

9368

Diag. Cht. No. 9400.

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Planimetric

Field No. Ph-42(49) Office No. T-9368

LOCALITY

State Alaska

General locality Chukchi Sea

Locality Point Lay

1949

CHIEF OF PARTY

R.A.Earle, Chief of Party

H. A. Paton, Balto. Photo. Office

LIBRARY & ARCHIVES

DATE December 16, 1957

DATA RECORD

T- 9368

Project No. (II): Ph 42 (49) Quadrangle Name (IV):

Field Office (II): Barrow, Alaska

Chief of Party: R. A. Earle

Photogrammetric Office (III): Baltimore, Maryland

Officer-in-Charge: Hubert A. Paton

Instructions dated (II) (III): Field: 4 February 1948
15 February 1949
Office: 16 January 1950

Copy filed in Division of
Photogrammetry (IV)

Method of Compilation (III): Graphic

Manuscript Scale (III): 1:40,000

Stereoscopic Plotting Instrument Scale (III):

Scale Factor (III): 1,000

Date received in Washington Office (IV): **OCT 29 1952**

Date reported to Nautical Chart Branch (IV): **NOV 3 1952**

Applied to Chart No.

Date:

Date registered (IV): **10-8-56**

Publication Scale (IV):

Publication date (IV):

Geographic Datum (III): Barrow, 1945

*Correction to NA 1927 (PRELIM)
available.*

LTJ 7-30-53

Vertical Datum (III): **MHW (APPROX)**

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

*The difference between Point Barrow, 1945 Datum *
and preliminary N.A. 1927 Datum is Lat. plus/minus
40 m. and Long. ~~plus~~/minus 159 m.*

Reference Station (III): Palmer, 1949

Omitted in compliance with project instructions.

Lat.:

Long.:

*-Adjusted Corrected
Unadjusted*

Plane Coordinates (IV):

State:

Zone:

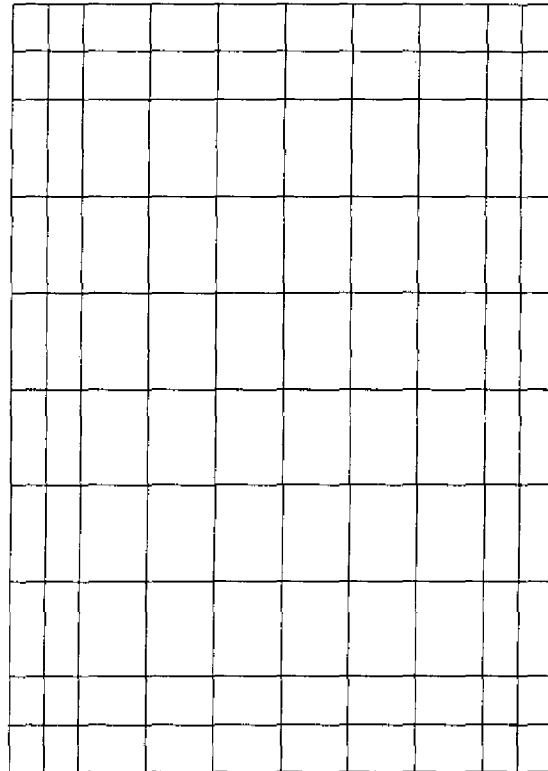
Y=

X=

*The difference between Preliminary NA 27 Datum and the NA 27 Datum (adjusted) positions are within plotting tolerance. Therefore, the compilation can be used without applying any additional Datum correction.

Roman numerals indicate whether the item is to be entered by (II) Field Party, (III) Photogrammetric Office, or (IV) Washington Office.

When entering names of personnel on this record give the surname and initials, not initials only.



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

Planimetric

DATA RECORD

Field Inspection by (II):

Date: *Control, 1949*

Planetable contouring by (II):

Date:

Completion Surveys by (II):

Date:

Mean High Water Location (II) (State date and method of location): *7-26-49*
Photogrammetric

Projection and Grids ruled by (IV): T. L. Janson

Date: 2-2-50

Projection and Grids checked by (IV): H. R. Cravat

Date: 2-3-50

Control plotted by (III): M. F. Kirk

Date: 2-7-50

Control checked by (III): L. A. Senasack

Date: 2-8-50

Radial Plot ~~or~~ Stereoscopic

Control-extension by (III): F. J. Tarcza

Date: 2-15-50

J. Steinberg

8-24-51

Planimetry

Date:

Stereoscopic Instrument compilation (III):

Contours

Date:

Manuscript delineated by (III): L. A. Senasack
J. Honick

Date: 2-17-50
9-3-52

Photogrammetric Office Review by (III): E. L. Williams

Date: 10-15-52

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

Date:

Camera (kind or source) (III): U.S. Navy single lens, focal length 6".

PHOTOGRAPHS (III)						
	Number	Date	Time	Scale	Stage of Tide	
KAS - 3	- 050 to 058	7-23-49	unknown	1:40,000	approx 0.6' below MLLW	
4	- 093 " 102	7-26-49	"	"	approx 0.9' below MLLW	
BAR-158	- 045 " 051	6-22-49	"	1:20,000	unknown	
	087 " 096	"	"	"	"	
	141 " 152	"	"	"	"	
	163 " 171	"	"	"	"	
	202 " 211	"	"	"	"	
BAR-159	- 007 " 014	"	"	"	"	
	041 " 049	"	"	"	"	
	063 " 069	"	"	"	"	
	113 " 119	"	"	"	"	
BAR-163	- 025 " 030	7-1-49	"	"	"	

Tide (III)

From actual observations at
Reference Station: Point Lay Camp, Kasegaluk Lagoon, Alaska
Subordinate Station:
Subordinate Station:

Ratio of Ranges	Mean Range	Spring Range
	0.5'	

Washington Office Review by (IV):

L. T. Stevens

Date: *7-31-53*

Final Drafting by (IV):

J. H. Frazier

Date: *6-29-55*

Drafting verified for reproduction by (IV):

Date:

Proof Edit by (IV):

Date:

Land Area (Sq. Statute Miles) (III): 175 sq. mi.

Shoreline (More than 200 meters to opposite shore) (III): 149 st. mi.

Shoreline (Less than 200 meters to opposite shore) (III): 112 " "

Control Leveling - Miles (II):

Number of Triangulation Stations searched for (II): None

Recovered:

Identified: 11 *

Number of BMs searched for (II):

Recovered:

Identified:

Number of Recoverable Photo Stations established (III): None

Number of Temporary Photo Hydro Stations established (III): None (see item 38)

Remarks:

* of the 13 stations established in 1949, 11 were identified.

ALASKA, Chukchi Sea, C. Beaufort to Atanic



Summary to Accompany
Planimetric Map T-9368

Ph-42(49) is that part of continuing project CS-320 (which includes the whole Arctic Coast of Alaska) extending from $69^{\circ} 07\frac{1}{2}'$ to $70^{\circ} 49\frac{1}{2}'$; i.e., from the north limit of Ph-28(47) to the south limit of Ph-27(47).

Ph-42(49) has 17 maps, T-9361-69; T-9371-75; and T-9402 and T-9403. T-9368 includes that part of Kasegaluk Lagoon which lies between Utukok and Kokolik rivers.

Field work consisted solely of control establishment in 1949, without benefit of photograph coverage. The area was photographed by the Navy in July 1949. Prior to laying the radial plot, the control was pricked on the 1949 vertical photographs by the aid of oblique pictures of the control station sites. These obliques were taken by our own field party with a K-20 camera at 1000 feet elevation, August 1949.

After all the maps in the project have been reviewed, reproduced, and registered, a Completion Report will be written and filed in the Bureau Library under the project number. This report will include a brief text describing the project; any important correspondence; copies of the various instructions and special reports; statistical data; and a list of the data not bound with the Completion Report, but filed elsewhere.

77

SUPPLEMENTAL

PHOTOGRAMMETRIC PLOT REPORT

PROJECT Ph-42(49)

SURVEY T-9368

27. SUPPLEMENTAL RADIAL PLOT

This supplemental radial plot was run for the control of photographs covering additional interior area of this survey.

The photographs used to extend the original 1:40,000 scale plot are single lens, 9" x 9" contact prints, scale 1:20,000, taken by the U. S. Navy with a 6" focal length camera. Eighty-three photographs were used in the plot and are numbered as follows:

BAR 163-025 thru 030
159-119 thru 113
159-063 thru 069
159-049 thru 041
159-007 thru 014
158-211 thru 202
158-163 thru 171
158-152 thru 141
158-096 thru 087
158-045 thru 051

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

All control stations and pass points pricked on the 1:40,000 scale photographs used in the original plot were transferred to the 1:20,000 photographs. Additional pass points and conjugate centers to extend the plot were also pricked on the 1:20,000 photographs.

Templets, scale 1:40,000, were made of the 1:20,000 scale photographs by drawing rays midway between centers and image points.

The plot was laid directly on the partially detailed manuscript over a light table, in order to see more clearly the existing control stations and pass points from the original plot through the templet.

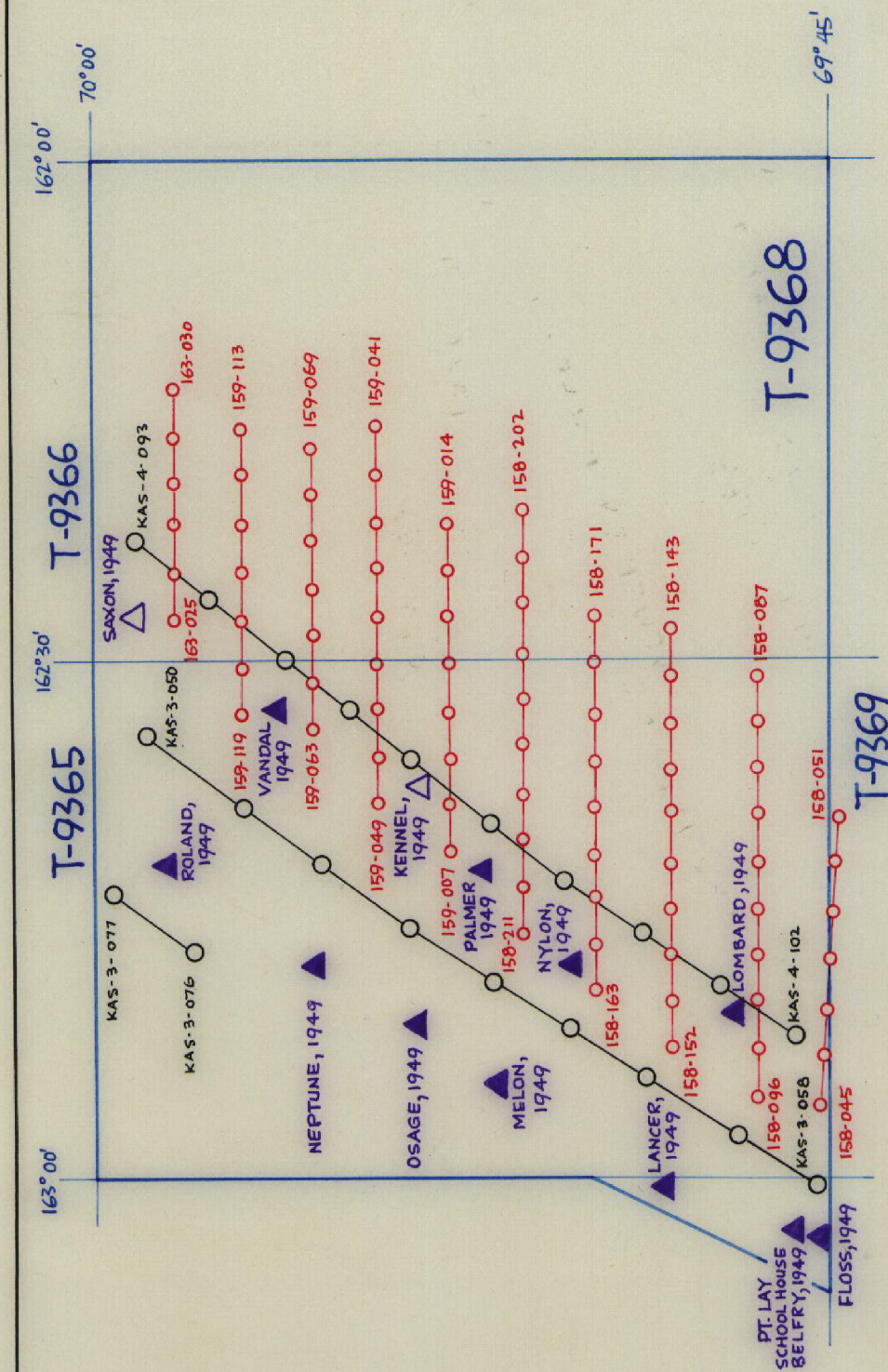
No triangulation stations were found in the area to be controlled by this supplemental plot. The templets for those photographs which could be laid using triangulation stations and pass points established in the original plot were laid first. Extension of the plot was carried easterly only as far as it was believed possible for mapping accuracy.

The completed assembly was carefully turned over on the light table and the positions of all photograph centers and passpoints that were located were circled on the manuscript.

The coverage was adequate but without additional control the plot extension could not be carried accurately to the limits of the survey.

Respectfully submitted

Joseph Steinberg
Joseph Steinberg
Photogrammetric Engineer



- Office photographs - 1:40,000, contact (Navy)
- Office photographs - 1:20,000, contact (Navy)
- ▲ Triangulation stations - identified and held
- △ Triangulation stations - not identified

LAYOUT SKETCH
SUPPLEMENTAL PHOTOGRAMMETRIC PLOT
PROJECT PH-42 (49)
SURVEY T-9368

COMPILATION REPORT
T-9368

FIELD REPORT

Refer to report on "Airphoto Control Identification, Arctic Coast of Alaska, Kasegaluk Lagoon, Project C S-320, 1949", submitted by Karl B. Jeffers.

PHOTOGRAMMETRIC PLOT REPORT

Refer to the photogrammetric plot report for Surveys T-9361 to T-9369, inclusive, which is part of the descriptive report for survey No T-9361.

A supplemental photogrammetric plot report for the area of Survey T-9368 is part of this report.

31. DELINEATION

This manuscript was delineated by graphic methods. The larger scale photographs were used in the Vertical Projector for application to the manuscript. There was no field inspection except in the immediate vicinity of the control stations.

Refer to item 31 of the report for Survey No. T-9361 for a discussion of tundra areas.

32. CONTROL

Refer to the photogrammetric plot reports.

The eastern part of this survey was not delineated because of inadequate control.

33. SUPPLEMENTAL DATA

The following maps were available for general information and for geographic names:

- (1) U.S.G.S. Reconnaissance Map of Northwestern Alaska, scale 1:500,000 dated 1930, reprinted 1939.
- (2) U.S.C. & G.S. Chart No. 9400, scale 1:587,870 published 1-16-50 and corrected to 2-13-50.
- (3) World Aeronautical Chart, Point Hope, Alaska (64), scale 1:1,000,000, third edition dated 12-8-48.

Large scale, low oblique K-20 photographs of six control stations were used to aid in photograph interpretation.

34. CONTOURS AND DRAINAGE

Contours - not applicable.

Drainage - Refer to item 34 of the report for survey No. T-9361/

The delineation of Kokolik River was taken from the photographs at the scale of 1:20,000 because complete coverage of the river is available at the same stage of water level.

35. SHORELINE AND ALONGSHORE DETAILS

No shoreline inspection was furnished. The delineation of the MHW and MLLW lines were based on office interpretation of the photographs.

36. OFFSHORE DETAILS

None

37. LANDMARKS AND AIDS

None

38. CONTROL FOR FUTURE SURVEYS

Four hydrographic signals were located by fourth-order triangulation in 1949. Forms 524 were submitted by the field party for two of these stations.

Refer to item 49 for a list of these stations.

39. JUNCTIONS

Junctions with surveys T-9365 and T-9366 to the north and with T-9369 to the south have been made and are in agreement/

40. HORIZONTAL AND VERTICAL ACCURACY

The horizontal accuracy of the eastern part of this manuscript is considered weak because the radial plot in this area is extended a large distance beyond identified control.

41. - 45.

Inapplicable.

46. COMPARISON WITH EXISTING MAPS

This survey was compared with the maps listed in item 33 and with the following:

U.S.G.S. Preliminary Map, Naval Petroleum Reserve No. 4, scale 1:48,000 dated September, 1948 (sheet G-22)

47. COMPARISON WITH CHARTS

This survey was compared with the following charts:

(1) U.S.C. & G.S. Chart No 9400, scale 1:1,587,870 published 1-16-50 corrected to 2-13-50.

(2) U.S.C. & G.S. World Aeronautical Chart Point Hope (64) scale 1:1,000,000 published 12-8-48.

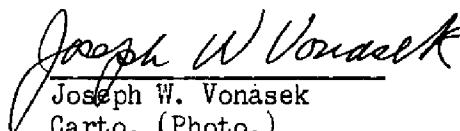
Items to be applied to Nautical Charts Immediately:

None


Items to be carried forward:

None

Respectfully submitted


Joseph W. Vonasek
Carto. (Photo.)

Approved and Forwarded


Hubert A. Paton
Comdr. U.S.C. & G.S.
Officer in Charge

48. GEOGRAPHIC NAMES

Chukchi Sea

Kasegaluk Lagoon

Kokolik River

Kokolik ~~Island~~ * Pass

Niklavik Creek

Point Lay *

Point Lay Village

Tungaitch Point

Kuga ghaurak River

Names approved 7-31-53
L. Heck

* These names taken from Coast Pilot, Alaska dated 1-1-51.

49. NOTES TO HYDRAGRAPHER

The following are the fourth order control stations in the area of this survey:

BID, 1949

JAP, 1949

WAD, 1949

POINT LAY SCHOOLHOUSE BELFRY, 1949

T-9368

NOTES TO REVIEWER

According to Comdr. Paton the name Chukchi Sea is preferable to ARCTIC OCEAN in this area.

He also states that the long sand bars contain no appreciable amounts of gravel.

50.

PHOTOGRAMMETRIC OFFICE REVIEW

T. 9368

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 None 9. Plotting of sextant fixes None 10. Photogrammetric plot report ✓ 11. Detail points ✓

ALONGSHORE AREAS

(Nautical Chart Data)

12. Shoreline ✓ 13. Low-water line ✓ 14. Rocks, shoals, etc. ✓ 15. Bridges None 16. Aids to navigation None 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 None 23. Stereoscopic instrument contours None 24. Contours in general None 25. Spot elevations None 26. Other physical features ✓

CULTURAL FEATURES

27. Roads None 28. Buildings ✓ 29. Railroads None 30. Other cultural features ✓

BOUNDARIES

31. Boundary lines None 32. Public land lines None

MISCELLANEOUS

33. Geographic names ✓ 34. Junctions ✓ 35. Legibility of the manuscript ✓ 36. Discrepancy overlay ✓ 37. Descriptive Report ✓ 38. Field inspection photographs None 39. Forms ✓40. Ed W. Williams Frank J. Pariza
Reviewer Supervisor, Review Section or Unit

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
Planimetric Map T-9368
31 July 1953

61. General.--South of Utukok River in the southwestern part of T-9366 (at 79° 04') there is a marked change in topography. Ridges, hills, and mesa-like remnants of a more elevated formation lie on the lower formation that constituted the "higher tundra" of the areas mapped to the north, where the drained ponds and very wet depressions formed the "lower tundra". This "lower tundra" was delineated by the inundation symbol in order to display the pattern caused by the contrast between the lower, more wet areas and the somewhat higher, less wet areas.

In the original compilation of T-9368, the "higher tundra" no longer was used in the same sense as formerly, but, instead, included only those hills, ridges, and mesa-like remnants which rise probably at least 20 to 50 feet above the terrain formerly labeled "higher tundra". In other words, the term "higher tundra" on the original delineations for the maps south of Utukok River was in fact highest tundra. Thus, the term "lower tundra" in the areas of T-9368 and southward became expanded to include not only "lower tundra" but also the area formerly named "higher". This alteration in the use of the term "lower tundra" had the advantage of emphasizing salient features that might be noted from seaward; but had the disadvantage of losing the abandoned ponds and wet depressions which gave "pattern" to the maps to the north.

Now a new classification has been adopted for the area south of Utukok River (T-9366 to T-9375; T-9402, T-9403) in order to retain the pattern of the maps to the north. The term "drier tundra" is used to include both the former "higher tundra", and the hills, ridges, and mesa-like remnants described in paragraph 1, above; and the term "wet tundra" supplants "lower tundra". This means that the interior of southwestern T-9366 and all the maps southward have been redelineated with respect to tundra.

62. Comparison with Registered Surveys.--No earlier surveys of this area have been made.

63. Comparison with Maps of Other Agencies.--

USGS Point Lay, Alas. (Recon.) 1:250,000 1951
Astronomical Datum.

The general shape of shoreline, drainage, and large ponds are similar, but their relation to the projection differs two minutes or more in longitude and 20" to 30" in latitude.

64. Comparison with Contemporary Hydrographic Surveys.-

H-7752 1:40,000 1949 Kukpowruk Pass

The shoreline from T-9368 is already applied to H-7752.

Two sand islands were added during review. They form a part of the delta of Kokolik River and probably are awash at higher high water. *These added to H-7752 - J.T. Gallahan - verifier 12/19/57*

H-7753 1:20,000 1949 Icy Cape to Utukok Pass

The shoreline has not been applied. This survey overlaps H-7754 between triangulation Roland and hydrographic station Dug, and is in conflict with H-7754. *Conflict resolved*

H-7754 1:20,000 1949 Kukpowruk Pass to Kokolik Pass

The shoreline from T-9368 has already been applied. (see change noted under H-7752 above) *change added see above. 12/19/57*

65. Comparison with Nautical Charts.-

9400 1:1,587,870 at 70° ed. May 1947 rev. June 1952

The small scale of the chart precludes more than a superficial comparison, but no conflict was noted except that some geographic names are absent on the chart.

66. Accuracy.-The sand bars are held by seven control stations and the mainland shore area by four stations evenly spaced, so that the shorelines on this map are as accurate as office interpretation can give. The interior has no control and can be said only to satisfy interior charting purposes.

Reviewed by:

Lena T. Stevens
Lena T. Stevens

APPROVED:

H. C. Landy
Chief, Review Branch
Div. of Photogrammetry

W. L. Swanson
Chief, Div. of Photogrammetry

Max K. R. Little
Chief, Nautical Chart Branch
Division of Charts

B. J. Lenz
Chief, Div. of Coastal Surveys

Dec 11, 1957

HORIZONTAL DATUM ADJUSTMENT

CHUKCHI SEA, ALASKA

Corrections to Preliminary N.A. 1927 Datum from the various independent horizontal datums on the coast of the Arctic Ocean and Chukchi Sea in Alaska have been determined by the Division of Geodesy, being computed from field positions, allowing for closure in azimuth and length. This procedure was started at adjusted N.A. 1927 Datum stations at about the 63rd Parallel on the Canadian Boundary, following the 141st Meridian (IBC Datum) to the Arctic Ocean, thence westward through the Barter Island and Flaxman Island Datums, and southwestward through the Point Barrow 1945 Datum, to a connection with N.A. 1927 Field Datum in the area of Kotzebue Sound off Chukchi Sea. The position of the stations in this area is subject to further adjustment after more geodetic field work.

PLANIMETRIC MAPPING PROJECT

Ph-42(49)

Cape Beaufort to Atanik

T-9361 through T-9369

and

T-9371 through T-9375, T-9402 & T-9403

The correction from Point Barrow 1945 Datum to Preliminary N.A. 1927 Datum was computed for each map by multiplying the correction in seconds to the value of one second in latitude and longitude at the latitude of the reference station of each map. This correction was recorded with the following stamp:

The difference between Pt. Barrow, 1945 Datum
and preliminary N.A. 1927 Datum is Lat. plus/minus
40 m. and Long. plus/minus X m.

*The value of one second in meters
varies from 11.030 m. (T-9402) to
10.276 m. (T-9361).

in the Descriptive Report on the first page of the data record, and on each manuscript near the title block.

See the Special Report on Corrections from the Point Barrow 1945 Datum to Preliminary N.A. 1927 Datum, filed with the completion report for Ph-42(49) for a Project Index showing the correction for each map in this project.

NAUTICAL CHARTS BRANCH

SURVEY NO. T9368

Record of Application to Charts

[illegible]

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.