
Drawing No.

Full Part Before After Verification Review Inspection Signed Via
Drawing No.

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