### DESCRIPTIVE REPORT

**Type of Survey**  Topographic  

**Field No.** Ph-28 (47)  **Office No.** T-9468  

**LOCALITY**  

**State**  Alaska  

**General locality**  Kotzebue Sound  

**Locality**  Kobuk River Delta  

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**CHIEF OF PARTY**  

A. Newton Stewart, Chief of Field Party  
Hubert A. Paton, Chief, B'more Photo Office  
Div of Photogrammetry, Washington, D.C.

**LIBRARY & ARCHIVES**  

MAY 23 1958  

**DATE**
DATA RECORD

T-9468 and T-9469

Project No. (II): Ph-28(47)  Quadrangle Name (IV): T-9468 = RILEY CHANNEL MOUTH
Field Office (II): Portland, Oregon  T-9469 = UPPER RILEY CHANNEL
Photogrammetric Office (III): Baltimore, Md  Chief of Party: A. Newton Stewart
Office-in-Charge: Washington, D.C.  Radial Plot: Hubert A. Paton, Chief
Instructions dated (II) (III): Compilation: Louis J. Reed, Chief,
(II) = 21 Apr 48  Stereo-map Section
(III) = 23 Oct 50  Copy filed in Division of
Method of Compilation (III): Reading Plotter "B"  Photogrammetry (IV)
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):  DEC 1 1952
Date reported to Nautical Chart Branch (IV):  DEC 8 1952

Applied to Chart No.  (IV):  Date registered (IV):  23 April 1957
Date:  
Publication Scale (IV):
Publication date (IV):
Geographic Datum (III): NA 1927 (Unadjusted)
Vertical Datum (III):
Mean sea level except as follows:
Elevations shown as (25) refer to mean high water
Elevations shown as (S) 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=  

MILITARY GRID: UTM Zone 4, 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)
(A) (B) (C) (D) (E) (F) (G) (H) (I) (J)

100% compiled on the Reading Plotter
model 
by the team of:

Louis Levin
and
Arthur E. Zimmerli
DATA RECORD

Field Inspection by (II): A. Newton Stewart  
Date: 1948

Planetable contouring by (II): None  
Date:

Completion Surveys by (II): None  
Date:

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

MHWL on these two quads is dated 1948 because they were compiled using 1948 field location on photographs. However, it was compiled using 1951 photographs and therefore could be considered as a 1951 MHWL for all practical purposes.

Projection and grids ruled by (IV): Jack Allen on the ruling Mach.  
Date: 2 Oct 51

Projection and Grids checked by (IV): Howard D. Wolfe  
Date: 5 Oct 51

Control plotted by (III): Ruth Hartley  
Date: 2 Nov 51

Control checked by (III): Frank J. Tarcza  
Date: 14 Feb 52

Radial Plot  
Control extension by (III): Gilbert E. Tarbert  
Date: 25 Apr 52

Stereoscopic Instrumentation by (II) (III): Louis Levin and Arthur B. Zimmerli  
Date:

Manuscript compiled by (III): Robert L. Sugden  
Date: 22 Oct 52

Photogrammetric Office Review by (III): Louis J. Reed  
Date: 1 Dec 52

Elevations on Manuscript checked by (III): Louis J. Reed  
Date: 1 Dec 52
Camera (kind or source) (III): USGS 9-lens camera, model "B", f = 8.25 inches

**Instrument PHOTOSGRAPHS (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>33979-82</td>
<td>27 Jun 51</td>
<td>1354 through 1358</td>
<td>20,000</td>
<td>appreciable No tide</td>
</tr>
<tr>
<td>33887-90</td>
<td></td>
<td>1403 through 1406</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Mr. Disney of Tides and Currents states (1 May 1951) that for all practical purposes no tide exists in this area.

L. J. R.

**Tide (III)**

<table>
<thead>
<tr>
<th>Ratio of</th>
<th>Mean Range</th>
<th>Recorded Range</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
</tbody>
</table>

Date: 10-21-53
Date: 8-24-55
Date: 10-5-55

Reference Station: Key Cape
Subordinate Station:
Subordinate Station:

Washington Office Review by (IV): BERNARD J. COLNER
Final Drafting by (IV): J. Johnson T-9468
Final Drafting by (IV): P. Bach T-9469

Drafting verified for reproduction by (IV):

Proof Edit by (IV):

Land Area (Sq. Statute Miles) (III): T-9468 = 41 sq mi; T-9469 = 79 sq mi
Shoreline (More than 200 meters to opposite shore) (III): 1½ and 2 miles
Shoreline (Less than 200 meters to opposite shore) (III): 4½ and 177 miles
Control Leveling - Miles (II): none

Number of Triangulation Stations searched for (II): Recovered: Identified: 3 three
Number of BMs searched for (II): none
Number of Recoverable Photo Stations established (III): one
Number of Temporary Photo Hydro Stations established (III): none

Remarks:
Compiled at 1:20,000 scale, from 1:20,000 scale nine-lens photographs taken July, 1950 and June, 1951. For additional nine-lens photography refer to:
Air-photo Index A-38 (1:20,000 scale, taken September 1947) Air-photo Index B-3 (1:20,000 scale taken Sept. 1947) Air-photo Index B-13 (1:20,000 scale, taken September 1947 and August 1948)

For single-lens photography on which some field work was done refer to:
Air-photo Index A-11 (1:27,500 scale, taken August 1948) Air-photo Index A-23 (1:27,500 scale, taken August, 1948, and 1:40,000 scale, August, 1950)
Air-photo Index A-24 (1:27,500 scale, August, 1948) Air-photo Index A-35 (1:40,000 scale, August, 1950)

For photography of other agencies on which some field work was done refer to:
Alaskan WAC 64 Index (1949 Naval Petroleum Reserve photography, scale 1:20,000 and 1946 Air-Force TRI-MET photography, scale 1:24,000)
Summary to Accompany T-9468 and T-9469

Ph-28(47) covers the eastern shore of the Chukchi Sea in Alaska and runs from Candle on the Kiwalik River on the south to Cape Beaufort to the north.

Seventy-three of the quadrangles (T-94.02 to 94.74) of this project consist of topographic surveys and twenty-two (T-94.02 to 94.34) and planimetric (T-9436 through T-9496).

T-9468 and T-9469 are topographic surveys of the area containing the upper portion of the Riley Channel and the mouth of Riley Channel where it flows into Hotham Inlet.

Each map manuscript consists of one sheet, 7½ minutes in latitude and 20 minutes in longitude, at a scale of 1:20,000, with a contour interval of 50 feet. A cloth backed lithographic print of each map at the compilation scale will be registered with the descriptive report in the Bureau Archives.
FIELD INSPECTION REPORT

2-20:

See separate report entitled:

PROJECT REPORT
AERIAL PHOTOGRAPH CONTROL AND INSPECTION
KOTZER JEB SOUND, ALASKA
Project Ph-25(47) July to Sept 1942
A. Newton Stewart, Chief of Party
PHOTOGRAMMETRIC PLOT REPORT
PROJECT PH-28(47)
Surveys T-9464, T-9465, T-9468, T-9469,
T-9472, T-9473, T-9474.

21. AREA COVERED

This radial plot covers the areas of surveys T-9464, T-9465, T-9468,
T-9469, T-9472, T-9473, and T-9474. These are topographic surveys situated
at the mouth of the Kobuk River, Hotham Inlet, Alaska.

22. METHOD—RADIAL PLOT

Map Manuscripts
Vinylite sheets with polyconic projections in black and Universal
Transverse Mercator Grids in red, at a scale of 1:20,000, were furnished
by the Washington Office. No base sheets were required.

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

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

Photographs
All photographs used are nine-lens metal mounted photographs at a
scale of 1:20,000. Forty-eight (48) photographs were used in this radial
plot numbering as follows:

27585 thru 27587
33844 thru 33847
33855 thru 33861
33882 thru 33892
33896 thru 33904
33975 thru 33983
33986 thru 33990

The symbols used on the photographs were given in special instructions
for all radial plots using nine-lens photographs which will be used later
with a Reading Plotter.

Templets
Vinylite templets were made from all photographs using a master templet
furnished by the Washington Office to adjust for error due to chamber displace-
ment. Radial lines were scratched on the templets with a sharp needle point
and the scratches were filled in with china marking pencil. 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:
The radial plot was constructed directly on the map manuscripts. A preliminary plot was constructed to determine whether there were any badly tilted photographs. The amount of tilt can be estimated by observing the displacement of the image points indicated by red dots on the templets, of shoreline points and points of known elevations. Three (3) of the photographs were found to be slightly tilted but not enough to seriously affect the plot.

The final plot was started at the north end of this area where points had been established in a previous radial plot, making this merely an extension of the first plot. This plot was then extended southerly to a fix on photograph 33980. There was only one other fix in the plot, on photograph 33884. This fix fell on another flight to the east and considerable adjustment had to be made in order to tie the flight of photographs between these two fixes and still obtain a satisfactory plot.

Due to the scarcity of control, all control stations were held in the plot. This may be the reason why so much adjustment was necessary between the flights.

Transfer of Points
The positions of all centers, pass points, and control stations were pricked on the top templets and circled with 3 mm blue circles. The positions were then established on the remaining templets and the map manuscripts by drilling down through them with a small (\(\frac{1}{4}\) inch) jeweler's drill. All points were circled on each templet as it was removed and on the map manuscript.

23. ADEQUACY OF CONTROL

There was adequate control for a satisfactory plot. It is believed all points are within the desired accuracy. However, one additional control station to the east of Station RILEY, 1949, would have provided a fix for the end of three flights. This additional station would have greatly strengthened the plot in this area.

The positions for stations BASH, 1948, EDGE, 1948, and MOUTH, 1948, were established using CAPE BLOSSOM LIGHT, 1949 as an azimuth. Since there is some question as to the correct position of this LIGHT, a letter was written to the Washington Office requesting a check on the computations of these stations. A copy of this letter is attached to this report.

24. SUPPLEMENTARY CONTROL

No graphic control surveys were used in this radial plot.

25. PHOTOGRAPHY

Photographic coverage, definition, and overlap between flights were adequate.

No tilt determination was made but at least three photographs showed evidence of tilt, Nos. 33858, 33896, 33980. These photographs had no serious effect on the plot.
26. VERTICAL CONTROL

There were two discrepancies noted during the computations of elevations following the establishment of their position in the radial plot. The horizontal angles observed for identification purposes in the field, were set with a protractor on the manuscripts to verify the identification. The following discrepancies were noted:

V-1120 and V-1120-A - These two points are on the same lake. The elevations did not agree by 4.0 meters. Since this point is on a lake in the Kobuk Delta the elevation can safely be assumed to be near zero. The computation for V-1120 was rejected.

V-1115 and V-1115-A; these water surface points do not agree by 2 meters; they were computed to be 4.5 meters below sea level. It is believed a wrong angle was observed by the field party. Since this lake is in the Kobuk Delta the elevation can safely be assumed to be near zero. Therefore, this elevation was rejected.

Respectfully submitted

Grover B. Torbert
Carto. Photo. Aid

Approved and forwarded
28 April 1952

Hubert A. Paton
Comdr., C&GS
Officer in Charge
LAYOUT SKETCH
PROJECT Ph 28 (47)
KOBUK RIVER DELTA,
ALASKA

▲ Triangulation stations identified.

○ Nine-lens photographs
COMPILATION REPORT

31. Delineation:

Contours and cultural features were delineated simultaneously on the Reading Plotter, model "B". The total land area of both quads has been mapped.

32. Control:

Adequate horizontal control existed for a satisfactory radial plot of an area including the area of the two quads of this report. For details, see side-heading 23, page 9. Vertical control was more than adequate throughout the area; rivers with sea-level shoreline meander from end to end of it. In addition, three V-stations were established by the field party, located and an elevation computed for each of them during radial plot, V-1114 on T-9468, and V-1115 and V-1119 on T-9469. V-1115 was rejected; see page 10.

33. Supplemental Data:

a. Elevation Computations: One bound volume covering the area of Plot "B" entitled: "TABULATION OF ELEVATIONS AND COMPUTATIONS OF ELEVATIONS BY MAP MANUSCRIPTS FOR VERTICAL CONTROL STATIONS IN THE AREA OF MAP MANUSCRIPTS T-9462, T-9463, T-9466, T-9467, T-9470, T-9471, and T-9475."

b. Field Inspection Photos: 20690, 20691, 20851, 20852, 20853.

34. Contours and Drainage:

The photographic quality of the instrument photographs was good and no areas of questionable contours are left.

35. Shoreline and Alongshore Details:

The shoreline on Hotham Inlet, which falls only in quad T-9468, has been shown on the manuscript in proper symbol as indicated by the field inspection as definite or apparent shoreline. Accompanying shoal lines are instrument delineated. River banks throughout the delta have been shown as shoreline also and are instrument delineated.

36. Offshore Details: None.

37. Landmarks and Aids: None recommended - none exist.

38. Control for Future Surveys:

Two topo stations were selected and photo-identified by the sub-station method in the field, and located by the radial plot; SLOP, 1948 and DASH, 1948. Both are on T-9468; none exist on T-9469. No hydro stations were field-selected; none were office selected.
39. **Junctions:**

Refer to diagram page 11 for junctions; all existing are in agreement having been compiled simultaneously. No quad exists to the east of T-9469, and the junction with between T-9468 and T-9467 is a water junction.

40. **Horizontal and Vertical Accuracy:**

These two 1:20,000 scale maps meet the requirements established by National Map Standards for maps of that scale. The contour interval of these maps is 50ft and the maps meet the requirements specified for such an interval, a half interval tolerance. Because the terrain of these quads is everywhere very close to sea-level datum, the 25ft supplemental contours have been compiled throughout. And even though these 25ft contours are considered to meet accuracy standards for 25ft contours, the compilations are still to be considered as 50ft maps in the interest of consistency with the other maps of this project.

46. **Comparison with Existing Maps:**

No maps of comparable scale exist; the following is the only one found of the same area:

**SELAWIK, Alaska, Alaska Reconnaissance Topographic Series, Second Judicial Division, USGS, 1:250,000, 1951 Ed.**

47. **Comparison with Nautical Charts:**

The following chart is not comparable because of the great scale difference:


48. **Geographic Name List:** See page 14, following.

49. **Notes for the Hydrographer:** See next page, unnumbered.

50. **Compilation Office Review:** See page 15, following.

submitted by

[Signature]

Orvis M. Dalbey,
Cartographer-Photogrammetric.

Approved by

[Signature]
Louis J. Reed, Chief
Stereoscopic Mapping Section
Photogrammetric Engineer
49. Notes for The Hydrographer:

T-9468

a. Topo Stations:
   SLOP, 1948 - identified on photo 20852 - see 524 card
   DASH, 1948 - identified on photo 20584 - see 524 card

b. Hydro Stations: None

T-9469

None
### Geographic Names

**Survey No.**

**T-9468 & T-9469**

<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>
<th>H</th>
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<td>Hotham Inlet</td>
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</table>

**T-9469**

Riley Channel

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Alaska

Second Judicial Division

Kotzebue Sound

Names approved

12-24-58. L. Heck
PHOTOGRAMMETRIC OFFICE REVIEW
T. 9468 and 9469

1. Projection and grids  
2. Title  
3. Manuscript numbers  
4. Manuscript size  

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  
9. Plotting of sextant fixes  
10. Photogrammetric plot report  
11. Detail points  

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

CULTURAL FEATURES
27. Roads  
28. Buildings  
29. Railroads  
30. Other cultural features  

BOUNDARIES
31. Boundary lines  
32. Public land lines  

MISCELLANEOUS
33. Geographic names  
34. Junctions  
35. Legibility of the manuscript  
36. Discrepancy overlay  
37. Description report  
38. Field inspection photographs  
39. Forms  

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:
Review Report T-9463 and T-9469
Topographic Maps
October 21, 1953

62. Comparison with Registered Topographic Surveys.— None

63. Comparison with Maps of Other Agencies.—

   USGS Alaska Map, Selawik 1:250,000 1951 Edition
   Comparison not feasible due to great difference in scale.

64. Comparison with Contemporary Hydrographic Surveys.— None

65. Comparison with Nautical Charts.—

   9400 1:1,587,870 June 1950
   9402 1:750,000 May 1950

   Scale difference precludes a satisfactory comparison.

66. Adequacy of Results and Future Surveys.— These maps comply
with project instructions and are adequate as bases for hydro-
graphic surveys and the construction of nautical charts.

Reviewed by:

B. J. Colner

APPROVED

Chief, Review Branch
Div. of Photogrammetry

Chief, Nautical Chart Branch
Division of Charts

Chief, Div. of Photogrammetry

Chief, Div. of Coastal Surveys