**Form 504**

**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.</td>
<td>Ph-34</td>
</tr>
<tr>
<td></td>
<td>(48)</td>
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<tr>
<td>Office No.</td>
<td>T-9921</td>
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<tr>
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<td>T-9922</td>
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<td>T-9923</td>
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**LOCALITY**

<table>
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<tr>
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<tr>
<td>General locality</td>
<td>Aleutian Islands</td>
</tr>
<tr>
<td>Locality</td>
<td>Tanaga Island</td>
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</tbody>
</table>

**1948-53**

**CHIEF OF PARTY**

S.B. Grenell, Chief of Field Party

L.J. Reed, Wash. Photogrammetry Div.

**LIBRARY & ARCHIVES**

**DATE**

June 19, 1957
DATA RECORD

T-9921, 9922, 9923

Project No. (II): Ph-34(48) Quadrangle Name (IV): T-9921 = CAPE SAJAKA, NORTH HALF
T-9922 = TANAGA VOLCANO
T-9923 = BUMPY POINT

Field Office (II): Ship EXPLORER
Chief of Party: S.B. Grenell

Photogrammetric Office (III): Washington D.C.
Radial Plot = Lester C. Lande
Compilation = Louis J. Reed

Instructions dated (II) (III):
Copy filed in Division of Photogrammetry (IV)

Field = 8 Apr 48, 19 Mar 52, 20 Feb 53, and letter No 22/MEK, 3-2-EX, dated 8 Mar 52, subject Modification of Instructions
Office = 14 Oct 53

Method of Compilation (III): Reading Plotter = All contours and T-9923 shoreline
Graphic Compilation = Shoreline on T-9921 and T-9922

Manuscript Scale (III): 1:20,000
Stereoscopic Plotting Instrument Scale (III): 1:20,000

Scale Factor (III): 1:1

Date received in Washington Office (IV): APR 29 1954
Date reported to Nautical Chart Branch (IV): MAY 5 1954

Applied to Chart No.:
Date:

Publication Scale (IV):

Publication date (IV):

Geographic Datum (III): NA 1927

Vertical Datum (III):
Mean sea level except as follows:
Elevations shown as (p) refer to mean high water
Elevations shown as (g) refer to sounding datum
i.e., mean low water or mean lower low water

Reference Station (III):

Lat.: Long.:

Adjustment

Plane Coordinates (IV):

State:

Zone:

Y=

X=

Universal Transverse Mercator Grid, Zone 1, with 1,000m 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)

T-9921: 100% compiled by Clarence E. Misfeldt on the Reading Plotter, model "A".

T-9922: 100% compiled by Clarence E. Misfeldt on the Reading Plotter, model "A".

T-9923: See diagram above,

A = compiled by Clarence E. Misfeldt on the Reading Plotter, model "A"
B = compiled by the team of Louis Levin and Orvis N. Dalbey on the Reading Plotter, model "B".
DATA RECORD

Field Inspection by (II):  S.B. Grenell
Ship EXPLORER Date: 1953

Planetary contouring by (II):  None Date:

Completion Surveys by (II): Date:

Mean High Water Location (III) (State date and method of location):

The shoreline on this project was compiled following indications of the shoreline on photographs as produced during 1953 field inspection. Therefore the MHWL is dated "1953".

Projection and Grids ruled by (IV): Date:

Austin R. Riley on the Reading Ruling Machine 15 Oct 53

Projection and Grids checked by (IV):

Howard D. Wolfe Date: 19 Oct 53

Control plotted by (III):

Neil S. Shultz Date: 8 Nov 53

Control checked by (III):

Jeter P. Battley Date: 13 Nov 53

Radial Plot or Stereoscopic Control extension by (III):

Samuel G. Blankenbaker and Howard J. Murray Date: 18 Dec 53

Stereoscopic Instrument (III):

Clarence E. Misfeld

Planimetry by: Louis Levin Date: 26 Feb 54

Contours by: Orvis N. Dalbey

compiled by:

Robert L. Sugden Date: 15 Apr 54

(All contours and shoreline on T-9923)

Shoreline on T-9921 and 22, by: Graphic Compilation Date: 20 Dec 53

Photogrammetric Office Review by (III): Louis J. Reed Date: 16 Apr 54

(Shoreline compilation checked by: Roscoe J. French and Charles Theurer)------20 Dec 53

Elevations on Manuscript checked by (III):

Louis J. Reed Date: 16 Apr 54

Form T-Page 3
Camera (kind or source) (III): USC&GS 9-Lena Camera, model "B", f = 8.25 inches

PHOTOGRAPHS (III)

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<th>Date</th>
<th>Time</th>
<th>Scale</th>
<th>Stage of Tide</th>
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See Photo & Control Diagram, page 11, and Photograph List, page 12

Tide (III)

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Washington Office Review by (IV): K. N. Meki

Final Drafting by (IV): M. Day

Drafting verified for reproduction by (IV):

Proof Edit by (IV):

Land Area (Sq. Statute Miles) (III): T-9921 = 3 sq mi; T-9922 = 3 sq mi; T-9923 = 1 sq mi

Shoreline (More than 200 meters to opposite shore) (III): 5 miles on T-9921; 22 = 8 mi; 23 = 8 mi

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 BMs searched for (II): none

Number of Recoverable Photo Stations established (III): One

Number of Temporary Photo Hydro Stations established (III): See remarks below

Remarks:

Numerous hydro stations were located with a theodolite and positions were computed by the field party. No 524 cards were submitted but the stations are dated 1953 and are shown on the manuscripts with a 2.5mm black circle. All dated stations without 524 cards are in this category.
Summary to Accompany Descriptive Report
T-9921, T-9922 and T-9923

T-9921 to T-9923, inclusive, are three topographic surveys of a series of 12 similar maps covering Tanaga Island in project Ph-34. These three surveys include the northwest end of Tanaga Island. They extend southward to latitude 51° 52' 30" and eastward beginning from Cape Sajaka to longitude 177° 50'. These maps are a combination of graphic compilation and 9-lens Reading Plotter compilation. Field operations preceding compilation included field inspection, recovery and establishment of horizontal control and the determination of elevations required to control a stereo-instrument project vertically. The compilation was at a scale of 1:20,000. Contours were drawn at a 50 foot interval with 25 foot interval supplemental contours. The Maps were not field edited.

A cloth-backed lithographic print of each map at manuscript scale and the combined descriptive report will be registered and permanently filed in the Bureau Archives.
FIELD INSPECTION REPORT

2-20 See separate report entitled as follows:

FIELD INSPECTION REPORT

FOR MAPS

T-9921 thru T-9923
T-9927 thru T-9931
T-9935 thru T-9937
and T-9947

Project CS-216, Ph-34
Tanaga Island, Alaska

Ship EXPLORER
S.B. Grenell, Comdg
Photogrammetric Plot Report

21. Area Covered: The 12 topographic manuscripts included in the radial plot cover Tanaga Island.

T-9921) T-9923) T-9935)
T-9922) T-9930) T-9936)
T-9927) T-9931) T-9937)

22. Methods: The vinylite manuscripts were ruled at a scale of 1:20,000 with polyconic projections and UTM, Alaska zone-1, grids. The horizontal control was plotted from the polyconic projections.

Nine-lens metal mounted 1:20,000 scale photographs were used in the plot.

Photograph Numbers:

23880A 23880D 39032 37610 34314 23891
23879 23881A 39031 37611 34315 23892
23878 23881B 39030 23893
23877P 23883A 39029 42053 34307 23896
23877N 23884 39028 42056 34309
23878 23886 42057 34310 41852
23915 23887 39054 42058 34311 41853
23916 39055 42062 34312 41854
23917 25124 39056 42059 41855

The templets were made from vinylite stock. Master Calibration templets were used to adjust for transforming errors.

Master templet nos.

22561 36269
33566 40915

The closure and adjustment to control was good. The disposition of control not held is discussed in section 23 of this report.

Some difficulty was encountered in assembling the plot in the area of the high mountainous area on the NW neck of the island. The good control points available along the coast were held. Good intersections of radials for photogrammetric points were obtained along the shore. The radials for points of high elevation in the area did not make good intersections in some instances.
23. **Adequacy of Control**: The index included with this report shows the density and distribution of horizontal control. A sheet showing the measured differences in millimeters between the radial plot positions and the computed plotted positions of control points is included with the report. It should be noted that errors in drilling up to 0.2 mm. (approximately) on control points occurred in some instances due to the obstruction of vision caused by a large number of overlapping templets.

A total of 67 horizontal control points was used as control for the plot. 44 control points held within 0.3 mm. 16 of the 23 stations not held within 0.3 mm. were established by fourth-order theodolite observations. The identification of these points (peaks) is indicated by the field party as doubtful. Office identification was also difficult.

Office identification on station Goose is poor. Photo identification on Beta, sub. pt. No. 1; Gust, Sajasta sub.sta; and Tanaga Volcano is doubtful.

25. **Photography**: The photographs used in the plot are selected from four different years photography. Tilt in the photographs affected the intersections of radials on some of the points of higher elevations. Photograph No. 23892 is sadly tilted.

Submitted by

[Signature]

Approved by

[Signature]
<table>
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<th>Photo No</th>
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</table>
COMPILATION REPORT

31. Delineation:

Graphic methods were used to delineate the shoreline of T-9921 and T-9922. Shoreline and rock data were compiled from metal-mounted office photos with the aid of a stereoscope and field inspection photos. The method involved a preliminary investigation of the photos and the radial plot to determine those areas of common scale in order to aid the compiler when inking the manuscript. Detail and pass points of sea-level elevation were inked on the work sheet to hold to as control during the compilation. The proper density of detail points is dependent on scale and position of shoreline and islands. Offshore islands of any consequence have a minimum of two detail points to control their position. Where scale was not sufficiently close the work sheets were with the electric projector. The work sheets were detailed under the stereoscope and are therefore a stereoscopic interpretation of the MHML and foreshore aided by the field inspection information.

The shoreline and offshore details on T-9923, and the contours on all three sheets, were delineated on the Reading Plotters as outlined on page 2. Shoreline indications and other field inspection data on the field inspection photos was used as a guide during this delineation. The entire land areas of all three quads has been compiled.

32. Control:

Reference side-heading 23, page 9. Control, both horizontal and vertical, were adequate for instrument compilation purposes.

33. Supplemental Data:

Refer to side-heading 14, Field Inspection Report. No graphic control surveys in the area of this report.

34. Contours and Drainage:

The photographs were of good quality for contouring purposes and there remain no areas of questionable contours.

35. Shoreline and Alongshore Details:

Reference side-heading 7, page 14 of the Field Inspection report, and see side-heading 31 above. Field inspection was quite adequate and has been incorporated into this compilation, both then provided on photographs and that on RS-426.

36. Offshore Features:

Included as part of shoreline in one operation.
37. **Landmarks and Aids:**

No landmarks or aids to navigation exist in the area of T-9921, 22, or 23; Refer to side-heading 9 of Field Report.

38. **Control for Future Surveys:**

Refer to side-heading 11, page 16, of the Field Inspection Report. Certain hydro and topo stations were located by field methods. The remainder that were identified by field inspection were located by graphic plotting.

Hydro stations: No descriptions were furnished the compilation office; all were transferred from field inspection photos by pricking to office photos, and the transfer was verified by a second compiler. Manuscript location was then accomplished by graphic methods.

Topo stations: Those for which descriptions were written by the field party have 524 forms whether located by field or office methods. They include:

- T-9921  Tan, 1953 (office)
- T-9922  Jinx and Hawk, 1953 (office)
- T-9923  Gust, 1953 (field)

39. **Junctions:**

See Map Layout Sketch, page 5, this report. All adjoining sheets were compiled as parts of the same project and therefore all junctions are in agreement.

40. **Horizontal and Vertical Accuracy:**

The three compilations of this report are considered meeting the specifications established by National Map Accuracy Standards, horizontally for maps of 1:20,000 scale, and vertically for maps having a 50ft contour interval with 25ft supplemental contours, used to better portray the relief in relatively flat areas.

46. **Comparison with Existing Maps:**

No accurate maps of Tanaga Island were ever made prior to this project.

47. **Comparison with Nautical Charts:**

Preliminary Chart, Alaska-Aleutian Islands, KANAGA PASS AND APPROACHES, No. 9145, 1:40,000, 1st edition, April 1945, last correction date of 13 August 1951.


Continued on page 15.
47. Comparison with Nautical Charts: Contd

Alaska-Aleutian Islands, Harbors and Approaches, Andreanof Islands, HOT SPRINGS BAY, TANAGA ISLAND, No.9121, 1:10,000, 2nd edition, last correction date of 25 August 1952.

48. Geographic Name List:

See separate page, page 16.

49. Notes for the Hydrographer:

Not applicable.

50. Compilation Office Review:

See separate form, T-2, page 17.

submitted by:

Orvis N. Dalbey, Chief,
9-Lens Plotting Instrument Section

approved by:

Louis J. Reed, Chief
Stereoscopic Mapping Branch
Photogrammetric Engineer
PHOTOGRAMMETRIC OFFICE REVIEW

T. 9921, 22, 23


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)

PHYSICAL FEATURES

CULTURAL FEATURES

BOUNDARIES
31. Boundary lines  32. Public land lines

MISCELLANEOUS
40. 

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.

Compiler

Supervisor

43. Remarks:
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<th>B</th>
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<tr>
<td>TANAGA ISLAND</td>
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</tbody>
</table>

Names approved
6-21-54 L. Heck
62. Comparison with Registered Topographic Surveys:

The only previous survey within the area covered by T-9921, T-9922 and T-9923 is a revision survey, RS-426, compiled without field inspection as a preliminary shoreline survey for boat sheet use on hydrographic survey operations.

RS-426 comprised 6 sheets, each at 1:20,000 scale, dated 1952. Sheet No. 1 and 2 of 6 cover the area of T-9921 thru T-9923.

T-9921 thru T-9923 completely supersedes RS-426, Sheet No. 1 and 2.

63. Comparison with Maps of Other Agencies:

The area covered by these maps is previously unsurveyed and no maps are available for comparative purposes.

64. Comparison with Contemporary Hydrographic Surveys:

<table>
<thead>
<tr>
<th>Surveys</th>
<th>Scale</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>H-8052</td>
<td>1:20,000</td>
<td>1953</td>
</tr>
<tr>
<td>H-8054</td>
<td>1:20,000</td>
<td>1953</td>
</tr>
<tr>
<td>H-8057</td>
<td>1:60,000</td>
<td>1953</td>
</tr>
</tbody>
</table>

Surveys T-9921 thru T-9923 are in agreement with the above listed hydrographic surveys with reference to shoreline, rocks and soundings. Elevations of rocks above the sounding datum are not entirely in agreement. Some adjustments were made to rock elevations above the sounding datum. These adjustments, though small, usually one foot, occasionally changed rocks previously symbolized as awash to rocks that bare. In addition, rocks noted as "bare 2 feet at MHW" by field inspection and shown by the awash symbol were symbolized as rocks that bare at MHW. All corrections are shown in red on the map manuscript.

The above hydrographic surveys are unverified as of the date of this report.

65. Comparison with Nautical Charts:

<table>
<thead>
<tr>
<th>Chart</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>8863</td>
<td>1:300,000, corrected to 1/14/52</td>
</tr>
<tr>
<td>9146</td>
<td>1:40,000, corrected to 6/27/51</td>
</tr>
</tbody>
</table>

The maps and the charts are in general agreement only. Shoreline configuration is more detailed on the maps than on the charts. As noted on page 12 of the Field Inspection Report, Tanaga Island, the elevation of Tanaga Volcano on T-9922 (5,911 feet) is not in agreement with the elevation on chart 9146 (6,975 feet). Form lines on the chart are higher than the highest peaks on the corresponding areas on the topographic maps.
66. **Adequacy of Results and Future Surveys**:

These maps are complete and adequate for use in hydrographic surveys and the construction and maintenance of nautical charts. These maps comply with the National Standards of Map Accuracy.

Reviewed By:

K. N. Maki

K. N. Maki

Approved By:

[Signatures]

Chief, Review Branch
Div. of Photogrammetry

Chief, Div. of Photogrammetry

14 June '87

[Signatures]

Chief, Nautical Chart Branch
Division of Charts

Chief, Div. of Coastal Surveys
History of Hydrographic Information
Quadrangles T-9921, T-9922 and T-9923
Tanaga Island, Alaska

Hydrography was applied to the map manuscripts of these quadrangles in accordance with Division of Photogrammetry, General Specifications, dated 18 May 1949, and Army Map Service TM 5-14, Chapter 14.

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

H-7977  1:100,000  1952
7978    1:400,000  1952
8052    1:20,000   1953
8054    1:20,000   1953
8057    1:60,000   1953
Nautical chart 8863, 1:300,000, corr. to 1/14/53

Depth curves are shown at 1, 3, 5 and 10 fathoms.
Hydrography compiled by J. M. Neal and checked by O. Svendsen.

John M. Neal
Division of Photogrammetry
December 21, 1954.