9430 THRU 9434

9430 THRU 9434

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-9430 thru T-9434

LOCALITY

State Alaska

General locality Kotzebue Sound, North.

Locality Coastal area about halfway between Point Hope and Cape Krusenstern.

1950

CHIEF OF PARTY

L.G.Taylor, Chief of Field Party

H.A.Paton, Chief B'more Photo. Office

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

LIBRARY & ARCHIVES

DATE July 18, 1957

B-1870-1 (1)

DATA RECORD

T-9430 thru 9434

Project No. (II): Ph-28(47)

Quadrangle Name (IV):
T-9430 = UPPER SINGOALIK RIVER
T-9431 = KIMIKPUK RIDGE
T-9432 = CAPE SEPPINGS
T-9433 = COURAERUK MT
T-9434 = UPPER ASICKPUN RIVER

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, Stereo-Mapping Sect.

Officer-in-Charge:

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, model B

Manuscript Scale (III): 20,000

Stereoscopic Plotting Instrument Scale (III): 20,000

Scale Factor (III): 1:1

Date received in Washington Office (IV): APR 29 1952

Date reported to Nautical Chart Branch (IV):

Applied to Chart No.

Date:

Date registered (IV): 3 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.:

~~XXXADJUSTEDXX~~
Unadjusted

Plane Coordinates (IV):

State:

Zone:

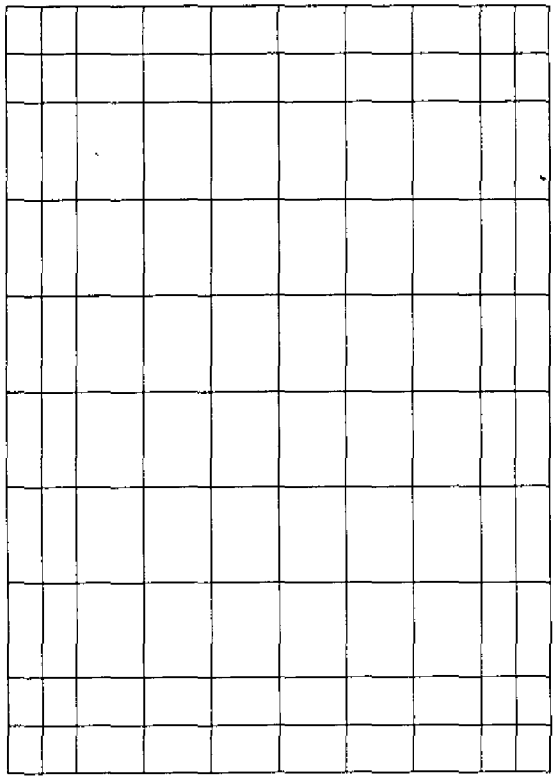
Y=

X=

MILITARY GRID = Universal Transverse Mercator, Zone 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.



Areas contoured by various personnel
(Show name within area)
(XI) (III)

100% compiled on the Reading Plotter, model B, by Louis Levin and Orvis N.Dalbey working as a team.

DATA RECORD

Field Inspection by (II): H.R.Spies Date: Jun-Sep 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 photographs.

Projection and Grids ruled by (IV): Theodore L. Janson on the Reading Ruling Machine Date: 7 Mar 51

Projection and Grids checked by (IV): Howard D. Wolfe Date: 9 Mar 51

Control plotted by (III): Frank J. Tarcza Date: 9 Jul 51

Control checked by (III): Ruth Hartley Date: 14 Aug 51

Radial Plot or ~~Stereoscopic Control extension~~ by (III): Frank J. Tarcza Date: 2 Oct 51

Stereoscopic Instrument ~~compilation~~ delineation by (III): Planimetry & Contours Louis Levin and Orvis N.Dalbey Date: 23 Mar 52 Date:

Manuscript ~~drawn~~ compiled by (III): John B. McDonald Date: 24 Apr 52

Photogrammetric Office Review by (III): Louis J. Reed Date: 28 Apr 52

Elevations on Manuscript checked by (II) (III): Louis J. Reed Date: 28 Apr 52

7

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

PHOTOGRAPHS (III)

Number	Date	Time	Scale	Stage of Tide
27623 thru 27629		12:21 thru 12:27		
and 27735 thru 27738	22 Jul 50	14:51 thru 14:54	20,000	~~None~~ ** appreciable tide
and 27742 thru 27743		1458 14:59		

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

Tide (III)

38068 (N. of 9430) 7/18/52 1032

Ratio of Ranges	Mean Range	~~Spring~~ diurnal Range
		~~.61~~

Reference Station: ~~Icy Cape~~

Subordinate Station: –

Subordinate Station:

Washington Office Review by (IV): Bernard J. Colner Date: 6-5-56

Final Drafting by (IV): R Hopkins - T-9434; F. Johnson T-9433; John H. Frazier T-9432; John H. Frazier T-9431; P. Lach T-9430 Date: 6-6-56; 5-22-56; 5-29-56; 5-28-56

Drafting verified for reproduction by (IV): W.O. Hallum Date: 7-25-56

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): None

Control Leveling - Miles (II): None

Number of Triangulation Stations searched for (II): Recovered: Identified: 5

Number of BMs searched for (II): Recovered: Identified: None

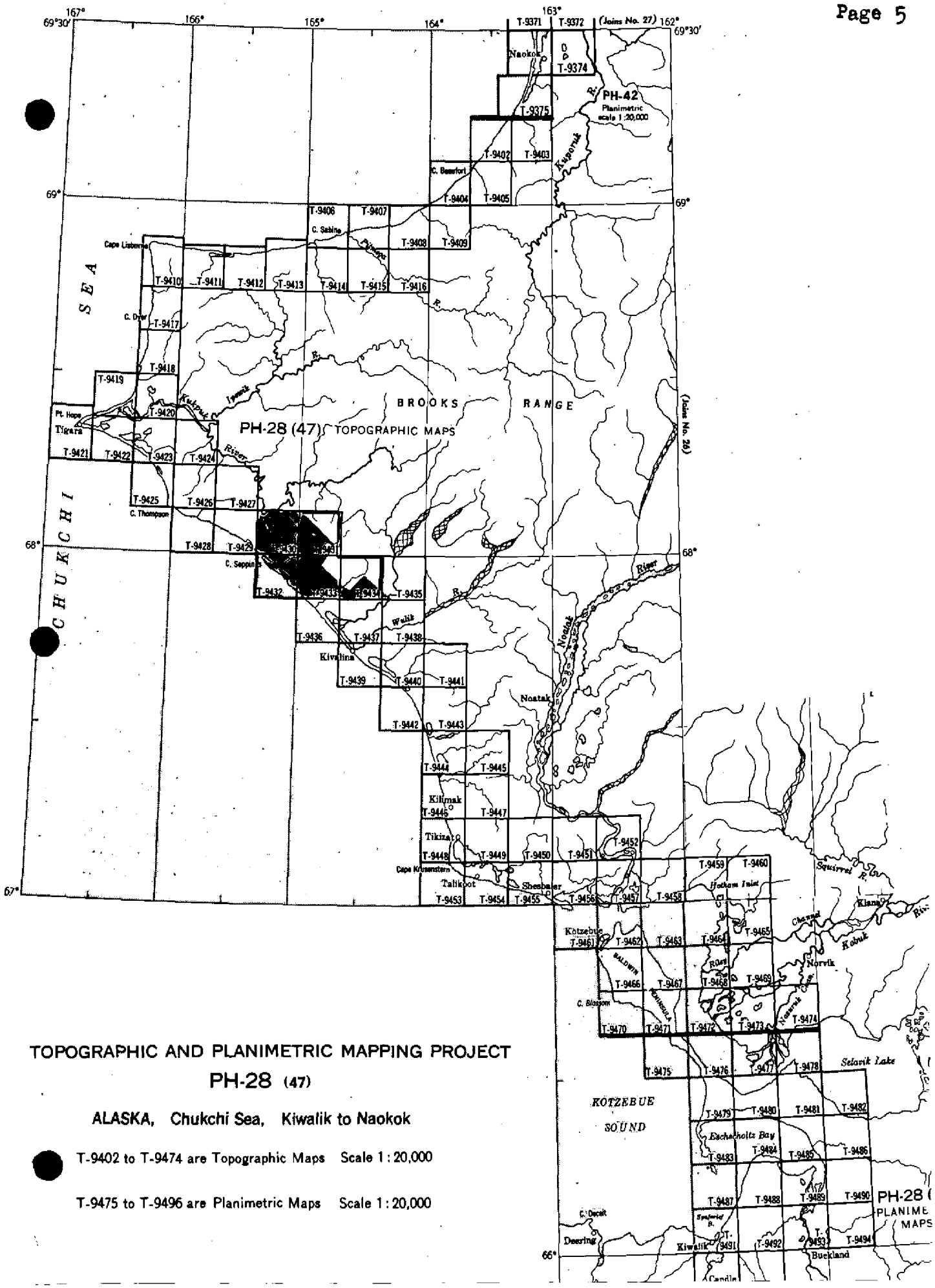
Number of Recoverable Photo Stations established (III): Six

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

Remarks:

	T-9430	T-9431	T-9432	T-9433	T-9434
Area (sq mi) =	69	34	23	58	27
Shoreline(mi) =	2	none	9	2	none

M-2618-12(4)



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-9430 through T-9434

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-9430 through T-9434 are topographic surveys which contain the area in the vicinity of Cape Seppings.

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~~ Ozalid print of each map at the compilation scale will be registered with the descriptive report in the Bureau of Archives.

1. <u>Preface</u>:

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 Sept. 1950
Lorne G. Taylor, Chief of Party

Photogrammetric Engineer

PHOTOGRAMMETRIC PLOT REPORT (Plot E)

PROJECT PH-28(47)

SURVEYS T-9428 to T-9434 inclusive

21. AREA COVERED

This radial plot covers the areas of Surveys T-9428 to T-9434 inclusive. These are topographic surveys situated along the shore of the Arctic Ocean from Cape Seppings to Cape Thompson.

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. The map manuscript for Survey T-9435 was furnished but was not used. There is no photographic coverage for this survey.

All control stations and substitute stations were plotted using 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.

Photographs

All photographs used are nine lens metal mounted photographs at a scale of 1:20,000. Twenty-five (25) photographs were used in this radial plot numbered as follows:

27623 to 27634 inclusive	27730 to 27733 inclusive
27670	27735 to 27738 inclusive
27672 and 27673	27742
27675	

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 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 elevation. Two of the photographs were found to be slightly tilted but the tilt was not enough to affect the plot seriously.

The final plot was started at the southern edge of these 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. 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. There were several photographs missing on the inshore flight. This flight was laid last.

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 established on the remaining templets and map manuscripts by drilling down through them with a small (.01 inch) jeweler's drill. All points were circled on each templet as it was removed and on the map manuscripts.

23. ADEQUACY OF CONTROL

There is adequate control along the shoreline. In interior areas, especially in Survey T-9430 the positions established are weak and are indicated by green circles on the map manuscripts. There are two weak areas in the gaps where photographs have been omitted in the inshore flight.

Radial plot positions were established for STEEP, 1950, and UNDER, 1950. At both stations the substitute points were held in the radial plot. Attempt was made to prick the stations direct with the aid of K-20 photographs. The error is probably due to pricking, not positions. The radially plotted position was established to aid in rectification, if needed. A similar radially plotted position was established for TORUK, 1950. Photo Control Point No. 10, nearby, was held in the radial plot. The identification of this station is positive.

24. SUPPLEMENTARY CONTROL

No graphic control surveys were used in this radial plot.

25. PHOTOGRAPHY

Photographic coverage was adequate for all shoreline areas on these surveys. On the inshore flight there are two gaps in photography, probably caused by camera failure. In Surveys T-9433 and T-9434 it will be impossible to compile the inshore areas along this flight.

There are no badly tilted photographs and the definition of the photographs is good. Two collimation marks are missing on all the photographs. One is in chamber No. 8 which may have caused the errors noted in this chamber. The other is in chamber No. 3 but this did not appear to cause any errors in the radial plot.

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 754 (Survey T-9431) - There is a difference of 6 meters in the two elevations obtained. The horizontal angle from KUKPUK, 1950 was about one degree off and may be to another point on this long flat ridge, possibly on a high point 1200 meters northwest from the point identified. The elevation obtained from KUKPUK, 1950, was rejected. The elevation from KIMIKPUK, 1950, was accepted but there was no check on it. This elevation should be used with caution.

PEAK 739 (Survey T-9430) - There is a difference of 20 meters between the two elevations. Identification appears correct and horizontal angles check. No reason was found for this discrepancy. It is probable that one vertical angle is incorrect but in the absence of any evidence to indicate the error the elevations of this peak were rejected.

PEAK 749 (Survey T-9428). This peak was pricked as field identified. The horizontal angles intersected at another peak of equal elevation on the same mountain about 150 meters northwest. This peak was repricked and the new position used in computation of elevation.

At PEAKS NOS. 694, 695, 733 and 752 one elevation for each peak did not check with the other elevations. In each case the horizontal angle to the peak did not check. The elevations in error were rejected. All of these peaks had two other elevations which checked each other.

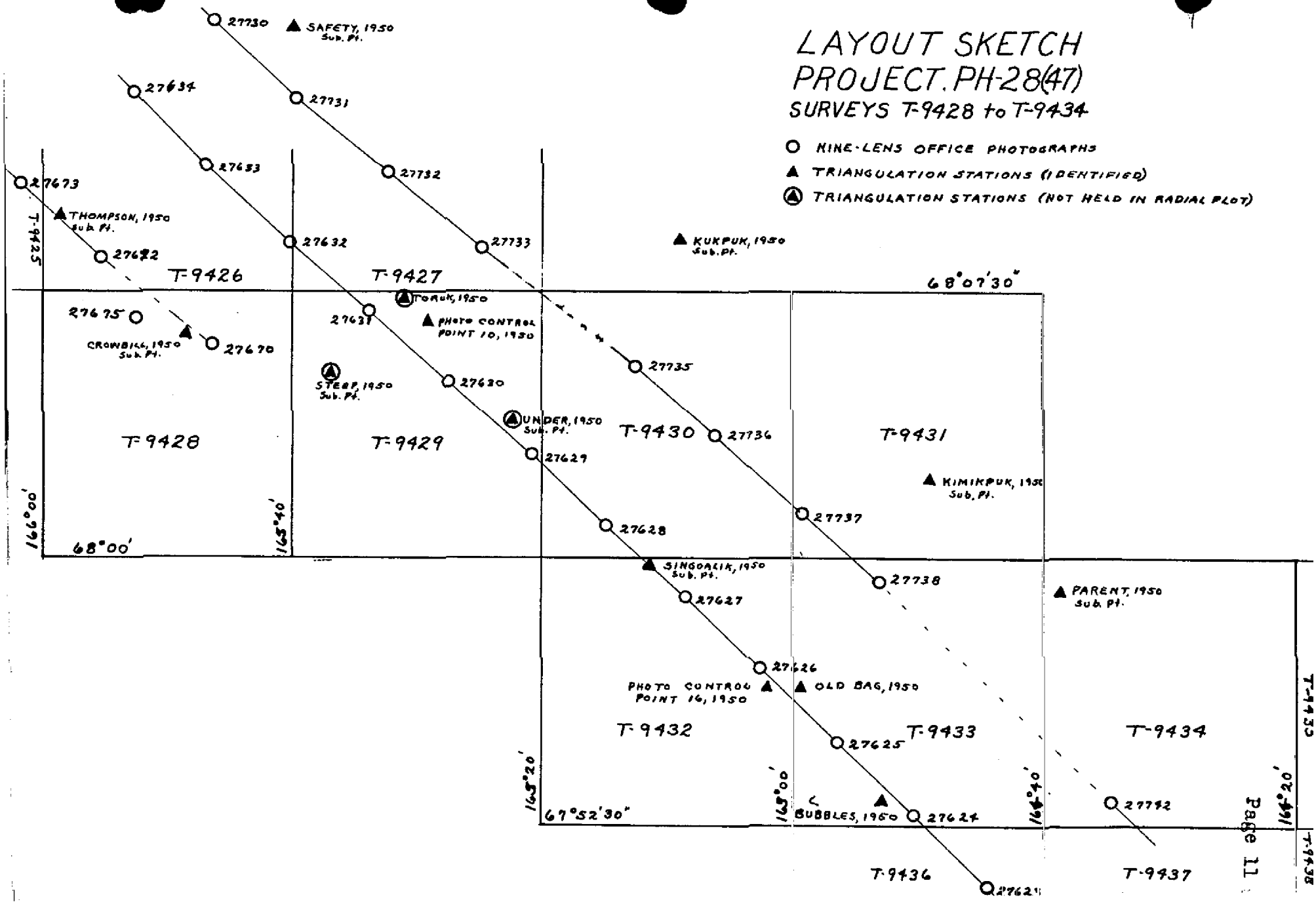
Respectfully submitted
8 October 1951

Frank J. Tarcza

Frank J. Tarcza
Cartographer (Photo.)

LAYOUT SKETCH
PROJECT. PH-28(47)
SURVEYS T-9428 to T-9434

○ NINE-LENS OFFICE PHOTOGRAPHS
▲ TRIANGULATION STATIONS (IDENTIFIED)
(▲) TRIANGULATION STATIONS (NOT HELD IN RADIAL PLOT)



COMPILATION REPORT

31. Delineation:

Contours and cultural features were delineated simultaneously on the Reading Plotter, model B. Of the five quads being reported herein, only one has its land area completely mapped; it is T-9432. The other four, in general, are not mapped in their back limits, in the area away from the coastline. This was caused by mapping photos having been flown generally parallel to the shoreline, and the inshore flight having two gaps in it, one extending across T-9433 northward into T-9431 and southward into T-9434, and the other gap* being in the NW corner of T-9430. The map outline diagram on page 5 also outlines the back limits of compilation, showing the area mapped in red.

* Gap compiled June '53 using new 1952 photo 38068; T-9430 now complete.

32. Control:

Refer to side-headings 23 and 26 of the radial plot report, beginning on page 9. Except in the vicinity of gaps in the mapping photos, the horizontal control was considered to be adequate for radial plot purposes. Vertical control was furnished by a combination of sea-level datum at the shoreline, and elevations on inland peaks and lake surfaces as determined by field observations. There was a shortage of vertical control in the area covered by the inshore flight of photos, but this was overcome by extending verticals across a few models while holding to the shore flight.

33. Supplemental Data:

a. Graphic Control Surveys: None.

b. Hydrographic Surveys: None.

c. Plotting Instrument Photos:(metal-mounts):

27623 thru 27629, 27735 thru 27738, and 27742 thru 27743, 38068

d. Field Inspection Photos:

20690 thru 20694, 20927 thru 20934, and 20978.

e. Vertical Control Brochure:

"TABULATION OF ELEVATIONS AND COMPUTATION OF ELEVATIONS BY MAP MANUSCRIPTS FOR VERTICAL CONTROL STATIONS IN THE AREA OF MAP MANUSCRIPTS T-9428 thru T-9434."

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; no landmarks recommended.

38. Control for Future Surveys:

a. Photo-hydro stations:

T-9433 No.151 on photo 20591

b. Photo-topo stations:

T-9430	DENT, 1950	on photo
	ATOM, 1950	on photo 20593
T-9432	AGRE, 1950	on photo 20592
	ARMY, 1950	on photo 20592
	FATE, 1950	on photo 20593
T-9433	GATE, 1950	on photo 20591

39. Junctions:

All junctions are in agreemnet; this is true since all adjoining quads have been compiled simultaneously. ~~See quad layout on page 5 and note that no sheets exist landward and seaward from this group of quads.~~

40. Horizontal and Vertical Accuracy:

These maps are considered to meet national map accuracy standards in both respects. All contours meet the standards set for a 50ft interval; the 25ft contour is thought to be more accurate due to its nearness to a very well defined shoreline and sealevel.

46. Comparison with existing Maps:

"ALASKA RECONNAISSANCE TOPOGRAPHIC SERIES, SECOND JUDICAL DIVISION, NOATAK, 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, following.

50. Compilation Office Review:

See T-2 form, numbered page, following.

Submitted by:

Orvis N. Dalbey
Orvis N. Dalbey
Cartographer-Photogrammetric

Approved and Forwarded by:

Louis J. Reed
Louis J. Reed, Chief
Stereoscopic Mapping Section
Photogrammetric Engineer

GEOGRAPHIC NAMES

Survey No.

T-9430 thru T-9434

Name on Survey	A On Chart No.	B On previous survey No.	C On U. S. quadrangle Maps	D From local information	E On local Maps	F P. O. Guide or Map	G Rand McNally Atlas	H U. S. Light List	K	
T-9430										1
CHUCKCHI SEA		(N.B. name used in title								2
KUKPUK RIVER KIMIKPUK RIDGE		isnot applied on this								3
MUPSORUT HILL		map)								4
TINGOOK RIDGE										5
T-9431										6
KIMIKPUK RIDGE										7
T-9432										8
ARCTIC OCEAN										9
CAPE SEPPINGS										10
CHUCKCHI SEA										11
OATCOOSEKRUK MT										12
SACROERUK MT										13
SINGOALIK RIVER										14
TUSIKPOOK LAGOON	(Names Report = Tusrpook)									15
T-9433										16
ASICKPUN RIVER										17
CHUCKCHI SEA										18
COYROERUK MT										19
OAKPISOOROOK RIVER										20
POOOOSALOOK MT	(Use Poo-oosalook)									21
SAIKTOOK HILLS										22
TUTTEEGEARUK MT										23
TUTTEEGEARUK RIVER		(note incomplete form on map.								24
T-9434										25
ASICKPUN RIVER					Names approved 3-24-54 L. Heck					26
SAIKTOOK HILLS										27

49. Notes for the Hydrographer:

a. Photo-hydro stations:

T-9433	Signal No.151 identified on photo 20591
T-9430	None
T-9431	None
T-9432	None
T-9434	None

b. Photo-topo stations:

T-9430	DENT, 1950	identified	on	photo	
	ATOM, 1950	"	"	"	20593
T-9431	None				
T-9432	ACRE, 1950	"	"	"	20592
	ARMY, 1950	"	"	"	20592
	FATE, 1950	"	"	"	20593
T-9433	GATE, 1950	"	"	"	20591
T-9434	None				

Form T-2

PHOTOGRAMMETRIC OFFICE REVIEW

T-9430 thru 9434

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

✓ = checked
N = non-existant

ALONGSHORE AREAS
(Nautical Chart Data)

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

PHYSICAL FEATURES

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

CULTURAL FEATURES

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

BOUNDARIES

31. Boundary lines N 32. Public land lines N

MISCELLANEOUS

33. Geographic names ✓ 34. Junctions ✓ 35. Legibility of the manuscript ✓ 36. Discrepancy overlay N 37. Descriptive report ✓ 38. Field inspection photographs ✓ 39. Forms ✓
40. _____

Reviewer

Supervisor, Review Section or 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-9430 through T-9434
Topographic Maps
March 24, 1954

62. Comparison with Registered Topographic Surveys.- None

63. Comparison with Maps of Other Agencies.-

USGS Alaska Map, Noatak	1:250,000	1951 edition
USGS Alaska Map, De Long Mountains	1:250,000	1951 edition
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

B. J. Colner

APPROVED

L C Lande

Chief, Review Branch
Div. of Photogrammetry

Max S. Ricketts

Chief, Nautical Chart Branch
Division of Charts

W W Swanson

Chief, Div. of Photogrammetry

18 July '57

Chief, Div. of Coastal Surveys