

9461 9462

Diag. Cht. No. 9400

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Topographic

T-9461

Field No. Ph-28 (47) Office No. T-9462

LOCALITY

State Alaska

General locality Kotzebue Sound

Locality Hotham Inlet

1948-51

CHIEF OF PARTY

A.N. Stewart, Chief of Field Party

E.A. Paton, B'more Photo. Office

L.J. Reed, Div. of Photo. Wash., D.C.

LIBRARY & ARCHIVES

DATE May 5, 1958

DATA RECORD

T -9461 and 9462

Project No. (II): **Ph-28(47)** Quadrangle Name (IV): **T-9461 = ^{US}SHESSALEK SPIT**
T-9462 = KOTZEBUE VILLAGE

Field Office (II): **Kotzebue Sound, Alaska**
 Photogrammetric Office (III): **Baltimore, Md.**
Washington, D.C.

Chief of Party: **A. Newton Stewart**
 Officer-in-Charge: **Hubert A. Eaton**
Louis J. Reed, Chief,
Stereoscopic Mapping Sec
 Copy filed in Division of
 Photogrammetry (IV)

Instructions dated (II) (III):

(II) = 21 Apr 48
 (III) = 23 Oct 50

Method of Compilation (III): **Reading Plotter (B)**

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

Scale Factor (III):

Date received in Washington Office (IV): **19 Jul 51** Date reported to Nautical Chart Branch (IV): **JUL 25 1951**

Applied to Chart No.

Date:

Date registered (IV): **24 April 1957**

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 (5) refer to sounding datum
 i.e., mean low water or mean lower low water

Reference Station (III):

Lat.:

Long.:

~~Adjusted~~

~~Unadjusted~~

Plane Coordinates (IV):

State:

Zone:

Y=

X=

MILITARY GRID ; Universal Transverse Mercator, Zone No. 3

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.

[illegible]

Areas contoured by various personnel

(Show name within area)

(111)

100% delineated by Louis Levin

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):

MHW line was delineated on the plotting instrument guided by 1948 field location of the shoreline.

Projection and Grids ruled by (IV): **Theodore L. Janson (on the Ruling Machine)** Date: **29 Nov 50**

Projection and Grids checked by (IV): **Howard D. Wolfe** Date: **5 Dec 50**

Control plotted by (III): **Frank J. Tarcza** Date: **7 Dec 50**

Control checked by (III): **John C. Richter** Date: **8 Dec 50**

Radial Plot ~~XXXXXXXXXX~~ **Frank J. Tarcza** Date: **19 Feb 51**
~~XXXXXXXXXX~~ by (III): **GROVER C. TORBERT (Plot II)** **14 Dec 51**

delineation by Planimetry Date: **20 Jun 51**
 Stereoscopic Instrument ~~XXXXXXXXXX~~ (III): **and Louis Levin** Date: **2 JUL 52**
 Contours **"**

compiled
 Manuscript ~~XXXXXXXXXX~~ by (III): **John B. McDonald** Date: **10 Jul 51**
" **21 " 52**

Photogrammetric Office Review by (III): **Louis J. Reed** Date: **18 Jul 51**
" **1 AUG 52**

Elevations on Manuscript **Louis J. Reed** Date: **18 Jul 51**
 checked by (III): **"** **1 AUG 52**

Camera (kind or source) (III): USC&GS 9-lens camera, model B, f=8.25 inches

Number	Date	Time	Scale	Stage of Tide
27549 thru 27557 33923 33924 38944 33945	22 Jul 50	1049 through 1055 11:00	20,000	none no appreciable tide
	27 JUNE 51	12:34 12:35 13:01 13:02	20,000	none

NOTE: Mr. Disney of Tides and Currents states (7 May 51) that for all practical purposes no tide exists in this area.

L.J.R.

Tide (III)

Reference Station: ~~Icy Cape~~
 Subordinate Station:
 Subordinate Station:

diurnal		
Ratio of Ranges	Mean Range	Some Range
		.61

Washington Office Review by (IV): B.J. Colner

Date: 9/16/53

Final Drafting by (IV): T-9461 F. Johnson
 T-9462 P. Zach

Date: 8-8-55
 Date: 8-22-55

Drafting verified for reproduction by (IV):

Date:

Proof Edit by (IV):

Date:

Land Area (Sq. Statute Miles) (III): See remarks below.

Shoreline (More than 200 meters to opposite shore) (III): See remarks below.

Shoreline (Less than 200 meters to opposite shore) (III): None

Control Leveling - Miles (II): None

Number of Triangulation Stations searched for (II):

Recovered:

Identified:

Number of BMs searched for (II): None

Recovered:

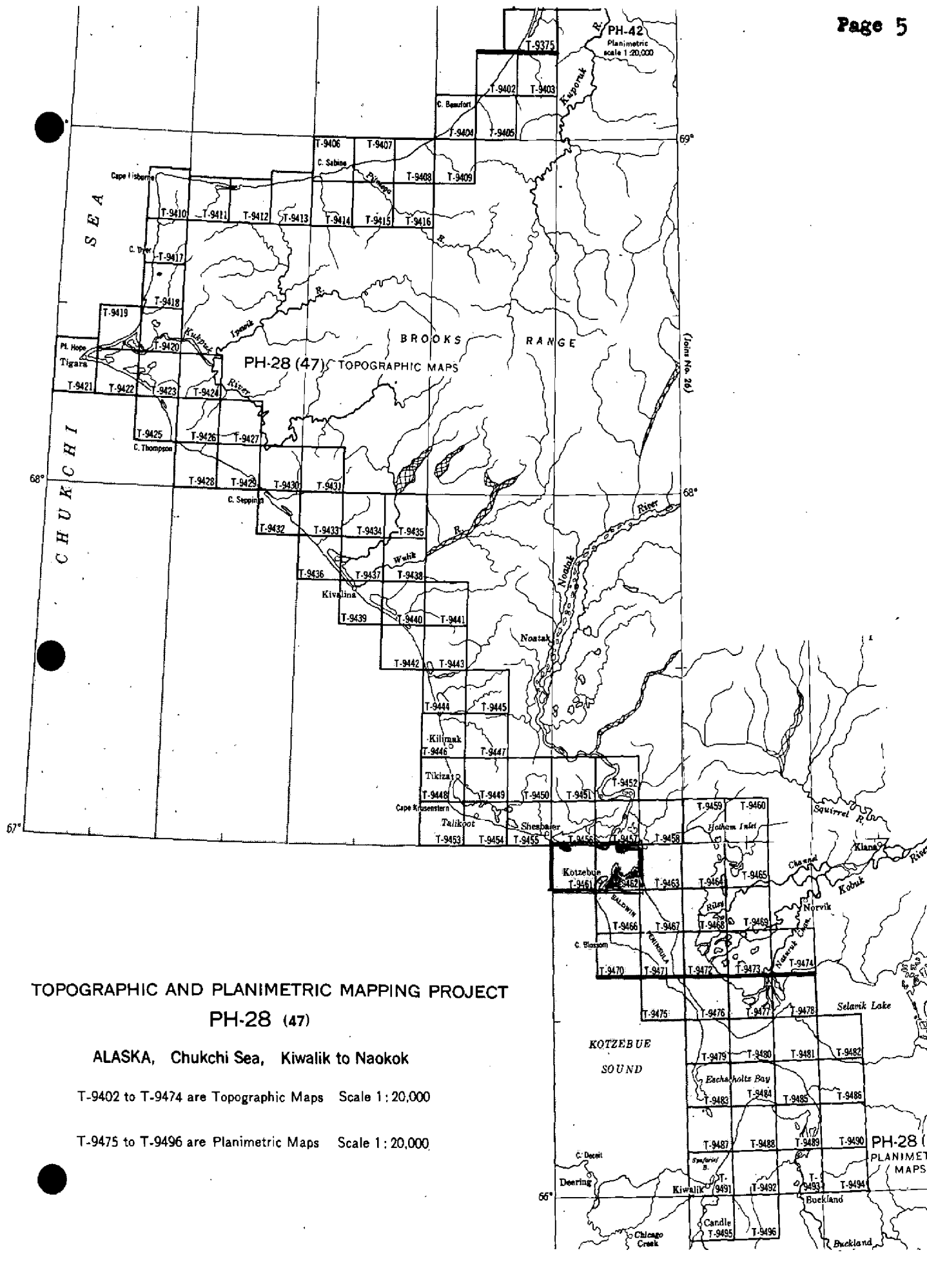
Identified:

Number of Recoverable Photo Stations established (III): two SIX (ONE ON T-9461)

Number of Temporary Photo Hydro Stations established (III): None FIVE (ON T-9462)

Remarks:

		T-9461	T-9462
AREA	=	0.5 sq mi	10 sq mi + 23 = 33 sq. mi.
SHORELINE	=	2.5 miles	11 miles + 22 = 33 miles.



TOPOGRAPHIC AND PLANIMETRIC MAPPING PROJECT
PH-28 (47)

ALASKA, Chukchi Sea, Kiwalik to Naokok

T-9402 to T-9474 are Topographic Maps Scale 1:20,000

T-9475 to T-9496 are Planimetric Maps Scale 1:20,000

Summary to Accompany T-9461 and T-9462

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-9402 to 9474)~~
~~of This project are topographic surveys and twenty-two~~
~~(T-9402 to 9434) are planimetrics and T-9436 through T-9446).~~

T-9461 and T-9462 are topographic surveys of the area containing part of Kotzebue Sound, Hotham Inlet, the southern portion of the Noatak River Delta, and Kotzebue which includes a very modern commercial airfield.

Each map manuscript consists of one sheet, $7\frac{1}{2}$ 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

KOTZEBUE SOUND, ALASKA

Project Ph-28(47) July to Sep 1948

A. Newton Stewart, Chief of Party

Louis
Stereoscopic Mapping
Photogrammetric Engineer

PHOTOGRAMMETRIC PLOT REPORT (MAINLAND
AREA)

PROJECT PH-28(47)

SURVEYS T-9448 to T-9457, inclusive

T-9461 and T-9462

21. AREA COVERED

This radial plot covers the areas of Surveys T-9448 to T-9451, incl., T-9453 to T-9456, incl., and T-9461. Three other surveys on the east, T-9452, T-9457, and T-9461, were partially done in a previous radial plot. They were completed in this radial plot and will be considered as a part of the plot in this report. All are topographic surveys situated along the shore of Kotzebue Sound for Noatak River to Cape Krusenstern.

22. METHOD - RADIAL PLOT

Map Manuscripts: Vinylite sheets, with polyconic projections and Universal Transverse Mercator grids, at a scale of 1:20,000, were furnished by the Washington Office. The radial plot was constructed on the map projection sheets and no base sheets were required.

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

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

Photographs

All photographs used are nine-lens, metal-mounted photographs, scale 1:20,000. Forty-three photographs were used in this radial plot. They are numbered as follows:

27551 to 27564 inclusive
27567 to 27578 inclusive
27595 to 27605 inclusive
27608 to 27610 inclusive
27755 to 27757 inclusive

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

Templets

Vinylite templets were made from all photographs using a master templet to adjust for errors due to chamber displacements. Radial lines were scratched on the templets with a sharp needle point and the scratch filled in with china marking pencils. Red was used for all shoreline (rectification) pass points and all other radial lines are in black.

Closure and adjustment to control

The radial plot was constructed directly on the map manuscripts. A preliminary plot was run to determine whether there were any badly tilted photographs. The relative amount of tilt was noted by observing the displacement of image points, represented by red dots on the templates, of shoreline points and points of known elevation. Three photographs were apparently tilted considerably; Nos. 27561, 27575 and 27609. Two of them could be bypassed in the final plot but No. 27575 had to be used. The two were placed on top of the completed plot so that the positions of all points could be pricked and circled thereon.

The final plot was started at the eastern end of this area where points had been established in a previous radial plot making this merely an extension of the first plot. It was necessary to disregard PEAKS NOS. 321 and 322 in order to hold other control. It was in this area that the tilted photograph 27575 is located. Considerable adjustment was necessary, particularly with the most northerly flight, because no other control was available in the immediate vicinity. The western part of the radial plot offered no problem and control was held.

Transfer of points

The position of all centers, pass points and control were pricked on the top templates and circled with 3 mm circles. The positions were established on the remaining templates and map manuscripts by drilling down through with a small (.01 inch) jeweler's drill. All points were circled on each template before it was removed.

23. ADEQUACY OF CONTROL

With the exception of Survey T-9452, control was adequate for a satisfactory radial plot. Photography did not reach NOATAK, 1949 and with the bad positions for PEAK 321, 1948 and PEAK 322, 1948, the radial plot may be a little weak in this survey and also in Survey T-9451, in ~~Survey T-9451~~. Since the northern side of the most northerly flight is uncontrolled, many positions near the edge of photography are marked with green circles although they are believed to be within the desired accuracy.

Three horizontal control stations could not be held in the radial plot:

The radially-plotted position for PEAK 321, 1948 falls 3.5 mm southwest from the geographic position and the radially-plotted position for PEAK 322, 1948 falls 3.0 mm west from the geographic position. Both of these have "no check" positions, being intersected from SHESUALEK, 1949 and NOATAK, 1949. Both peaks are between the two occupied stations, so that weak angles of intersection are formed. The geographic position for PEAK 322, 1948 falls on the side of the peak. There is an almost flat area at PEAK 321, 1949 and it is possible to prick a point near the true position on the rounded top of the mountain. However, a check was obtained on the radially-plotted positions. When observing vertical angles to the two peaks from DELTA, 1949, a check horizontal angle was turned for the purpose of field identification. With a protractor this angle was turned on the map manuscripts and found to be nearer the radially-plotted positions in both cases. Since DELTA, 1949 was not an occupied station, no observation could be used in computation by Division of Geodesy.

The radially plotted position for SUB.PT. FIRST, 1950, falls 0.6 mm southwest from the geographic position. It was possible to prick the station direct from identification on K-20 photograph and this was held in the radial plot. Also on this small field photograph there appeared a small "tongue" on the pond extending northward. This was not apparent on the field photograph and the corner of the pond was pricked. The sketch on the pricking card was inadequate for determining the correct point. The true position falls at the north end of the "tongue" of the pond and field pricking is in error.

24. SUPPLEMENTAL DATA

No graphic control surveys were used.

25. PHOTOGRAPHY

Photographic coverage was adequate for all of the surveys except the northern areas of Surveys T-9451 and T-9452. The definition of the photographs was good. Many of the photographs in the two northerly flights had scattered clouds which made peak identification more difficult, and some peaks are pricked on only two photographs. No tilt determination was made but at least three photographs showed evidence of tilt, Nos. 27575, 27561, and 27609. The latter two could be bypassed and placed on top but it was necessary to use 27575. With considerable adjustment, it was found possible to use it without correction. As noted in the previous radial plot report, Chamber No. 8 is weak in most photographs and this was considered when laying the plot. Chamber No. 3 had one collimation mark missing on all photographs of the northerly flight and one ^{on} the two flights running northwest on Survey T-9449, but this did not seem to introduce any serious errors in the radial plot.

26. VERTICAL CONTROL

During the computations of elevations for peaks following the radial plot, several discrepancies were found. The single horizontal angles, observed for identification purposes in the field, were turned with a protractor on the map manuscripts to verify the identification. The following discrepancies were found:

At PEAK 321, 1948 and PEAK 322, 1948, radially plotted positions were established, as previously mentioned. The elevations of these were recomputed using the new positions and both checked, within one meter, the elevation furnished.

PEAK 316 (Survey T-9452) - The two observations gave elevations with an error of only 3.5 meters. However, the horizontal angles did not check the plotted position and indicated another point on the rounded peak may have been observed in the field. This peak is outside of the survey limits and the elevation should be considered weak.

PEAK 330 (Survey T-9451) - The three elevations computed checked within 5 meters. When horizontal angles were turned, they indicated that a point about 6 mm southwest of the photogrammetric position was observed by the

field party. This peak is covered by clouds on one photograph and is pricked on two photographs near the edges. This made it difficult to prick with sufficient accuracy and the elevation and position must be considered rather inaccurate.

PEAK 356 (Survey T-9451) - The two observations given did not check in elevation. Horizontal angles indicated another peak to the north may have been observed, but it was off the office photographs.

PEAK 361 and PEAK 362 (Survey T-9450) - The elevations of these did not check, and the reasons could not be established. It is found that one observation on PEAK 361, from V-211 is incorrect and probably on another peak. It is possible that the peaks have been misidentified from station BUTTE, 1949.

PEAK 575 (Survey T-9457). The two observations gave elevations which did not check. There is no doubt about the identification. This peak should be rejected and does not appear necessary. If desired, the one correct elevation, of the two computed, could be determined with Reading plotter.

PEAK 559. (Survey T-9450) - Although six different observations were computed, no two elevations were found to check. It was apparently the wrong peak. But when horizontal angles were turned it was also apparent that more than one peak was observed by the field party. In attempting to re-identify the peak, there were several possible locations at intersections of horizontal angles. Only one of these was near a peak and this peak was pricked and located. The elevations from four stations checked within two meters. This peak was marked PEAK 559 (OFFICE) and is about 900 meters southwest from the original identified peak.

At station FLAT TOP, 1949, the PEAK 337 identified on field photographs was not pricked since it is on the same mountain. Also PEAK 633 and PEAK 634 near this peak have no check on their elevations. Although there is no reason to suspect error in the one observation on each, it is recommended that FLAT TOP, 1949 be used for elevation in this area. There were several observations rejected but in each case two or more observations on the same peak were in close agreement and no further investigation was made beyond checking horizontal angles.

Approved and forwarded
6 April 1951

Respectfully submitted

Hubert A. Paton

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

Frank J. Marcza

Frank J. Marcza
Cartographic Engineer

PART II

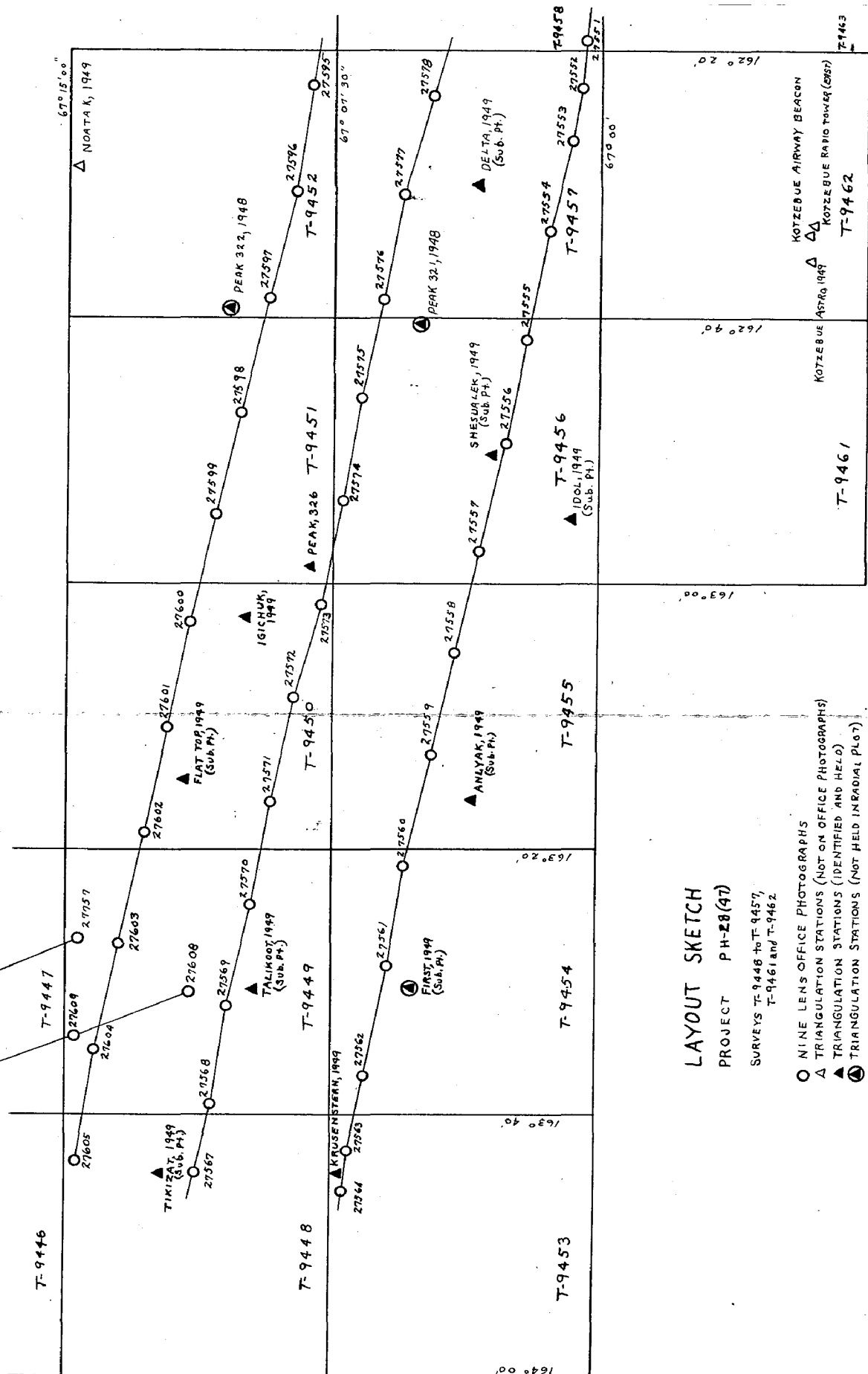
RADIAL PLOT REPORT (BALDWIN PENINSULA AREA)

*Refer to Radial Plot Report for T-9462, 63, 66, 67, 70, 71, and 75,
which is contained in the Descriptive Report for T-9466 and T-9467.*

Louis J. Reed
Louis J. Reed, Chief

Stereoscopic Mapping Section
Photogrammetric Engineer

▲ V-201



PROJECT PH-28(47)

SURVEYS T-9448 to T-9457,
T-9461 and T-9462

- NINE LENS OFFICE PHOTOGRAPHS
- △ TRIANGULATION STATIONS (NOT ON OFFICE PHOTOGRAPHS)
- ▲ TRIANGULATION STATIONS (IDENTIFIED AND HELD)
- ⊙ TRIANGULATION STATIONS (NOT HELD IN RADIAL PLOT)

COMPILATION REPORT (MAINLAND AREA)

31. Delineation:

All delineation has been accomplished on the Reading Plotter, model B. The area of this report is along the shoreline on the mainland north across Hotham Inlet from the north end of Baldwin Peninsula where the village of Kotzebue is situated. The area falling within the limits of T-9461 is now completed, but that part of the peninsula within the limits of T-9462 has not been delineated; it is to be included in a future radial plot at which time it will be added to the manuscript to bring it to completion.

Added, August 1952.

32. Control:

Reference side-heading 23 On page 9 of this report ^{and report for} T-9466 & 67 where it states that control was adequate for a strong plot and the control situation is discussed in detail.

33. Supplemental Data:

a. Graphic Control Surveys: None

b. Hydrographic Surveys: None

c. Plotting Instrument Photos (metal-mounts):

27549 thru 27555, 33923, 924, 944, and 945

d. Field Inspection Photos:

20838 thru 20842 and 20748 thru 20750, 20747, 817, 818, and 20900 thru 20903.

34. Contours and Drainage:

Photograph quality was very good and no areas of questionable contours exist. ~~In fact no contours exist in the area compiled at this time along the north edges of the two manuscripts being reported.~~

35. Shoreline and Alongshore Details:

Shoreline inspection was adequate. Shoal lines were office delineated on the plotting instrument.

36. Offshore Details: Not applicable.

37. Landmarks and Aids: None recommended.

38. Control for Future Surveys:

No topo or hydro stations have been located in the office. The field party selected no hydro stations but identified

two topo stations for office location during the radial plot. This was done and they are both shown on the manuscripts in proper symbol and name, HONK 1948 being on T-9461 and DATE 1948 on T-9462. Five other topo stations have been ^{and 5 Hydro signals} field identified on T9462 and will be located by the future plot mentioned in side-heading 31 above. See separate un-numbered sheet, "Notes for the Hydrographer."

39. Junctions:

The common match edge between T-9461 and T-9462 is in good agreement and the north edges of both sheets have been transferred to T-9456 and T-9457 respectively in order to assure these junctions to be in good agreement also.

40. Horizontal and Vertical Accuracy: Standard.

46. Comparison with Existing Maps:

- a. Advance proof of NOATAK, Alaska, USGS, Reconnaissance Topographic Series, Second Judicial Division, 1:250,000, 1951 edition.
- b. Advance proof of BAIRD MOUNTAINS, same as Noatak above.
- c. Compilation copy of TIGARA, 1:200,000, USGS.

47. Comparison with Nautical Charts:

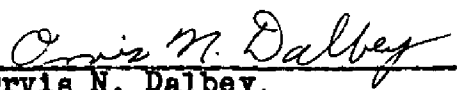
- a. ARCTIC COAST, Alaska, No 9400, 1:1,587,870, May 1946, 6th edition, last correction date of 27 Nov 50.
- b. Provisional Chart, CAPE PRINCE OF WALES TO POINT BARROW, CHUCKI SEA, Alaska-Arctic Coast, No 9402, 1: 759,000, May 1950, 1st edition.

48. Geographic Name List: See separate numbered page, following.

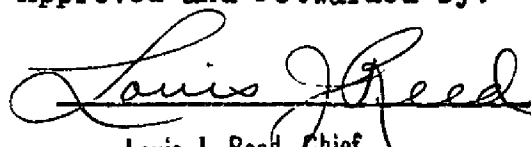
49. Notes for the Hydrographer: See separate unnumbered page.

50. Compilation Office Review: See T-2 form, following.

Submitted by:


Orvis N. Dalbey,
Cartographer-Photogrammetric

Approved and Forwarded by:


Louis J. Reed, Chief
Stereoscopic Mapping Section
Photogrammetric Engineer

GEOGRAPHIC NAMES

Survey No.

T-9461

T-9462

Name on Survey

	A	B	C	D	E	F	G	H	K	
<u>T-9461</u>										1
KOTZEBUE SOUND										2
<u>Sheshualik Spit</u>				(for title)						3
										4
										5
										6
										7
										8
<u>T-9462</u>										9
HOTHAM INLET										10
KOTZEBUE SOUND										11
NOATAK RIVER										12
NOATAK RIVER DELTA										13
<u>KOTZEBUE</u>										14
<u>KOTZEBUE FIELD</u>										15
<u>KOTZEBUE MUNICIPAL FIELD</u>										16
<u>BALDWIN PENINSULA</u>										17
<u>Second Judicial Division</u>										18
<u>Alaska</u>										19
										20
										21
										22
										23
										24
										25
										26
										27

Names approved 9-11-53
L. Heck

\$(

49. Notes for the Hydrographer:

T-9461

HONK 1948 -- identified on photo 20837 -- see 524 card

T-9462

DATE 1948 -- identified on photo 20749 -- see 524 card

BABY 1948 --	"	"	"	20818 --	"	"	"
CAKE 1948 --	"	"	"	20903 --	"	"	"
GUST 1948 --	"	"	"	20902 --	"	"	"
PELT 1948 --	"	"	"	20902 --	"	"	"

HYDRO SIGNAL #800 -- DESCRIBED & IDENTIFIED ON
PHOTO # 20900

"	"	801	"	20900
"	"	802	"	20900
"	"	803	"	20747
"	"	804	"	20747

PHOTOGRAMMETRIC OFFICE REVIEW

T. 9461 and 9462

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 along-shore cultural features ✓

PHYSICAL FEATURES

20. Water features ✓ 21. Natural ground cover ✓ 22. Planetable 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. Descriptive Report ✓ 38. Field inspection photographs ✓ 39. Forms ✓ 40. ✓

Reviewer

Supervisor, Review Section of Unit

Louis J. Reed, Chief

Stereoscopic Mapping Section
Photogrammetric Engineer

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:

M-2623-12

Review Report T-9461 and T-9462
Topographic Maps
September 16, 1953

62. Comparison with Registered Topographic Surveys.- None

63. Comparison with Maps of Other Agencies.-

USGS Alaska Map, Kotzebue 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

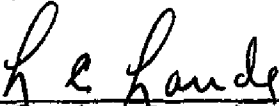
Scale difference precludes a satisfactory comparison.

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

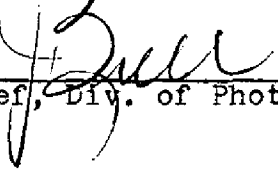
Reviewed by:

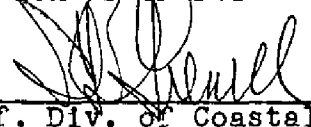

B. J. Colner

APPROVED


Chief, Review Branch
Div. of Photogrammetry


Chief, Nautical Chart Branch
Division of Charts


Chief, Div. of Photogrammetry


Chief, Div. of Coastal Surveys