**Form 504**

**U. S. COAST AND GEODETIC SURVEY**

**DEPARTMENT OF COMMERCE**

**DESCRIPTIVE REPORT**

<table>
<thead>
<tr>
<th>Type of Survey</th>
<th>Topographic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field No.</td>
<td>Office No. T-9575</td>
</tr>
<tr>
<td>Project Ph-53(49)</td>
<td></td>
</tr>
</tbody>
</table>

**LOCALITY**

<table>
<thead>
<tr>
<th>State</th>
<th>Alaska</th>
</tr>
</thead>
<tbody>
<tr>
<td>General locality</td>
<td>St. Lawrence Island</td>
</tr>
<tr>
<td>Locality</td>
<td>Gambell</td>
</tr>
</tbody>
</table>

**1950**

**CHIEF OF PARTY**

Fred. A. Riddell, Chief of Field Party
Hubert A. Paton, Baltimore Photo. Office

**LIBRARY & ARCHIVES**

**DATE**
DATA RECORD

T - 9575

Project No. (II): Ph-53(49)  Quadrangle Name (IV): Gambell, St. Lawrence

Field Office (II): Portland, Oregon  Chief of Party: Fred. A. Riddell

Photogrammetric Office (III): Baltimore, Md.  Officer-in-Charge: Hubert A. Paton

Instructions dated (II) (III): 4 May 1950 supplemented by letter dated 29 March 1951 from Acting Director to Comdr. Hubert A. Paton

Copy filed in Division of Photogrammetry (IV)

Method of Compilation (III): Air photographic (multiplex)

Manuscript Scale (III): 1:20,000  Stereoscopic Plotting Instrument Scale (III): 1:10,000

Scale Factor (III): 1.000

Date received in Washington Office (IV): MAY 22 1953  Date reported to Nautical Chart Branch (IV):

Applied to Chart No. Date: Date registered (IV): 3-16-53

Publication Scale (IV): 1:5,000 Publication date (IV):

Geographic Datum (III): St. Lawrence Island (Gambell) Astrolabe

NA 1927 (Wahsatch)

Vertical Datum (III):

Mean sea level except as follows:
Elevations shown as (25) refer to mean high water
Elevations shown as (23) refer to sounding datum
i.e., mean lower low water or mean lower low water shoreline at MHW

Reference Station (III): TROUT, 1950

Lat.: Long.: Unadjusted

Plane Coordinates (IV):

State: Alaska  Zone:

X=

NORTHING 454,069.66

EASTING 9,790,950.28

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)
(II) (III)
DATA RECORD

Ray H. Skelton II
Field Inspection by (II): Jack S. Chamberlain
Victor E. Serena
Sheridan D. Jones
Robert S. Tibbetts

Planetable contouring by (II): None
Date: June 1950

Completion Surveys by (II): None
Date: —

Mean High Water Location (III) (State date and method of location):
September 24, 1948 (Same as date of photography)

Projection and Grids ruled by (IV): T.L.J.
Date: Nov. 1950

Projection and Grids checked by (IV): R. L. S.
Date: Nov. 1950

Control plotted by (III): S.W.Trow
Date: Dec. 1950

Control checked by (III): M.G.Misulia
Date: Dec. 1950

Radial Plot or Stereoscopic A. C. Rauck, Jr.
Control extension by (III):

Stereoscopic Instrument compilation (III):
Planimetry A.C.Rauck, Jr.
Contours A.C.Rauck, Jr.

Date: Jan. 1951

Manuscript delineated by (III): B. A. Dew
Date: March 1951

Photogrammetric Office Review by (III): A. K. Heywood
Date: April 1951

Elevations on Manuscript checked by (II) (III):
A.K.Heywood
Date: April 1951
Camera (kind or source) (III):

<table>
<thead>
<tr>
<th>Number</th>
<th>Date</th>
<th>Time</th>
<th>Scale</th>
<th>Stage of Tide</th>
</tr>
</thead>
<tbody>
<tr>
<td>STL 11-022-STL 11-25</td>
<td>9/24/48</td>
<td></td>
<td>1:20,000</td>
<td>(Time of photo not available.)</td>
</tr>
<tr>
<td>6-107 - 6-109</td>
<td></td>
<td>n</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-214 - 10-217</td>
<td></td>
<td>n</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Tide (III)

From predicted table of tides
Reference Station: DUTCH HARBOR
Subordinate Station: ST. LAWRENCE ISLAND, ALASKA

Diurnal

<table>
<thead>
<tr>
<th>Ratio of</th>
<th>Mean</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ranges</td>
<td>Range</td>
<td>Range</td>
</tr>
<tr>
<td>0.5</td>
<td>2.2</td>
<td>5.7</td>
</tr>
</tbody>
</table>

Date: 1-18-52
Date: 10-24-52
Date: 4-18-52

Drafting verified for reproduction by (IV):

Final Drafting by (IV):

Proof Edit by (IV):

Land Area (Sq. Statute Miles) (III): 6
Shoreline (More than 200 meters to opposite shore) (III): 8
Shoreline (Less than 200 meters to opposite shore) (III): 0
Control Leveling - Miles (II):
Number of Triangulation Stations searched for (II): Recovered:
Number of BMs searched for (II): Recovered:
Number of Recoverable Photo Stations established (III): 3
Number of Temporary Photo Hydro Stations established (III): 6

Remarks:

* This figure given by compilation office.
SUMMARY FOR T-9575

This topographic survey is one of a series of 49 quadrangles, each 7½ minutes in latitude and 15 minutes in longitude at 1:20,000 scale that cover ST. LAWRENCE ISLAND, ALASKA.

This BERING SEA ISLAND is approximately 100 miles long and averages 20 miles in width and has not been previously mapped at this large scale.

ST. LAWRENCE ISLAND is within the CAPE NOME DISTRICT of the SECOND JUDICIAL DIVISION.

The maps of this island are to be published at 1:25,000 scale by the Army Map Service.

For information concerning the project in its broader aspects see the project completion report which will include, among other items, two detailed field reports - a preliminary report dated 21 September 1950 and a project report dated June-September 1950 - both submitted by Fred A. Riddell.

The registered data to be permanently filed in the Bureau Archives under T-9575 will include a cloth-mounted lithographic print of the map manuscript at 1:20,000 scale together with a cloth-mounted published color print at 1:25,000 scale and the original descriptive report.
PHOTOGRAHMETRIC PLOT REPORT

Field Inspection Report

See project report of Fred A. Ridall for season June-September 1950 under separate cover.

21. Area Covered

T-9575, T-9576, and T-9577.

22. Method

Both horizontal and vertical control was bridged in the area. All horizontal stations established in the field were also vertical stations, but not conversely. Additional vertical control was also established in the field. This control, plus some horizontal and vertical pass points, was furnished to the Baltimore compilation office. The pass points were obtained from bridging by stereoplanigraph at the Washington Office from a vertical strip of photographs. This strip from STL-6-99 thru 6-110 served as a base for the horizontal and vertical bridging by multiplex which was then required. The attached sketch of control shows the cross-flight and the layout of strips bridged.

The horizontal and vertical pass points established by stereoplanigraph were furnished on the manuscript (1:20,000). The picking for these points was furnished on the 1:20,000 contact prints of the vertical cross-flight. All points were scaled from these manuscripts and plotted on the 1:10,000 multiplex work sheets.

In each strip bridged by multiplex the first model was scaled and leveled on existing control and pass points. The strip was then bridged to control and/or water surface. A EZ curve was determined* for each strip and used to correct elevations read in the strip. Pass points were selected so that most of them could serve both as horizontal and vertical pass points.

All topography, including shoreline and photo points, was plotted by multiplex. Work was done on 1:10,000 work sheets. These were reduced photographically and the 1:20,000 manuscripts assembled from the resulting film positives.

23. Adequacy of Control

Control complied with project instructions and was adequate.

24. Supplemental Data

None.

25. Photography

Coverage and overlap of photographs were adequate. Definition was satisfactory.

* For a detailed description of method used see War Department Tech. Manual TM-5-244, Multiplex Mapping Equipment.
25. **Photography (continued)**

Quality of diapositives was fair to good.

Considerable distortion was noted in the multiplex models. All sides showed a pronounced falling off. This limited multiplex bridging to about four models.

26. **Adequacy**

It is believed that the requirements for horizontal accuracy of the Coast and Geodetic Survey have been met.

For the most part contours are believed to be within one-half contour interval.

Respectfully submitted
3 May 1951

Henry P. Eichert
Cartographer

Approved and forwarded
17 June 1951

Hubert A. Paton
Comr., C&GS
Officer in Charge
SKETCH OF CONTROL FOR T-9575, T-9576 & T-9577
PROJECT PH-55(49)
ST. LAWRENCE ISLAND, ALASKA
<table>
<thead>
<tr>
<th>STATION</th>
<th>SOURCE OF INFORMATION (INDEX)</th>
<th>DATUM</th>
<th>LATITUDE OR y-COORDINATE</th>
<th>LONGITUDE OR x-COORDINATE</th>
<th>DISTANCE FROM GRID IN FEET. OR PROJECTION LINE IN METERS</th>
<th>DATUM CORRECTION to NA 1972</th>
<th>N.A. 1927-DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS</th>
<th>FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTROLAB No. 107 G-8801</td>
<td>Page 1</td>
<td>St. Lawrence (at Gambia)</td>
<td>63° 16' 33.583</td>
<td>171° 15' 02.3</td>
<td>71.2 (1786.7)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1943</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>271.0 (517.0)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GAMBELL, 1950</td>
<td>G-8801</td>
<td>Page 1</td>
<td>63° 16' 33.968</td>
<td>171° 15' 10.130</td>
<td>1039.9 (818.0)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1950</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>267.2 (559.9)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SEVUO, 1950</td>
<td>G-8801</td>
<td>Page 5</td>
<td>63° 16' 33.968</td>
<td>171° 15' 47.323</td>
<td>10.19 (804.5)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TROUT, 1950</td>
<td>G-8801</td>
<td>Page 1</td>
<td>63° 16' 54.181</td>
<td>171° 15' 42.932</td>
<td>1687.0 (170.9)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GAMESIL SCHOOL HOUSE CHIMNEY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>588.4 (234.0)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To transfer the above values to the NA 1972 datum use the following:

1. At longitude use Corrections to Latitude
   - 171°30'    - 4.19
   - 171°45'    - 4.07
   - 172°00'    - 3.94

2. For corrections to longitude use
   - 70.60 throughout

Corrections from Div. of Geodesy VS 1953, L.M.S.
31. Delineation

Refer to Photogrammetric Plot Report, item 22.

32. Control

Refer to Photogrammetric Plot Report, item 23.

33. Supplemental Data

None.

34. Contours and Drainage

These are complete.

35. Shoreline and Alongshore Details

The MHW line was established by the multiplex instrument with the aid of "ticks" furnished by field party on the contact photographs.

Offshore rocks are for the most part, office interpretation.

36. Offshore Details

None.

37. Landmarks and Aids

These are complete.

38. Control for Future Surveys

Forms 524 are submitted for three topographic stations. The positions of all were determined by multiplex.

A list of recoverable topographic stations and descriptions of photo hydro stations are included in paragraph 49 of this report.
39. **JUNCTIONS**

Junction has been made with Survey T-9576 to the south.

There are no contemporary surveys to the north, east, or west as the area is water.

40. **HORIZONTAL AND VERTICAL ACCURACY**

This subject is fully discussed in the Photogrammetric Plot Report bound under this cover.

46. **COMPARISON WITH EXISTING MAPS**

Comparison was made with USGS map, scale 1:250,000, printed in 1949.

47. **COMPARISON WITH NAUTICAL CHARTS**

Comparison was made with Chart 3302, scale: 1:553,4076 at Lat 60° 00', published in July 1945 and corrected to August 29, 1949. After hydrography is complete this map should supersede all previous charts.

Items to be applied to nautical charts immediately:
None.

Items to be carried forward:
None.

Respectfully submitted

[Signature]
Albert K. Heywood
Carto (Photo.) Aid

Approved and forwarded
12 June 1951

[Signature]
Hubert A. Paton
Comdr., C&GS
Officer in Charge
48. GEOGRAPHIC NAMES LIST

BERING SEA

- CHIBUKAK PT.
- GAMBELL
- TWOORRIGAN CAMP (shift name slightly to N.)
- KITLLINGOOK BAY
- MERUWTU PT
- NORTHWEST CAPE
- TITALICHAK BAY
- TROUTMAN LAKE

- SEVUKUK MT. Mountain left obliterates use Mt.)
  (applies to highest elevation)

Tategnak Point (SE of Chibukak Pt.)

- Marukta Mt. (lower than, and about 0.5 mile
  SE of Sevuoksak Mt, forms
  Tategnak Pt.)

- Sevuokshak Mt. (about 0.7 mi. NE of Sevuoksak Mt.
  coastal peak)

Names underlined in
red are approved.
2-8-52
L. HecK
NOTES FOR THE HYDROGRAPHER

The following is a list of recoverable topographic stations:

ROCK, 1950 Form 54
ROCK (Bone, 1950) Form 54
TOWER, 1950 (See) hydro Form 567

The following is a list of descriptions for photo-hydro stations:

EAR-top of rock
FAN-seaward edge of rock
IMP-seaward point of rock
JOT-center of rock
SEE-center of CAA observation tower
VIM-seaward face of rock

Special attention is called to the special volume Part 2 of the Project Report containing "jumbo" size prints of topographic and hydrographic stations prepared for the use of the hydrographic party, by Fred A. Riddell.

* Forms 574 for these stations give the positions on the St. Lawrence Island (Jambell) Ashkalore datum. Positions on the registered copy are on NA 1927. See p. 10 for corrections to NA 1927 datum.
I recommend that the following objects which have been inspected from seaward to determine their value as landmarks be charted on the charts indicated.

The positions given have been checked after listing by

A. K. Heywood

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<table>
<thead>
<tr>
<th>STATE</th>
<th>CHARTING NAME</th>
<th>DESCRIPTION</th>
<th>SIGNAL NAME</th>
<th>LATITUDE</th>
<th>LONGITUDE</th>
<th>DATUM</th>
<th>METHOD OF LOCATION AND SURVEY NO.</th>
<th>DATE OF LOCATION</th>
<th>CHARTS AFFECTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alaska</td>
<td>TOWER</td>
<td>White (CAA observation)</td>
<td>SEE</td>
<td>63 47 64</td>
<td>171 45 277</td>
<td>ST.LAW.I. Photo</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>*CHIMNEY</td>
<td>(Chimney Gambell Schoolhouse)</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Included as a landmark in Project Report for P&H-53(49) June-Sept 1950 - F. A. Riddell
PHOTOGRAMMETRIC OFFICE REVIEW

T. 9575


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. Reviewer _____  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: The manuscript is not ruled according to the Topo. Manual pg. 373.
62. Comparison with Registered Topographic Surveys.

T-2337 1898

The above survey is without scale or projection. It was drawn by an Eskimo and is included in the Bureau Archives as a record of native geographic names, and for historical reasons.

T-9575 is the first large scale survey of this area by this Bureau.

63. Comparison with Maps of Other Agencies.


Contours, drainage and other features are necessarily generalized at the scale of the above survey and detailed comparison would not be satisfactory.

The Geological Survey map is on an independent astronomic datum.

64. Comparison with Contemporary Hydrographic Surveys.

None contemporary

65. Comparison with Nautical Charts

Chart 9302 1:1,531,976  October 1951

A few changes in elevations and geographic names in this area should be noted for inclusion in any new printings or revisions of this chart.

66. Miscellaneous

(a) TRAILS - Some of the trails shown continuous on this map manuscript were not compiled throughout their entire lengths because their images did not show on the photographs where they crossed rock fields, beaches, etc. The gaps in the compiled trails have been sketched in by the reviewer in their probable or approximate positions.

(b) PROJECTIONS - the original compilation was based on the St. Lawrence Island (Gambell) astrolabe horizontal datum.
New projections have been ordered and after review this compilation is to be transferred to a Preliminary NA 1927 datum.

(c) COMPUTATIONS - the new datum mentioned in the above item will necessitate the inclusion in this Descriptive Report of recomputed positions for triangulation and radial plot positions some time after the transfer of the new projection and before registration of this manuscript. Connection values supplied see p. 10.

(d) CONTOURS - original compilation instructions for this project required a 25-foot supplementary contour interval in addition to the regular 50-foot interval.

After examination of several completed compilations it was decided to show only such supplementary contours as would give significant information or express certain topographic features not otherwise evident.

67. Adequacy of Manuscript

This topographic survey complies with project instructions and National Standards of Map Accuracy.

Reviewed by:

L. Martin Gazik

Approved by:

S. V. Lapham 4/18/53
Chief, Review Section
Div. of Photogrammetry

M. Hamilton
Chief, Nautical Chart Branch
Division of Charts

E. Walter
Chief, Div. Photogrammetry

Carl O. Manton
Chief, Div. of Coastal Surveys