
Form 804
U. S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey  Topographic
Field No. Ph-56    Office No. T-9720

T-9718 thru

LOCALITY
State  Alaska
General locality  Etolin Strait (Bering Sea)
Locality  Pingurbek Island to Kuskokwim Bay

1950-51

CHIEF OF PARTY
M.J. Tonkel, Chief of Field Party
E.W. Kirsch, Balto. Photo. Office
E.W. Swanson, Div. of Maps. Wash., D.C.

DATE  December 1960
DATA RECORD

Project No. (II): PH-56

T-9718
t-
T-9719
T-9720

Field Office (II): Alaska

Photogrammetric Office (III): Baltimore, Md.

Chief of Party: M. J. Tonkel

Washington, D. C. Officer-in-Charge: L. W. Swanson

Instructions dated (II) (III):

1949 4 Dec. 1951
1951 21 Dec. 1951

Copy filed in Division of Photogrammetry (IV)

Method of Compilation (III): Reading nine-lens plotter and graphic

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): Date reported to Nautical Chart Branch (IV):

Applied to Chart No. Date:

Date registered (IV): 19 MAY 1959

Publication Scale (IV):

Publication date (IV):

Geographic Datum (III): N. A. 1927

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.: Adjusted
Long.: Unadjusted

Plane Coordinates (IV):

State:
Zone:

Y=
X=

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

Field Inspection by (II): (none) Date:

Planetary contouring by (II): Date:

Completion Surveys by (II): Date:

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

Projection and Grids ruled by (IV): Austin Riley Date: 10-18-54
Projection and Grids checked by (IV): Austin Riley Date: 10-26-54
Control plotted by (III): David Williams Date: 6-28-55

Control checked by (III): Joseph Steinberg Date: 6-28-55

Radial Plotter Stereo
Control extension by (III): Leroy A. Senasack Date: 2-21-58

Stereoscopic Instrument compilation (III):
Planimetry W. Heinbaugh Date: Sept. 1958
Contours W. Heinbaugh Date: Sept. 1958

Manuscript delineated by (III): W. Heinbaugh Date: Sept. 1958

Photogrammetric Office Review by (III): L. Levin Date: Sept. 1958

Elevations on Manuscript checked by (II) (III): L. Levin Date: Sept. 1958
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Land Area (Sq. Statute Miles) (III):

Shoreline (More than 200 meters to opposite shore) (III):

Shoreline (Less than 200 meters to opposite shore) (III):

Control Leveling - Miles (II):

Number of Triangulation Stations searched for (II):

Number of BMs searched for (II):

Number of Recoverable Photo Stations established (III):

Number of Temporary Photo Hydro Stations established (III):

Remarks:

Form T-Page 4

M-2618-12(4)
PHOTOGRAPHS (III)

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Tide (III)

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Land Area (Sq. Statute Miles) (III):

Shoreline (More than 200 meters to opposite shore) (III):

Shoreline (Less than 200 meters to opposite shore) (III):

Control Leveling - Miles (II):

Number of Triangulation Stations searched for (II):

Number of BMs searched for (II):

Number of Recoverable Photo Stations established (III):

Number of Temporary Photo Hydro Stations established (III):

Remarks:
Reference Station: Kodiak
Subordinate Station: none - general area
Washington Office Review by (IV): S. Straffler
Final Drafting by (IV): R. A. Carter
Drafting verified for reproduction by (IV): W. O. Hallin
Proof Edit by (IV):

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

Remarks:

Tide (III)

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Date: April 1959
Date: 2-4-60
Date: 3-7-60
Compiled 1:20,000 scale, from 1:20,000 scale nine-lens photographs; taken August 1950 and June 1951. Additional nine-lens photography to be taken, Season 1952.

Total 1,614

(Refer to Air-Photo Indexes B-42, 50, 51, 52 and E-11).
Summary

to accompany topographic surveys T-9718 thru T-9720

T-9718, 19 and 20 are part of Topographic Mapping Project PH-56 (24090). The project extends from Scammon Bay to Kuskokwim Bay on the west coast of Alaska and includes all of Nunivak Island as well. The three subject surveys cover Cape Avinof with offshore islands to a point of junction with project PH-41 to the east of PH-56 near the projected line of longitude of 163°.

The low coastal area of subject surveys is marsh and tundra with numerous lakes, ponds and streams. Maximum ground elevation is less than 25 feet and subsequently, no contour could be delineated within the limits of the three charts.

Original instructions date from 1949. Nine-lens photography is from 1950. There is no field inspection available for the shoreline of this area. The radial plot was done at the Baltimore District Office in 1958 and the compilations completed the same year at the Washington Office by stereoscopic instruments (Reading Plotter) and graphically.

There are no previous topographic surveys of this area nor contemporary hydrographic surveys.

A cronar film positive at the compilation scale of 1:20000 and the Descriptive Report will be registered and filed in the Bureau Archives.

April 1959
The Field Inspection Report is filed with the Descriptive Report for T-9679.
PHOTOGRA\\nMETRIC PLOT REPORT

Project Ph-56
Surveys T-9711, T-9713 thru T-9716, T-9718 
 thru T-9720 & T-9722

21. AREA COVERED

This radial plot covers the area of Surveys T-9711, T-9713 thru 
T-9716, T-9718 thru T-9720 and T-9722. These topographic surveys cover 
the area of Cape Avinof on the Bering Sea between Kinak Bay and 
Kwigillingok on Kuskokwim Bay. The surveys will be compiled with the 
Reading Plotter.

22. METHOD - RADIAL PLOT

Map Manuscripts:
Vinylite sheets with polyconic projection in black and Universal 
Traverse Mercator grids in red, at a scale of 1:20,000, were furnished
by the Washington office.

All control stations and substitute stations were plotted using the 
beam compass and meter bar.

A sketch showing the layout of these surveys and the distribution
of photograph centers and control is attached to this report.

Junction could not be made between map manuscripts with the U.T.M.
Alaska Zone 3, 2000 meter grids. Some of the map manuscripts were
ruled with odd numbered grids, while others with even numbered grids
and others with a combination of odd and even-numbered grids. The map
manuscripts were joined together for the radial plot using the projections
only.

Photographs:
All photographs used were nine-lens metal mounted photographs at a
scale of 1:20,000. Fifty-one (51) photographs were used in the plot,
numbered as follows:

28281 thru 28297
28547 thru 28554
28695
28697 thru 28712
38159 thru 38162
38166 thru 38173

Templets:
Vinylite templets were made from all photographs using a master
templet to adjust for errors due to chamber displacement. Radial lines
were scratched on the templets and scratches were filled in with china
marking wax pencils. Red pencil was used for all shoreline (Rectification)
pass-points and black pencil was used for all other radial lines.
Closure and Adjustment to Control:
This radial plot was laid directly on the map manuscripts, beginning with photograph 28712 and continuing southeasterly to photograph 28707. Then the other two adjoining flights were laid starting 36173 thru 36166 and 28517 thru 28515. At this point the plot was laid from survey T-9716 easterly to survey T-9718 and T-9720 and a junction was made with Project Ph-41. The flight of photographs on the western end of this plot, 28699 thru 29706, were laid last because there is no control in this area.

Several pass-points do not agree with the position of the pass-points on Project Ph-41. In many cases, it was difficult to decide what was previously pricked for a pass-point, because the same point was not pricked on all the adjoining photographs. A tight plot was laid and the position of the point as established in this radial plot was shown on the map manuscripts.

Transfer of Points:
The position of all centers, pass-points, and control stations were pricked on the top templates and circled with a 3 m.m. circle. They were then established on the remaining templates and map manuscripts by drilling down through them with a small (.01 inch) jewelers drill. All points were circled on each remaining template as it was removed, and finally on the map manuscript.

23. ADEQUACY OF CONTROL

The horizontal control was adequate for a satisfactory radial plot in the area covered by this report with exception of the islands southwest of Cape Avino. Refer to the Field Report Ph-56 (1951), page 4, item SUMMARY OF FIELD WORK NOT COMPLETED. All control stations were held, except as follows:

TEEL, 1949 - This station and substitute station was identified on a near vertical, hand held camera; photograph taken in 1949. The 17-foot stand was visible on the 1950 photographs and was verified by the ratioed print of the hand held camera. The radially plotted positions of both the station and sub. station fall approximately 0.6 mm to the west of the plotted position, or approximately 1 second in longitude. No reason could be found in this office for this discrepancy - other than the published position could be in error of one second.

24. SUPPLEMENTAL CONTROL

None.

25. PHOTOGRAPHY

The definition of the photographs was good and the coverage was adequate for the area of this report.
Though several tilted photographs were used in this plot, no tilt determination was necessary because the degree of tilt was not enough to affect the plot.

One of the fiducial marks was missing in chamber 4 and one in chamber 8, on all 1952 photographs. The center cross was missing on photograph 38168. It appears the negative was damaged and the definition has been erased in this area. All azimuth lines to this point are very weak.

26. **VERTICAL CONTROL**

None of the field identified vertical control points was pricked for the area of this report. The area in general is low tundra and lakes, all well below 25 feet high. The majority of the pass-points are "R" (Rectification) points.

27. **RECOVERABLE TOPOGRAPHIC STATIONS**

All recoverable topographic stations were pricked stereoscopically using the ratio prints of the hand held camera. The position of all recoverable topographic stations which were identified were established in the radial plot.

28. **HYDROGRAPHIC STATIONS**

Refer to Field Report, Ph-56 (49), page 5, "Hydrographic Stations", paragraph 2. This recommendation was not followed during the radial plot. If this is desired it should be done during the compilation of the manuscripts.

29. **RECTIFICATION POINTS BELOW NHW**

To get a radial plot in the area west and south of Cape Avisno, it was necessary to place points in the shallow water and on sand bars that cover at high tide. These rectification pass-points are labeled R (W) and should be used with caution.

Respectfully submitted
21 February 1958

Approved and Forwarded

William F. Deane
CDR C&GS
Baltimore District Officer

Leroy A. Senasack
Carto. Photo. Aid
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31. **Delineation**

With the exception of drawing the shoreline and obtaining spot elevations all details were drawn using graphic methods on rectified nine-lens photographs.

No beneficial field inspection was available for these three map manuscripts.

32. **Control**

See Radial Plot Report included in this report.

33. **Supplemental data**

None

34. **Contours and drainage**

No comment

35. **Shoreline and alongshore details**

No shoreline field inspection was available but it is felt that the office interpretation of the photographs is satisfactory. No effort was made to draw the low-water line, except in the vicinity of Pingrubek Island, because of the tide stage at the time of photography.

36. **Offshore details**

No comment

37. **Landmarks and aids**

Field party indicates no landmarks or aids. However, at location of SALT (Azimuth) 1951, there is a town or campsite composed of three or more buildings with the gable of one of these buildings being SALT (Az). No geographic name was available for the camp site.
38. Control for future surveys

The following topographic stations were established:

RAIN, 1951 T-9718
SAND, 1951 T-9718
BAND, 1951 T-9719
RATE, 1951 T-9719
SALT, 1951 T-9719
SALT, 1951 T-9719 (AZ)
BAIT, 1951 T-9720
FEED, 1951 T-9720
FLIP, 1951 T-9720

No hydro stations were established.

A list of topographic stations has been prepared and entered in paragraph 49 of this report.

39. Junctions

All sheet junctions were made on all adjoining sheets indicated by the project layout diagram included in this report.

40. Horizontal and vertical accuracy

No comment - see Radial Plot Report

46. Comparison with existing maps

USGS map, Baird Inlet, Alaska, N-6000-W16200/60x180, 1:250,000, 1951 Edition

USGS map, Kuskokwim Bay, Alaska, N-5900-W16200/60x180, 1:250,000, 1951 Edition

47. Comparison with nautical charts

The manuscript was compared with chart 9302.
Items to be applied to nautical charts immediately - none.
Items to be carried forward - none.

48. Geographic Name list

See appended lists

Approved:  

Louis Levin  
Supervisory Cartographer

Submitted:  
Wallace Heinbaugh  
Cartographer (Photo)
49. Notes to the hydrographer

RAIN, 1951
SAND, 1951
BAND, 1951
RATE, 1951
SALT, 1951
SALT, 1951
(AZ)
BAIT, 1951
FEED, 1951
FLIP, 1951
62. Comparison with Registered Topographic Surveys:

There are no registered topographic surveys of this area.

63. Comparison with Maps of Other Agencies:

KUSKOKWIM BAY, ALASKA, 1:250000, Ed. of 1951, US Geological Survey Pingurbek Island, several miles southwest of Cape Avinof is shown as one island on the Geological Survey topographic map and as a group of several islands on survey T-9718. Any other possible disagreement is difficult to determine because of scale difference.

64. Comparison with Contemporary Hydrographic Surveys:

None.

65. Comparison with Nautical Charts:

9302 1:1534076 Revised to 9/29/58

There is no other nautical chart coverage of subject area and scale difference precludes a detailed comparison.

66. Adequacy of Results and Future Surveys:

These surveys comply with project instructions and meet the requirements for adequacy and accuracy.

Reviewed by:

[Signature]

Josef J. Streifler

Approved by:

[Signature]

Le Lande
Chief, Review & Drafting Section
Photogrammetry Division

[Signature]

J. Ewango
Chief, Nautical Chart Branch
Charts Division 12/3/60

[Signature]

L. Swanson
Chief, Photogrammetry Division 3/31/60

[Signature]

J. Bower
Chief, Coastal Surveys Division
OPERATIONS
T-9718

Geographic Name List

ANOGOK
CAPE AVINOF
ETOLIN STRAIT
PINGURBEK ISLAND

Names approved 1-20-59
L. Heart
T-9719

Geographic Name List

KUSKOKWIM BAY

Name approved 1-20-59
L. Heck
T-9720
Geographic Name List

KUSKOKWIM BAY

Kigillingok (for title)

Names approved 1-20-59
L. Heck

Kwigillingok

UgnrB
4-9-59
### Record of Application to Charts

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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.