

9421 THRU 9429

9421 THRU 9429

Diag. Cht. No. 9400.

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Topographic
Field No. Ph-28 (47) Office No. T-9421
thru
T-9429

LOCALITY

State Alaska
General locality Kotzebue Sound, North
Locality Point Hope Area

1948-50

CHIEF OF PARTY

L.G. Taylor, Chief of Field Party
H.A. Paton, Chief B'more Photo. Office.
E.J. Reed, Div. of Photo., Wash., D.C.

LIBRARY & ARCHIVES

DATE March 10, 1958

DATA RECORD

T-9421 thru 9429

Project No. (II): Ph-28(47) Quadrangle Name (IV): See manuscripts

Field Office (II): Kotzebue Sound, Alaska Chief of Party: Lorne G. Taylor

Photogrammetric Office (III): Baltimore, Md. (Radial Plot) Hubert A. Paton
Washington, D.C. (Compilation) Louis J. Reed, Chief,

Instructions dated (II) (III):

Stereomapping Sect.
Copy filed in Division of
Photogrammetry (IV)(II) = 21 Apr 48
(III) = 23 Oct 50

Method of Compilation (III): Reading Plotter, model "B"

Manuscript Scale (III): 20,000

Stereoscopic Plotting Instrument Scale (III): 20,000

Scale Factor (III):

Date received in Washington Office (IV): JUL 3 - 1952

Date reported to Nautical Chart Branch (IV): JUL 11 1952

Applied to Chart No.

Date:

Date registered (IV): 11 June 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.:

~~XX~~
Unadjusted

Plane Coordinates (IV):

State:

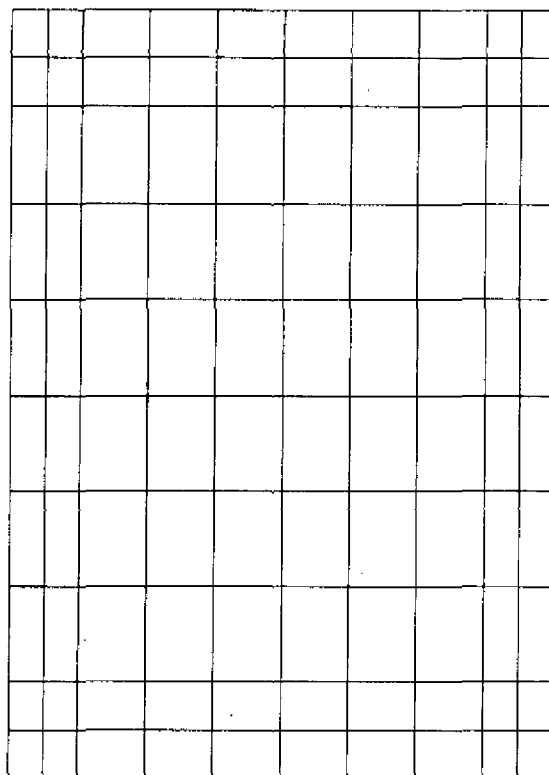
Zone:

Y=

X=

MILITARY GRID = Universal Transverse Mercator, Zone 3, with
2500 meter intervalRoman 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)

(X) (III)

100% compiled on the Reading Plotter,
model "B", by Louis Levin assisted in
part by Arthur B. Zimmerli as a student
operator.

DATA RECORD

Field Inspection by (II): H. R. Spies

Date: June - Sept. 1950

Planetable contouring by (II): None

Date:

Completion Surveys by (II): None

Date:

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

The MHWL is dated 1950. It was delineated on the plotting instrument guided by 1950 field identification of the shoreline, on field photographs.

Projection and Grids ruled by (IV): Theodore L. Janson on the Reading Ruling Machine

Date: 8 Mar 51

Projection and Grids checked by (IV): Howard D. Wolfe

Date: 10 Mar 51

Control plotted by (III): Ruth Hartley

Date: 9 ~~SEP~~ 51

Control checked by (III): Joseph Steinberg

Date: 20 Sep 51

Radial Plot ~~NO STEREO SCOPIC~~
CONDUCTED BY (III):

Frank J. Tarcza

Date: 26 Oct 51

delineation by: Planimetry
Stereoscopic Instrument ~~CONDUCTED~~ (III): & Louis Levin
Contours

Date: 22 May 52
Date:

compiled
Manuscript ~~REVIEWED~~ by (III): John B. McDonald
and David F. Romero

Date: 20 Jun 52

Photogrammetric Office Review by (III): Louis J. Reed

3 JUL
Date: 27 Jun 52

Elevations on Manuscript
checked by (II) (III):

Louis J. Reed

3 JUL
Date: 27 Jun 52

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

Number	Date	Time	Scale	Stage of Tide
22711	23 Aug 48	12:10	20,000	None*
22715	"	12:13	"	"
27628		12:26		
thru	22 Jul 50		"	"
27640		12:38		
27727		14:42		
thru	22 Jul 50		"	"
27733		14:49		

* Mr Disney of Tides and Currents states that no tide exists in this area, for all practical purposes.

Tide (III)

diurnal

Reference Station: Icy Cape
Subordinate Station:
Subordinate Station:

Ratio of Ranges	Mean Range	Range
		.61

Washington Office Review by (IV): T-9421 T-9422 T-9426
F. Johnson T-9427 T-9429

Date: 6-14-56 6-14-56 6-13-56
6-11-56 6-17-56

Final Drafting by (IV): John H. Frazier T-9428

Date: 6-1-56

Drafting verified for reproduction by (IV): W.O. Hallum

Date: 8-1-56

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): Indefinite

Control Leveling - Miles (II): None

Number of Triangulation Stations searched for (II):

Recovered:

Identified: 14

Number of BMs searched for (II): None

Recovered:

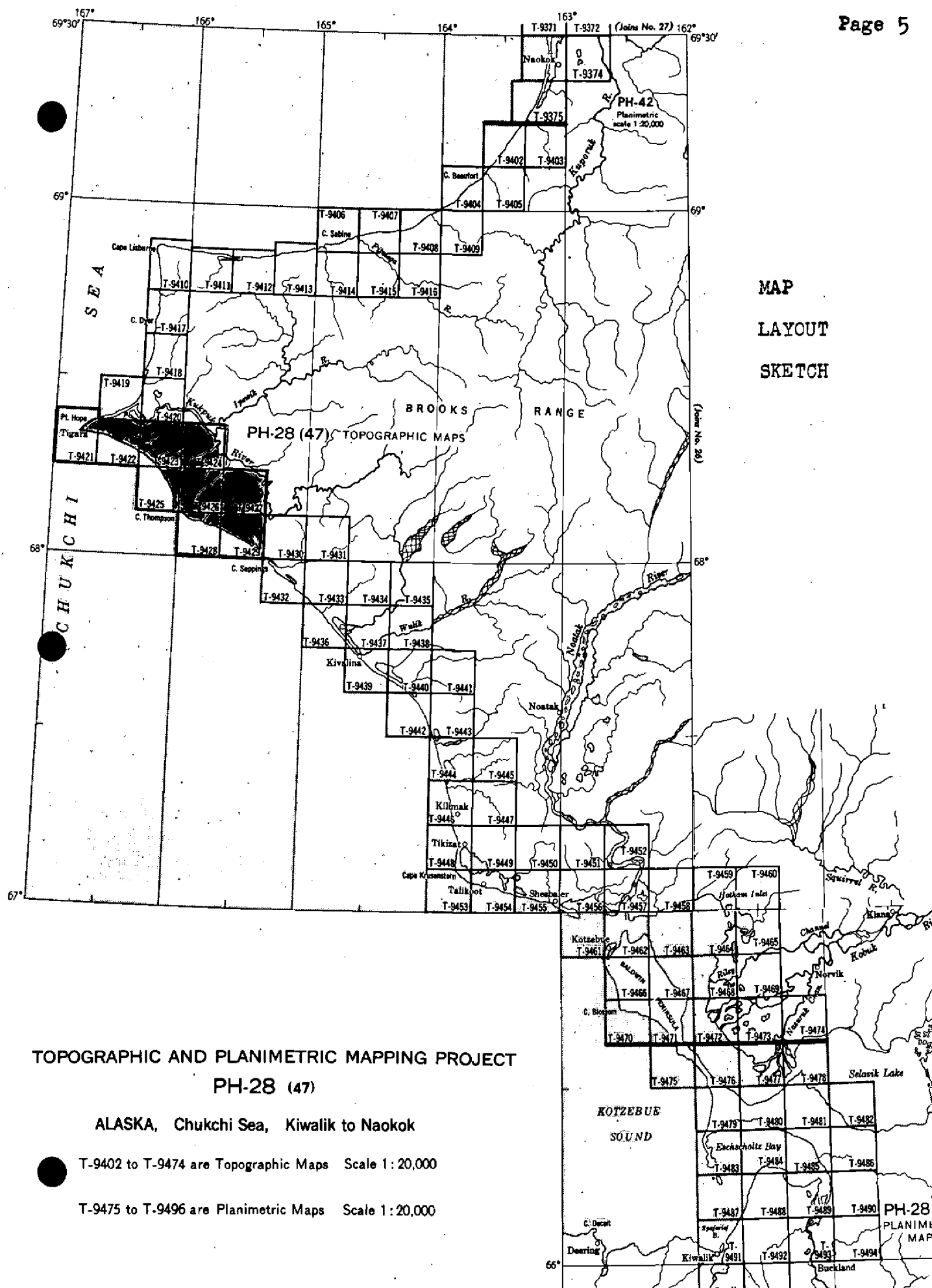
Identified:

Number of Recoverable Photo Stations established (III): 11

Number of Temporary Photo Hydro Stations established (III): 5

Remarks:

	Area in Sq Mi	MHHWL in miles
T-9421	3	10
22	16	9
23	28	6
24	60	0
25	9	7
26	72	4
27	68	0
28	10	9
T-9429	39	10
	335	54



1. Preface:

Summary to Accompany T-9421 through T-9429

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.

There are ninety-four topographic quadrangles (T-9402 to T-9434 and T-9436 to T-9496) in this project.

T-9421 through T-9429 are topographic Surveys which contain both the area in the vicinity of and the area south-east of Point Hope.

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 of Archives.

FIELD INSPECTION REPORT

2-20:

See separate report entitled:

PROJECT REPORT
AERIAL PHOTOGRAPH CONTROL AND INSPECTION
CAPE KRUSENSTERN TO POINT HOPE, ALASKA

Project Ph-28(47) June to Sep 1950
Lorne G. Taylor, Chief of Party

PHOTOGRAMMETRIC PLOT REPORT

PROJECT PH-28(47)

SURVEYS T-9421 to T-9427, incl.

21. AREA COVERED

This radial plot covers the areas of Surveys T-9421 to T-9427, inclusive. They are topographic surveys situated along the shore of the Arctic Ocean from Cape Thompson to Point Hope, Alaska.

22. METHOD -- RADIAL PLOTMap 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.

The substitute stations for POINT HOPE, 1950, and PLATEAU, 1950, were plotted using steel protractor. All other substitute stations and all control stations were plotted using meter bar and beam compass.

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. Twenty-eight (28) photographs were used in this radial plot numbered as follows:

22711
22714 and 22715
27631 to 27641, incl.
27651
27670
27672 to 27675, incl.
27685
27727 to 27733, incl.

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 errors due to chamber displacements. Radial lines were scratched on the templets with a sharp needle point and the scratches 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 radial plot was constructed to determine whether there were any badly tilted photographs, and to establish a position for POINT HOPE NAV. LIGHT NO. 2658, 1950. The amount of tilt was estimated by observing the displacement of the image points, indicated on the templates by red dots, of shoreline points and points of known elevation. Photograph 27642 was tilted so badly that it could not be used. Photograph 27651 is also considerably tilted and was adjusted last. Two other photographs appeared to have some tilt but not enough to affect the radial plot seriously.

The final plot was started at the southern edge of surveys where the positions of pass points and photograph centers had been established in the previous radial plot. The plot was extended northwestward holding all control points, except Sub. Pt. SAFETY, 1950 and THOMPSON, 1950. SAFETY, 1950 was identified direct and held. Sub. Pt. THOMPSON was also held in the radial plot. As explained in a previous radial plot report there was difficulty in holding pass point intersections in chamber No. 8. By permitting small triangles in this chamber it was possible to get a satisfactory radial plot.

Transfer of points

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

23. ADEQUACY OF CONTROL

There was adequate control in the shoreline areas. In the northeast parts of T-9424 and T-9427 in the interior areas there are large gaps between control stations. Pass points in these areas are near the edge of the interior flight and are circled in green since their positions may be weak.

A radially plotted position was established for THOMPSON, 1950. An attempt was made to prick this station direct with the aid of K-20 field photographs. The error is believed to be due to difficulty of identification. Sub. Pt. THOMPSON, 1950 nearby was held in the radial plot.

All stations on surveys T-9419 to T-9424, incl. were identified direct and also by at least one substitute point where available, except GRAVEL, 1950. K-20 field photograph reductions, at the scale of office photographs, were furnished by the Washington Office. The stations were identified direct by pricking them with the aid of a stereoscope using the K-20 reduction and one of the nine-lens office photographs.

The radially plotted position for Sub. Pt. SAFETY, 1950, falls about 0.5 mm northwest from the geographic position. This is probably due to pricking since it is difficult to identify the image described on the pricking card. SAFETY, 1950, was identified direct with the aid of a K-20 photograph reduction and held in the radial plot.

POINT HOPE, 1950 was not identified direct by the field party. The substitute stations could not be computed because there was no position available for the azimuth station, POINT HOPE NAV. LIGHT NO. 2658, 1950. The position of POINT HOPE, 1950 was cut in as accurately as possible on office photographs using the distances from the two substitute points. This station was held in the preliminary plot and a radial plot position was established for the light. The substitute stations were then plotted with a steel protractor. The substitute stations for PLATEAU, 1950 also depended on the light for azimuth. In the final plot, the two substitute stations for POINT HOPE, 1950 were held. The identification of POINT HOPE, 1950 and the position of the light were found to be accurate.

24. SUPPLEMENTARY CONTROL

No graphic control surveys were used in this radial plot.

25. PHOTOGRAPHY

Photographic coverage was adequate except in the northeast corners of Surveys T-9424 and T-9427. Only one of the 1950 office photographs covered the area at Point Hope and this one, No. 27642, was badly tilted. In order to have coverage, three 1947 photographs 22711, 22714 and 22715 were requested of, and furnished by, the Washington Office. These provide adequate coverage for stereoscopic work.

The definition of all photography is good. Besides No. 27642, which is not usable, one other photograph, No. 27651, is tilted considerably. Since it is a lone photograph, not in any flight, it is recommended that this should not be used.

Two collimation marks are missing on all the photographs except the three 1947 photographs covering Point Hope. One of these is in chamber No. 8 which may have caused the errors noted in this chamber. The other, in Chamber no. 3 did not appear the cause any error.

26. VERTICAL CONTROL

There were several discrepancies noted during 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 steel protractor on the map manuscripts to verify the identification. The following discrepancies were noted:

PEAK 737 (Survey T-9427) The azimuth, established by a horizontal angle in the field, did not check by about 5°. It is obviously another peak which could not be identified in the office from the one azimuth known.

PEAK 742 (T-9426) - The azimuths intersected about 50 meters north on the flat top. It was repricked and the new elevations recomputed. The original office pricking was same as field pricking.

PEAK 744 (T-9426)- This peak was repricked on another high point 80 meters to the south on the flat top of ridge to correspond to the azimuths. The elevations were recomputed.

PEAK 802 (T-9424)- The azimuths indicated that the wrong peak was identified in the field. They intersected on another peak about 800 meters northwest. It was repricked and elevations were recomputed.

PEAK 803 (T-9424) - It was originally pricked as field identified. Elevations did not agree and the azimuths indicated that this was the wrong peak. But no definite intersection was established. It is believed that no two observations are on the same peak. A study of panoramic hand camera photographs revealed that another peak was observed from IPEWIK, 1950. This peak was pricked and elevations were recomputed but they did not check. The observation from IPEWIK, 1950 was accepted and there is no check and should be used with caution.

PEAK 807 (T-9424) Elevations did not agree and field azimuths indicated that they observed on another point to the west on the long flat top of the ridge. The peak was repricked as azimuths indicated but elevations still disagree by about 3 meters. The field identification is obviously in error, being far down on the slope. It is not probable that the exact same point of this flat indefinite peak was observed by the field party.

PEAK 808 (T-9424)-There is no check on this peak. The azimuth did not check but indicated another higher peak, about 600 meters to the west of the field identified peak, was observed by the field party. It also fits the description better. The higher peak was pricked and the elevation was recomputed.

V-2164 (T-9427). The elevation did not agree with that of V-2164A, another point on the shore of the same lake. The azimuth indicated another point of land was observed. It was repricked and a good check on the elevation was obtained.

V-2171A (T-9425) - The elevation computed is below sea level. It is a point on the shore of a lagoon that is known to be about one meter above sea level as indicated on the control identification card for POINT HOPE, WEST BASE, 1950. The azimuth indicates misidentification. Since V-2171 appears correct, no attempt was made to reprick V-2171A.

V-2172A (T-9423) - This is also a point on a lagoon about 1 meter above sea level. The elevation of 3 meters is probably high and was rejected. The elevation of V-2172 is 1.4 meter which appears good. V-2179 (T-9423) and V-2180 (T-9420) - These points are on the bank of Kukpuk River near the delta at its mouth and should be at or just above sea level. Both have slightly below sea level elevations as computed, which is probably due to inaccuracy of identification since they are on rounded, indefinite points of land. They were both rejected and should be used as sea level, or rectification, shoreline points.

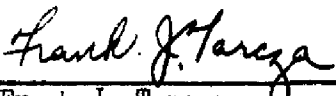
V-2183 (T-9420) - The elevation of this point on the river appeared too high. The azimuth was 27° in error and indicated that another point about 3000 meters to the east was observed. The elevation was recomputed and appears correct.

V-2184(T-9423)-The elevation did not check with V-2184A. The azimuths did not check either point. Both were reidentified as indicated by the azimuths and the elevations agree within one meter.

At four different lakes where two points were observed on the lake, the elevations did not agree. These were at V-2165, V-2170, V-2173 and V-2175. In all cases it was found that the zenith distances observed were reversed when recorded. It is probably due to misidentification by the observer using an instrument with inverted image in the telescope. The elevations for the two points on each lake checked, after the zenith distances for the two points were reversed.

While pricking shoreline (rectification) pass points in the Kukpuk River delta area, all points along the river almost to V-2183 near station BANKS, 1950 were assumed to be near sea level elevation and are shown as rectification points. There are several lagoons separated from the Arctic Ocean by a narrow strip of sand in the area from Cape Thompson to Point Hope. These, also were considered suitable for shoreline (rectification) pass points since they are about one meter above sea level.

Respectfully submitted


Frank J. Tarcza
Cartographer (Photo)

RADIAL PLOT REPORT

for

T-9428 and T-9429

21-30:

The radial plot report of the preceding pages covers T-9421 thru T-9427 only; T-9428 and T-9429 are not included. They were included in another plot the report for which may found as an integral part of the descriptive report for the quads T-9430 thru T-9434.

COMPILATION REPORT31. Delineation:

Contours and cultural features were delineated simultaneously on the Reading Plotter, model "B". All land area of all quads has been completed except two; T-9424 and T-9427 have small gaps as shown on page 5, this report. Phot coverage and field inspection were complete as planned.

32. Control:

In general, horizontal control was adequate for the radial plot as discussed in side-heading 23. Vertical control was also adequate; it consisted of sea-level datum at the MHHWL and elevations on inland peaks and water surfaces as set by field observations.

33. Supplemental Data:

a. Plotting Instrument Photos (metal-mounts):

22711, 22715, 27628 thru 27640, and 27727 thru 27733.

b. Field Inspection Photos:

20593, 4, 5, 6, 7, 8, 9, 601, 2, 3, 4, 5, 933, 4, 5, 6, 7, 8, 9, 988
22711, 14, 15, 17, 18, 20, 22, 23, 27642, 727, 28, 29, 30, 31

c. Vertical Control Brochure:

2 TABULATION OF ELEVATIONS AND COMPUTATIONS OF ELEVATIONS
BY MAP MANUSCRIPTS FOR VERTICAL CONTROL STATIONS IN THE
AREA OF MAP MANUSCRIPTS T-9428 thru T-9434 and a second
on for T-9419 thru T-9427.

34. Contours and Drainage:

Photograph quality was very good for contouring use and no areas of questionable contours remain.

35. Shoreline and Alongshore Details:

Shoreline inspection was adequate even though it was difficult to use; the inspection was made on 1947 photos at a scale of 1:30,000 and therefore was not directly transferrable to the 1:20,000 scale manuscripts. The inspection was used as a guide during instrument delineation and thereby is translated into map form. For the most part, the shoreline in this vicinity is regular and offers no particular difficulty in delineation.

36. Offshore Details: None exist.37. Landmarks and Aids:

No aids exist but two landmarks were recommended by the field inspector; the Church Mission House at Point Hope on T-9421, and the highest part of a ridge on which Δ BEACON HILL is located on T-9422. Both are so labeled on the two manuscripts and both are listed in form 567 in the field project report dated 1950.

38. Control for Future Surveys:

See side-heading 49, Notes for The Hydrographer.

39. Junctions:

All junctions are in agreement since all adjoining quads have been compiled simultaneously with the quads of this report. See MAP LAYOUT SKETCH, page 5, this report.

40. Horizontal and Vertical Accuracy:

These maps are considered to meet the requirements set up by National Map Accuracy Standards, in both respects. Map scale is 1:20,000 and the contour interval is 50ft. In addition, the 25ft contour is considered to be much better because of its nearness to the shoreline sea-level datum.

46. Comparison with existing Maps:

"ALASKA RECONNAISSANCE TOPOGRAPHIC SERIES, SECOND JUDICIAL DIVISION, TIGARA, ALASKA, 1:250,000, USGS, 1951 edition."

47. Comparison with Nautical Charts:

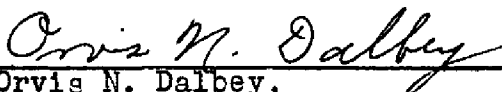
- a. ARCTIC COAST, Alaska, No.9400, 1:1,587,870, May 1946, 6th edition, last correction date of 27 Nov 50.
- b. Provisional Chart, CAPE PRINCE OF WALES TO POINT BORROW, CHUKCHI SEA, Alaska-Arctic Coast, No.9402, 1: 750,000, May 1950, 1st edition.

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

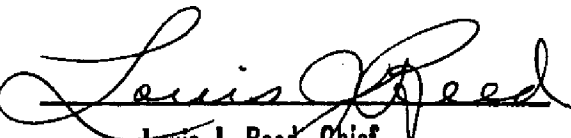
49. Notes for The Hydrographer: See separate unnumbered page.

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

Name on Survey

[illegible]

GEOGRAPHIC NAMES

Survey No.
T-9421 thru T-9429
(page 2)

Name on Survey.

	On Chart No.	On previous survey No.	On U. S. quadrangle Maps	From local information	On local Maps	P. O. Guide or Map	Rand McNally Atlas	U. S. Light List	
A	B	C	D	E	F	G	H	K	
<u>T-9426</u>									1
AHGAHRUK CREEK									2
AHVIKNUK MT									3
CAPE THOMPSON									4
CHUKCHI SEA									5
EESOOK CREEK									6
EGGIKRUTTOOSOOK CREEK									7
EMMIKROAR CREEK									8
NUSOARUL CREEK									9
OGOTORUK CREEK									10
<u>T-9427</u>									11
kukpuk river									12
OGOTORUK CREEK									13
<u>T-9428</u>									14
ARCTIC OCEAN									15
CHUKCHI SEA									16
NUSOARUK CREEK									17
OGOTORUK CREEK									18
<u>T-9429</u>									19
ARCTIC OCEAN									20
CHUKCHI SEA									21
INUKTUH CREEK									22
KISIMILOK MT									23
KISIMULOWK CREEK									24
TALAUVERUT HILL									25
									26
									27

Kisimulowk Creek W.D.H.

49. Notes for the Hydrographer:

a. Photo-hydro stations:

T-9421	=	Signal No.155	identified on photo	22714
T-9426	=	" 186	"	20988
T-9428	=	" 152	"	20598
"	=	" 153	"	20987
"	=	" 154	"	20987

b. Photo-Topo Stations:

T-9421	=	CAST, 1950	identified on photo	22714
	=	AZ PT for CAST & RAIL, 1950	"	22714
T-9422	=	AUTO, 1950	"	20605
T-9425	=	FIND, 1950	"	20601
T-9426	=	ANNE, 1950	"	20987
T-9428	=	FEED, 1950	"	20596
	=	BULL, 1950	"	20598
T-9429	=	ALPS, 1950	"	20595
	=	BACK, 1950	"	20595
	=	DATE, 1950	"	20594
	=	Photo Control Pt No.10	"	20934

Note: Where T-Sheet is not listed, no control exists.

Review Report T-9421 through T-9429
Topographic Maps
May 4, 1954

62. Comparison with Registered Topographic Surveys. - None

63. Comparison with Maps of Other Agencies.-

USGS Alaska Map, Point Hope 1:250,000 1951 edition.
Comparison not feasible due to great difference in scale.

64. Comparison with Contemporary Hydrographic Survey. - 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.-

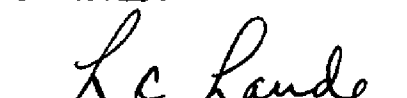
These maps comply with project instructions and are adequate as bases for hydrographic surveys and the construction of nautical charts.

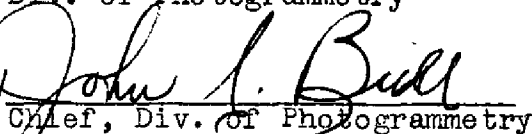
Reviewed by:



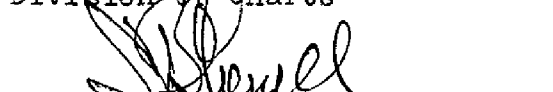
B. J. Colner

APPROVED:


Chief, Review Branch
Div. of Photogrammetry


Chief, Div. of Photogrammetry


Chief, Nautical Chart Branch
Division of Charts


Chief, Div. of Coastal Surveys

PHOTOGRAMMETRIC OFFICE REVIEW

T-9421 thru 9429

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 or Unit
Louis J. Reed, Chief

41. Remarks (see attached sheet)

Stereoscopic Mapping Section
Photogrammetric Engineer

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