


9575

  
Original

  
9575

Diag. Cht. No. 9302

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Topographic

Field No. \_\_\_\_\_ Office No. T-9575  
Project Ph-53(49)

LOCALITY

State Alaska

General locality St. Lawrence Island

Locality Gambell

1945

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 I.

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 1951      Date reported to Nautical Chart Branch (IV):

Applied to Chart No.

Date:

Date registered (IV): 3-16-53

Publication Scale (IV): 1:25,000

Publication date (IV):

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

NA 1927 (Unadjusted)

Vertical Datum (III):

Mean sea level except as follows:  
Elevations shown as (25) refer to mean high water  
Elevations shown as (5) refer to sounding datum  
i.e., mean low water or mean lower low water  
Shoreline at MHW

Reference Station (III): TROUT, 1950

Lat.: ~~65° 45' 54.481"~~      Long.: ~~171° 43' 48.722"~~

ADJUDICATED

Unadjusted (field)

Plane Coordinates (IV):

State: Alaska      Zone: 2

Y=

X=

~~NORTHING - 464,063.27~~

~~EASTING - 7,570,350.91~~

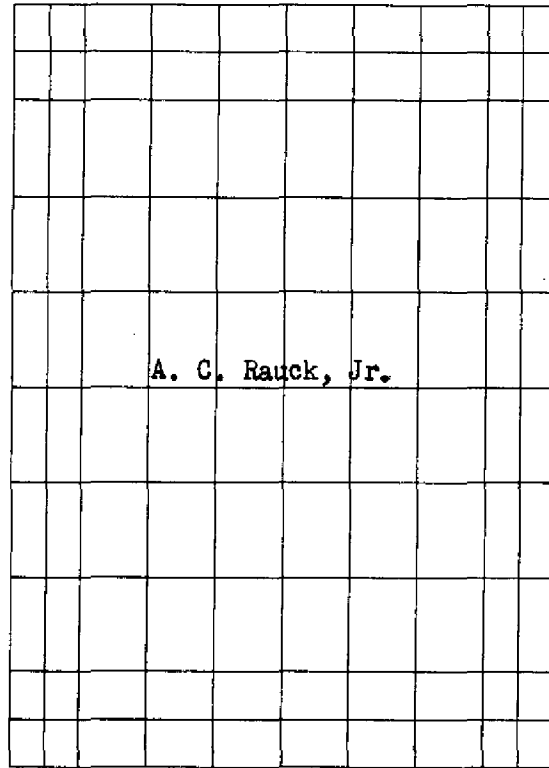
Roman numerals indicate whether the item is to be entered by (II) Field Party, (III) Photogrammetric Office,  
or (IV) Washington Office.

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

171°50'

171°35'

63° 52' 30"



63°45'

171°50'

171°35'

Areas contoured by various personnel

(Show name within area)

(II) (III)

# DATA RECORD

Field Inspection by (II):	Ray H. Skelton II Jack S. Chamberlain Victor E. Serena Sheridan D. Jones Robert S. Tibbetts	Date:	June 1950
Planetable contouring by (II):	None	Date:	—
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
<del>Radial Plot or</del> Stereoscopic Control extension by (III):	A. C. Rauck, Jr.	Date:	Jan. 1951
	Planimetry A.C.Rauck, Jr.	Date:	Jan. 1951
Stereoscopic Instrument compilation (III):	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):

Number	Date	Time	Scale	Stage of Tide
STL 11-022-STL 11-25	9/24/48		1:20,000	(Time of photo not available.)
" 6-107 - " 6-109	"		"	
" 10-214 - " 10-217	"		"	

Tide (III)

From predicted table of tides

Reference Station: DUTCH HARBOR  
Subordinate Station: ST. LAWRENCE ISLAND, ALASKA  
Subordinate Station:

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): 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.

Diurnal

Ratio of Ranges	Mean Range	Spring Range
	2.2	5.7
0.5	1.3	1.9

Date: 2-18-52

Date: 10-24-52  
4-10-52

Date:

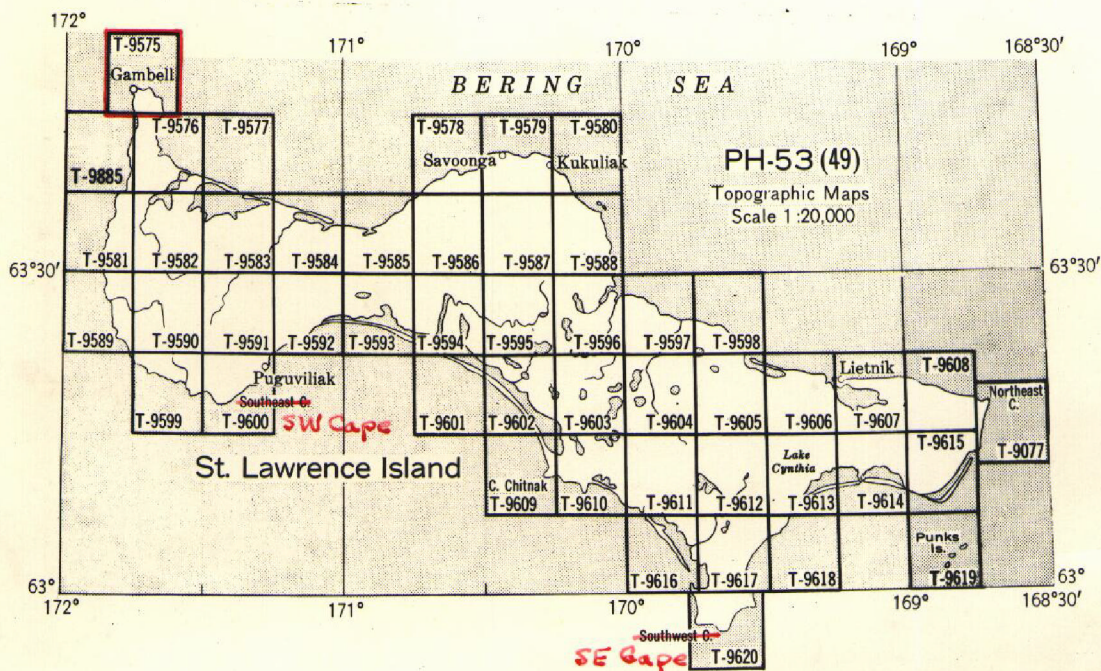
Date:

\* Identified: 5  
Identified:

# TOPOGRAPHIC MAPPING PROJECT PH-53

## ALASKA - Bering Sea, St. Lawrence Island

Compiled by the U. S. Coast and Geodetic Survey at scale of 1:20,000 from U. S. Navy  
1:20,000 scale single-lens photographs taken August 1948.  
(Refer to U. S. Navy mosaic index)



### OFFICIAL MILEAGE FOR COST ACCOUNTS

Sheet No.	Sq. Miles Area	Sheet No.	Sq. Miles Area	Sheet No.	Sq. Miles Area
T-9077.....	6	T-9590.....	67	T-9606.....	49
T-9575.....	7	T-9591.....	67	T-9607.....	39
T-9576.....	39	T-9592.....	52	T-9608.....	28
T-9577.....	2	T-9593.....	42	T-9609.....	3
T-9578.....	16	T-9594.....	56	T-9610.....	40
T-9579.....	36	T-9595.....	66	T-9611.....	64
T-9580.....	7	T-9596.....	64	T-9612.....	66
T-9581.....	24	T-9597.....	41	T-9613.....	53
T-9582.....	63	T-9598.....	16	T-9614.....	38
T-9583.....	60	T-9599.....	21	T-9615.....	44
T-9584.....	56	T-9600.....	28	T-9616.....	12
T-9585.....	50	T-9601.....	2	T-9617.....	54
T-9586.....	67	T-9602.....	31	T-9618.....	5
T-9587.....	67	T-9603.....	65	T-9619.....	1
T-9588.....	53	T-9604.....	65	T-9620.....	19
T-9589.....	18	T-9605.....	64	T-9885.....	3

**TOTAL 1836**

6

SUMMARY FOR T- 9575

This topographic survey is one of a series of 49 quadrangles, each  $7\frac{1}{2}$  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.

## PHOTOGRAMMETRIC PLOT REPORT

### Field Inspection Report

See project report of Fred A. Ridell 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 BZ curve was determined\* for each strip and used to correct <sup>instrument</sup> 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.

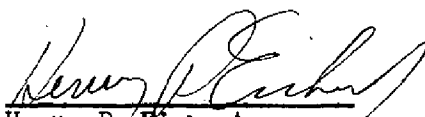
Considerable distortion was noted in the multiplex models. All sides showed a pronounced falling off. This limited multiplex bridging to about four models.

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

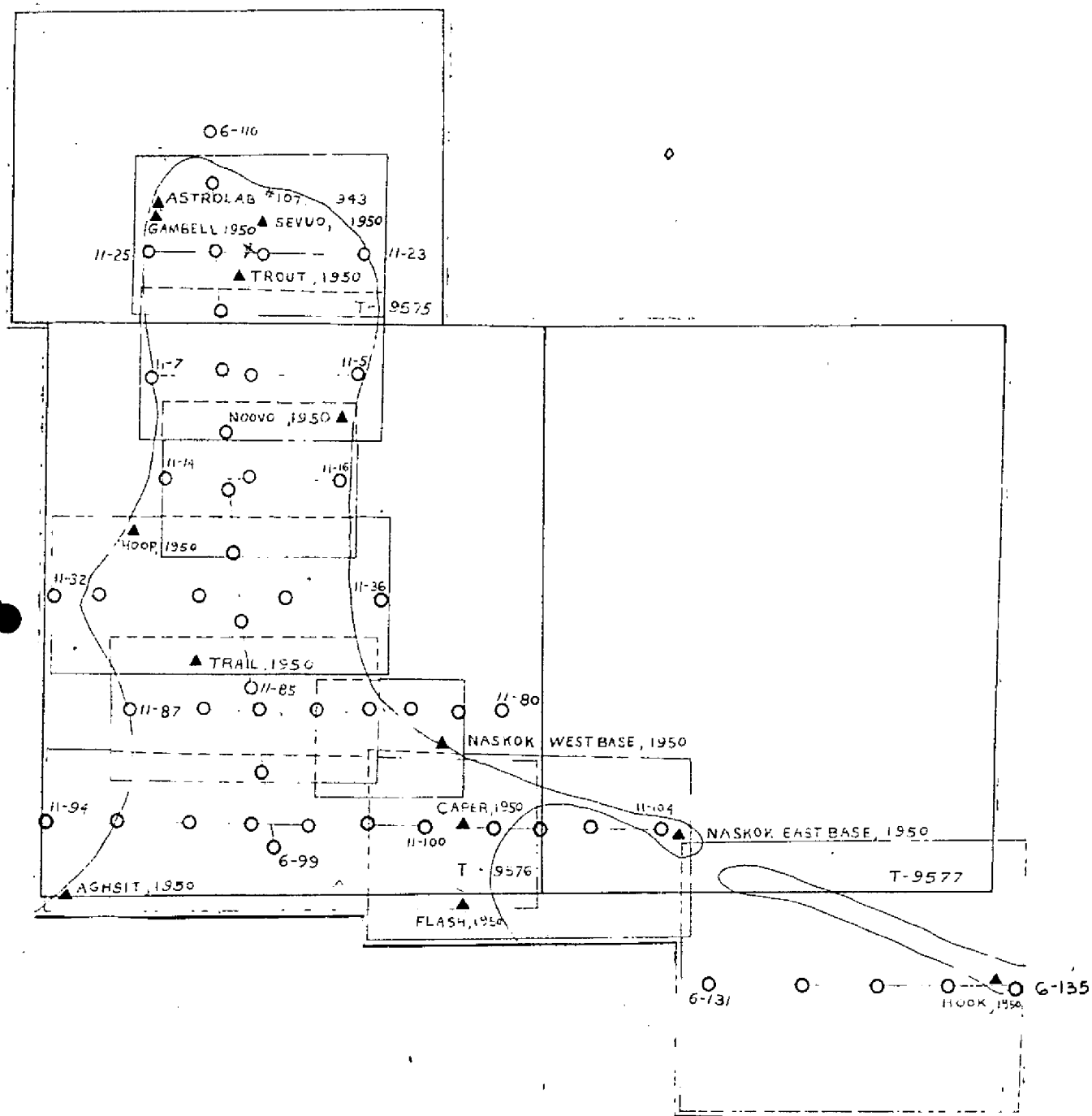
Approved and forwarded

14 June 1951

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Hubert A. Paton  
Comdr., C&GS  
Officer in Charge

*sm*



SKETCH OF CONTROL  
FOR  
T-9575, T-9576 & T-9577  
PROJECT PH-53(49)  
ST. LAWRENCE ISLAND, ALASKA

MAP T-9575

PROJECT NO. Ph-53(49)

SCALE OF MAP 1:20,000

SCALE FACTOR 1.000

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR $\psi$ -COORDINATE LONGITUDE OR $\chi$ -COORDINATE	DISTANCE FROM GRID IN FEET. OR PROJECTION LINE IN METERS		DATUM CORRECTION to NA 27	N.A. 1927-DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS		FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS	
				FORWARD	(BACK)		FORWARD	(BACK)	FORWARD	(BACK)
ASTROLAB No. 107 (USAF) 1943 (at Gambell)	G-8801 Page 1	St. Lawrence Is. (Gambell)	47° 02.3 171 15 20.0	71.2	(1786.7)					
GAMBELL, 1950	G-8801 Page 1	"	63 46 33.583 171 45 10.130	1039.9	(818.0)					
SEVUO, 1950	G-8801 Page 5	"	63 46 33.968 171 42 47.323	1011.9	(805.0)					
TROUT, 1950	G-8801 Page 1	"	63 45 54.481 171 43 42.932	1687.0	(170.9)					
GAMBELL SCHOOL	" Page 7	"	63 46 49.201 171 45 23.924	588.4	(234.0)					
HOUSE CHIMNEY	" Page 7	"		1523.5	(334.4)					
				327.8	(1194.2)					
To transfer the above values to the NA 1927 datum use the following:										
				At Longitude use Corrections to Latitude						
				171° 30'			- 4" 19			
				171° 45'			- 4" 07			
				172° 00'			- 3" 94			
				For corrections to Longitude use						
				- 70" 60 through Point.						
				Corrections from Div. of Geodesy 2/25/53. L.M.S.						

1 FT. = 3048006 METER

COMPUTED BY: S.N. TOW

DATE 14 NOV. 1950

CHECKED BY: M.G. MISULLIA

DATE 16 NOV. 1950

M-238-12

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COMPILATION REPORT FOR T-9575

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 9302, scale: 1:534,076 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

A. K. Heywood  
Albert K. Heywood  
Carto (Photo.) Aid

Approved and forwarded  
12 June 1951

Hubert A. Paton  
Hubert A. Paton  
Comdr., C&GS  
Officer in Charge

48. GEOGRAPHIC NAMES LISTBERING SEA✓ CHIBUKAK PT.✓ GAMBELL✓ INWOORRIGAN CAMP (shift name slightly to N.)✓ KITTILNGOOK BAY✓ MERUWTU PT✓ Northwest Cape✓ TIFLIGHAK BAY✓ TROUTMAN LAKE✓ SEVUOKUK ~~MT~~ Mountain (if abbreviated use Mt.)  
(applies to highest elevation)Tategnak Point (SE of Chibukak Pt.)✓ Marukta Mt (lower than, and about 0.5 mile  
SE of Sevuokuk Mt; forms  
Tategnak Pt.)✓ Sevooghak Mt. (about 0.7 m. NE. of Sevuokuk Mt,  
coastal peak)Names underlined in  
red are approved.  
2-8-52  
L. Heck

49. NOTES FOR THE HYDROGRAPHER

The following is a list of recoverable topographic stations:\*

ROCK, 1950 Form 5r4  
 ROCK (BONE, 1950) Form 5r4  
 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, <sup>June-September 1950</sup> containing "jumbo" size prints of topographic and hydrographic stations prepared for the use of the hydrographic party, by Fred A. Riddell.

\* Forms 5r4 for these stations give the positions on the St. Lawrence Island (Gambell) Astrolabe datum. Positions on the registered copy are on NA 1927. See p. 10 for corrections to NA 1927 datum.

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

# NON-FLOATING AIDS OR LANDMARKS FOR CHARTS

**TO BE CHARTED  
TO BE DELETED**

**STRIKE OUT ONE**

Baltimore, Maryland

April 1951

I recommend that the following objects which have ~~been~~<sup>not</sup> been inspected from seaward to determine their value as landmarks be charted on ~~(deleted from)~~ the charts indicated.

The positions given have been checked after listing by

A. K. Heywood

Hubert A. Paton *Chief of Party.*

[illegible]

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and *nonfloating aids* to navigation, if redetermined, shall be reported on this form. The data should be considered for the charts of the area and not by individual field survey sheets. Information on under-keel clearance should be reported on each 100 fathom chart.



## 50- PHOTOGRAMMETRIC OFFICE REVIEW

T-9575

- \*1. Projection and grids AKH 2. Title AKH 3. Manuscript numbers AKH 4. Manuscript size AKH

## CONTROL STATIONS

5. Horizontal control stations of third-order or higher accuracy AKH 6. Recoverable horizontal stations of less than third-order accuracy (topographic stations) AKH 7. Photo hydro stations AKH 8. Bench marks AKH  
9. Plotting of sextant fixes AKH 10. Photogrammetric plot report AKH 11. Detail points AKH

## ALONGSHORE AREAS

(Nautical Chart Data)

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

## PHYSICAL FEATURES

20. Water features AKH 21. Natural ground cover AKH 22. Planetable contours AKH 23. Stereoscopic instrument contours AKH 24. Contours in general AKH 25. Spot elevations AKH 26. Other physical features AKH

## CULTURAL FEATURES

27. Roads AKH 28. Buildings AKH 29. Railroads AKH 30. Other cultural features AKH

## BOUNDARIES

31. Boundary lines AKH 32. Public land lines AKH

## MISCELLANEOUS

33. Geographic names AKH 34. Junctions AKH 35. Legibility of the manuscript AKH 36. Discrepancy overlay AKH 37. Descriptive Report AKH 38. Field inspection photographs AKH 39. Forms AKH  
40. AKH AKH AKH  
Reviewer Supervisor, Review Section or Unit

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. 273.

REVIEW REPORT T-9575  
Topographic Manuscript  
February 18, 1952

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.-

ST. LAWRENCE, ALASKA, U.S.G.S., 1:250,000, 1949.

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      1:1,534,076      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.  
*Correction 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  
L. Martin Gazik

Approved by:

S. V. Gifford 4/13/53  
Chief, Review Section  
Div. of Photogrammetry

J. H. Edmonston  
Chief, Nautical Chart Branch  
Division of Charts GFD

O. S. Reading  
Chief, Div. Photogrammetry

Carl O. Heston  
Chief, Div. of Coastal Surveys  
HK