9365 9366
9367

[redacted]

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-9365 thru T-9367

LOCALITY

State Alaska

General locality Chukchi Sea

Locality Avak River

194 9

CHIEF OF PARTY

Hubert A. Paton
R. A. Earle
~~Chiefs of Field Parties~~

Hubert A. Paton
Balto. Photo. Office

LIBRARY & ARCHIVES

DATE May 4, 1956

B-1870-1 (1)

9365 9366 9367 [redacted]

DATA RECORD

T - 9365, T-9366, T-9367

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

Field Office (II): Barrow, Alaska Chief of Party: Hubert A. Paton
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):

Publication Scale (IV): Publication date (IV):

Geographic Datum (III): Barrow, 1945
Correction Preliminary NA 1927 available. June, 1953

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 157 m.

Reference Station (III): ~~ELDER~~ Eider, 1949
Omitted in compliance with project instructions.

Lat.: Long.: ~~Adjusted~~ ~~Corrected~~ Unadjusted

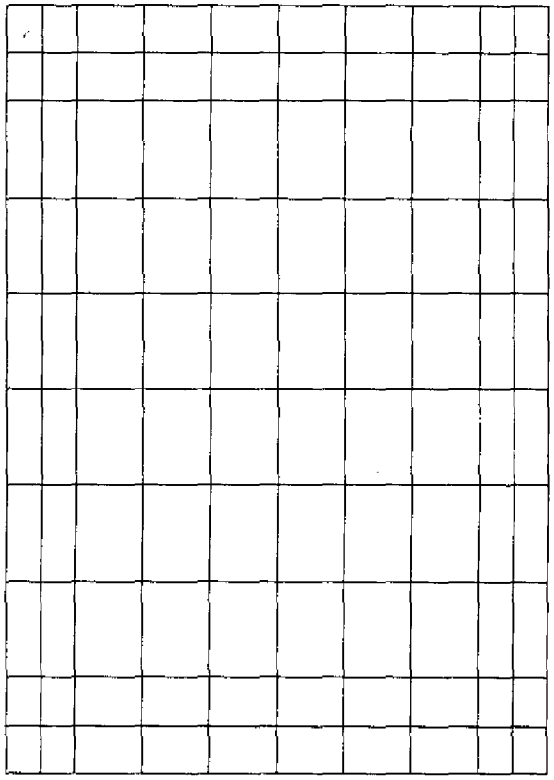
Plane Coordinates (IV): State: Zone:

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. f.e.h.

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, 1948, 1949

Planetable contouring by (II): Date:

Completion Surveys by (II): Date:

Mean High Water Location (III) (State date and method of location): 7-23-49-
Photogrammetric

Projection and Grids ruled by (IV): T.L. Janson Date: 1-31-50

Projection and Grids checked by (IV): H. R. Cravat Date: 1-31-50

Control plotted by (III): L. A. Senasack Date: 2-2-50

Control checked by (III): M. F. Kirk Date: 2-2-50

Radial Plot ~~or Stereoscopic~~
~~Control extension~~ by (III): F. J. Tarcza Date: 2-14-50
J. Steinberg 8-24-50

Stereoscopic Instrument compilation (III):
Planimetry Date:
Contours Date:

Manuscript delineated by (III): J. Y. Council, G. N. Nathan, C. M. Kable, R. Hartley and J. Honick Date: 3-1-50, 7-7-52, 7-23-52

Photogrammetric Office Review by (III): E. L. Williams Date: 10-15-52

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

M-2618-12(4)

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

PHOTOGRAPHS (III)

Number	Date	Time	Scale	Stage of Tide
KAS - 2 - 067 thru 070	7-23-49	unknown	1:40,000	approx - 0.7' below MLLW
KAS - 3 - 041 " 049	"	"	"	"
KAS - 3 - 078 " 087	"	"	"	"
KAS - 4 - 083 " 092	7-26-49	"	"	approx - 0.9' below MLLW
BAR -36 - 003 " 018	8-10-48	"	1:20,000	unknown
" 36 - 061 " 078	"	"	"	"
" 160 - 010 " 020	6-22-49	"	"	"
" 160 - 196 " 206	"	"	"	"
" 161 - 186 " 195	"	"	"	"
" 168 - 010 " 018	7-1-49	"	"	"
" 168 - 044 " 052	"	"	"	"
" 168 - 069 " 077	"	"	"	"
" 168 - 088 " 098	"	"	"	"
" 319 - 071 " 081	7-11-49	"	"	"

**(cont'd at bottom of page)

Tide (III)

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

Subordinate Station:

Subordinate Station:

Ratio of Ranges	Mean Range	Spring Range
	0.5'	

Washington Office Review by (IV): Lena T. Stevens Date: 2 July, 1953

Final Drafting by (IV): Francis Johnson T-9365, Jim Drury 9366, John Frazier 9367 Date: 8 - 1955

Drafting verified for reproduction by (IV): Date:

Proof Edit by (IV): Date:

Land Area (Sq. Statute Miles) (III): 303 sq. mi.

Shoreline (More than 200 meters to opposite shore) (III): 127 statute mi.

Shoreline (Less than 200 meters to opposite shore) (III): 37 " "

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 16 stations established in 1948 and 1949, 11 were identified.

For the supplementary plot (diagram attached) 2 others were identified in the office

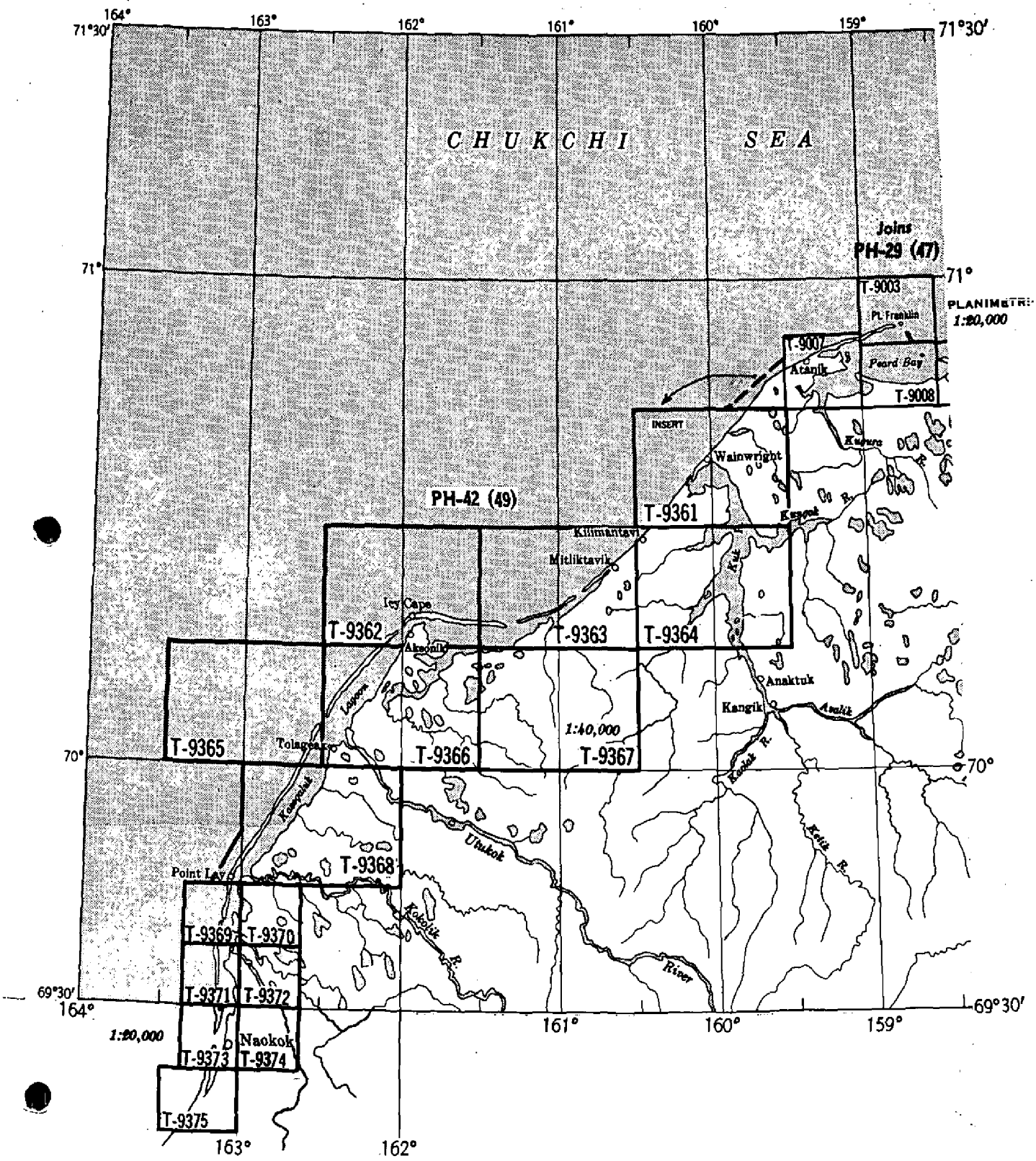
**

BAR - 319 - 095 thru 101	7-11-49	unknown	1:20,000	unknown
" 319 - 116 " 123	"	"	"	"

M-2618-12(4)

PLANIMETRIC MAPPING PROJECT

ALASKA Naokok to Atanic **PH-42 (49)**



Summary to Accompany
Planimetric Maps T-9365-6-7

Ph-42(49) is that part of continuing project CS-320 (which includes the whole Arctic Coast of Alaska) extending from 69°07½' to 70°49½', 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-9365-6-7 includes Kasegaluk Lagoon from the delta of Utukok River northward to Akeenik, and then eastward to include Avak Inlet and Nevat Point.

Field work consisted solely of control station establishment in 1948 and 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 stations. These obliques were taken by our own field party with a K-20 camera at 1000 foot 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.

SUPPLEMENTAL

PHOTOGRAMMETRIC PLOT REPORT

PROJECT PH-42(49)

SURVEYS T-9366 and T-9367

27. SUPPLEMENTAL RADIAL PLOT

The original radial plot, scale 1:40,000, covered the area of the immediate shoreline only, for Surveys T-9366 and T-9367. Additional photographic coverage was subsequently furnished for additional interior coverage of these surveys.

The photograph used in this supplemental plot are single lens, 9" x 9" contact prints, scale 1:20,000, taken by the U. S. Navy with cameras using a focal length of 6". One hundred twenty-nine photographs were used in the plot and are numbered as follows:

BAR	319-116	thru	123
"	36-003	"	018
"	36-061	"	078
"	319-095	"	101
"	168-088	"	098
"	168-069	"	077
"	168-044	"	052
"	168-010	"	018
"	319-071	"	081
"	160-196	"	206
"	160-010	"	020
"	161-195	"	186

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 to extend the plot were also pricked on the 1:20,000 photographs. Conjugate centers were carefully transferred since they would be used entirely for azimuth in those areas lacking horizontal control.

Two horizontal control stations identified on low oblique photographs and which were not covered by the 1:40,000 photographs, were identified on the 1:20,000 photographs and used to control part of the extended plot. These stations are DENVER, 1948 and BORDER, 1948. Station NEVAT,1948 for which only a pricking card was furnished was identified in this office and used in the plot.

The plot was laid directly on the manuscripts over a light table in order to see more clearly the control stations thru the templets.

The templets for those photographs which could be laid from control established by the 1:40,000 plot were laid first. Extension of the plot was continued with the northern two flights where additional control existed, and the remaining templets of succeeding flights were tacked on. The plot was extended easterly only as far as it was believed possible to delineate within mapping accuracy.

It was found necessary to replot several pass points established during the original plot in the area of Station DENVER, 1948. This station could not be used in the original plot since it was not covered by the 1:40,000 photographs.

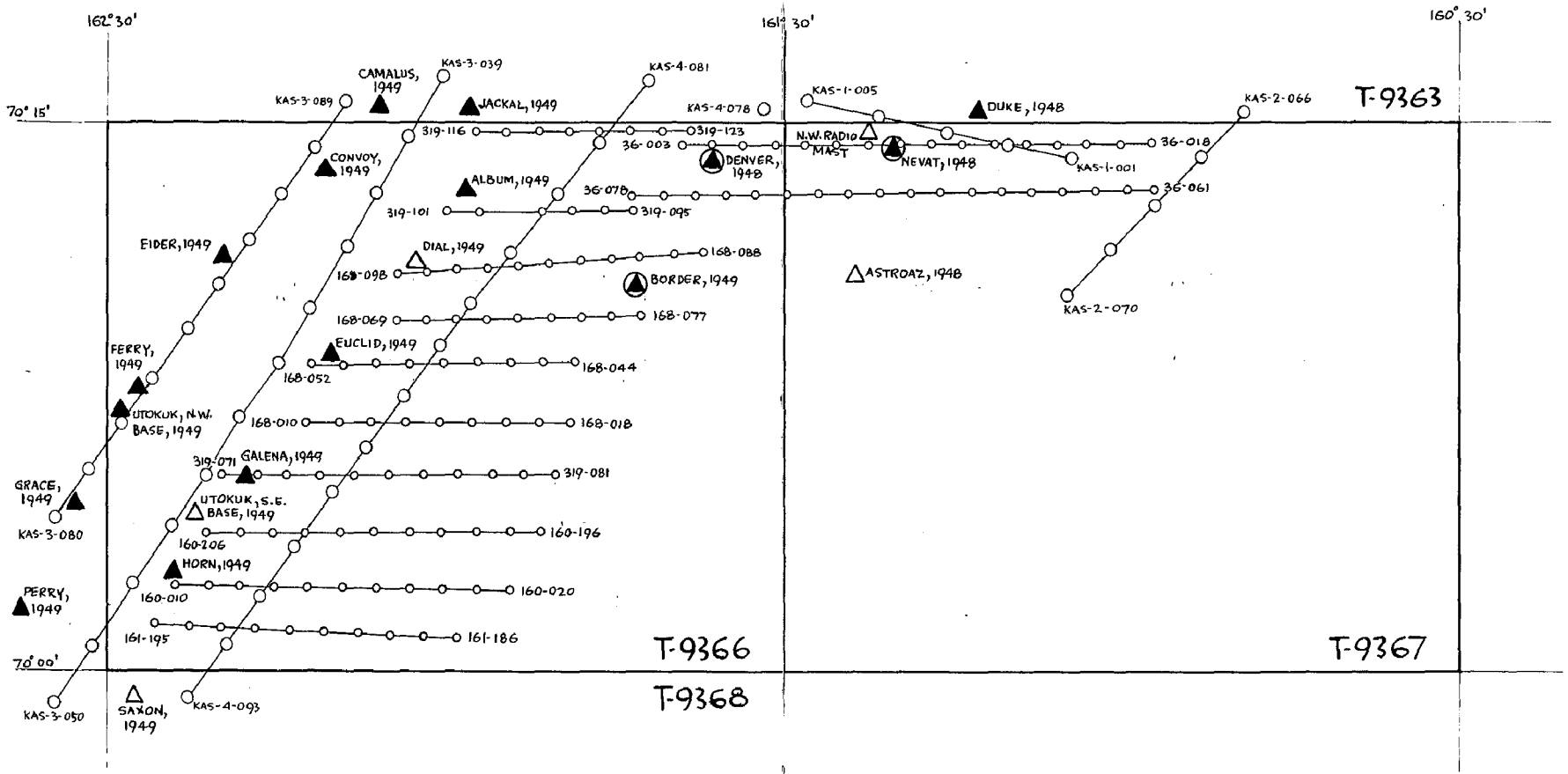
The complete assembly was carefully turned over on the light table and the positions of all photograph centers and pass points that were located, were circled on the reverse side of the manuscripts.

The photograph coverage was adequate and the low altitude oblique photograph of the control stations aided immeasurably in their identification.

Respectfully submitted

Joseph Steinberg

Joseph Steinberg
Photogrammetric Engineer



○ Office Photographs - 1:40,000, contact (Navy)
o Office Photographs - 1:20,000, contact (Navy)
▲ Triangulation stations - identified and held
◉ Triangulation stations - identified in office
△ Triangulation stations - not identified

LAYOUT SKETCH
SUPPLEMENTAL PHOTOGRAMMETRIC PLOT
PROJECT Ph-42 (49)
SURVEYS T-9366 & T-9367

COMPILATION REPORT
T-9365 , T-9366 , T-9367

FIELD REPORT

Refer to the following reports submitted by Karl B. Jeffers:

(1) Report on Airphoto Notes, Arctic Coast of Alaska, Point Belcher to Icy Cape, 1948.
(2) Airphoto Control Identification, Arctic Coast of Alaska, Kasegaluk Lagoon, 1949.

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 T-9361.

A supplemental photogrammetric plot report for the area of surveys T-9366 and T-9367 is part of this report.

31. DELINEATION

These manuscripts were 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 southeast parts of surveys T-9366 and T-9367 were not delineated because of the lack of control.

33. SUPPLEMENTAL DATA

The following 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 12-8-48.

Large scale low oblique K-20 photographs of ten 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.

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

G72-G-7773

One station, NEVAT POINT, N.W. RADIO MAST, 1948 was established as a hydrographic signal.Five additional signals were located by fourth order triangulation in 1949. Forms 524 were submitted by the field party for four of these stations. G72-G-8294

Refer to item 49 for a list of the hydrographic signals in the area.

39. JUNCTIONS

Junction with surveys T-9362 and T-9363 to the north of T-9366 and T-9367 has been made and is in agreement.

Junction with survey T-9368 to the south of T-9365 and T-9366 has been made and is in agreement.

40. HORIZONTAL AND VERTICAL ACCURACY

The horizontal accuracy of the southeast part of survey T-9366 is considered weak because the radial plot in this area was extended a large distance beyond identified control.

41. HYDROGRAPHIC SURVEYS

A copy of hydrographic survey H-7662 (1948) was available to the compilation office. It covered the area of Kasegaluk Lagoon north of Avak Inlet.

42.-45.
Inapplicable.

46. COMPARISON WITH EXISTING MAPS

These surveys were compared with the following maps:

(1) U.S.G.S. Reconnaissance Map of Northwestern Alaska, Map 47, scale 1:500,000, dated 1930, reprint of 1939.
(2) U.S.G.S. Preliminary Map, Naval Petroleum Reserve No 4, scale 1:48,000 dated September 1948 (sheets F 21 and F 22).

47. COMPARISON WITH CHARTS

These surveys were 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
Joseph W. Vonasek
Carto. (Photo.)

Approved and Forwarded

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

48. GEOGRAPHIC NAMES

Avak Inlet 9366
Avak River 9366
Chukchi Sea
Kasegaluk Lagoon 9365-6-7
Nevat Point 9367
Tolageak (Abandoned)
Utukok Pass * 9365
Utukok River 9366

Names approved 7-3-53
L. Heck

* Obtained from form 524 for FUR, 1949.

49. NOTES FOR THE HYDROGRAPHER

The following are the fourth order control stations in the area of these surveys:

NEVAT POINT, N.W. RADIO MAST, 1948			G-7773	(Library)
FUR, 1949	9365	d.m	G-8294	"
DUZ, 1949		"	"	"
HEP, 1949	9366	"	"	"
ELK, 1949	"	"	"	"
DIB, 1949	"	n.d	"	"

T-9365, T-9366, T-9367

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.

According to the Coast Pilot, the western boundary of Naval Petroleum Reserve No 4 would fall in the area of Survey No T-9366. No definite information was furnished and the boundary line was not drawn on the manuscript.

Form T-2

50.

PHOTOGRAMMETRIC OFFICE REVIEW

T-9365, T-9366, T-9367

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 alongshore 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 None 29. Railroads None 30. Other cultural features ✓

BOUNDARIES

31. Boundary lines ✓ 32. Public land lines None

MISCELLANEOUS

33. Geographic names ✓ 34. Junctions ✓ 35. Legibility of the manuscript ✓ 36. Discrepancy overlay None 37. Descriptive Report ✓ 38. Field inspection photographs None 39. Forms ✓

40. E L Williams — Reviewer

Frank J. Tarcza — 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:

M-2623-12

Review Report T-9365-6-7
Planimetric Maps
2 July 1953

T-9365 Utukok Pass
T-9366 Utukok River, Kasegaluk Lagoon, Avak River and Inlet. *
T-9367 Kasegaluk Lagoon, Nevat Point, eastward

61. General: Control station elevations were added during review, so that these maps may conform to those of Ph-29, Pt. Barrow eastward.

62. Comparison with Registered Surveys: There are no earlier surveys for this area.

63. Comparison with Maps of Other Agencies:

USGS Wainwright, Alaska (Recon.) 1:250,000 ed. 1951
1945 Barrow Datum.

The small scale of this map affords basis for superficial comparison only. There is no conflict in the general form of the shoreline and of the character of the interior, but they do not agree in geographic positions of details in spite of having the same datum. Differences are as much as two minutes.

64. Comparison with Contemporary Hydrographic Surveys

H-7751 1:20,000, 1949 Kasegaluk Lagoon at Icy Cape.

The shoreline of T-9366 had already been applied to H-7751. No changes in that area were made during review.

H-7753 1:40,000 Icy Cape to Utukok Pass.

Soundings were made only on the west of the bar enclosing Kasegaluk Lagoon. The shorelines of T-9365 and T-9366 were compared with the soundings and no conflict exists, though the soundings are very near shore.

65. Comparison with Nautical Charts:

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

The small scale of the chart precludes more than a cursory comparison. No major differences are evident.

66. Accuracy:

T-9365 includes only a portion of the bar west of Kasegaluk Lagoon. Three control stations were held on this bar. The shoreline was delineated from office interpretation only and is as accurate as such circumstances permit.

T-9366 was held by three stations on the bar and by four about a mile inland (east) from the lagoon. This strip also is as accurate as office interpretation can accomplish. The interior portion of the map manuscript can be said to meet only interior charting needs.

T-9367 - The shoreline in this map lies within an area held by two control stations and is as accurate as that in the other two maps of this group. The interior is of less accuracy, but is adequate for the interior of charts.

Reviewed by:

Lena T. Stevens

Lena T. Stevens

Approved by:

L. C. Lande
Chief, Review Branch
Division of Photogrammetry

Wallace A. Bruder
Actg. Chief, Nautical Chart Branch
Division of Charts

Considered sufficiently accurate for charting purposes in this area.

Chief, Div. of Photogrammetry
4 May 1956

Earl D. Hewitson
Chief, Division of Coastal Surveys

* Because marked topographic changes begin abruptly at Utukok River, the interior area south of this river was altered during review to conform to a new terrain classification adopted for the maps to the south of T-9366.

South of Utukok River the tundra above "lower tundra" consists not only of the "higher tundra" of the northern areas, but also of residual hills, ridges, and mesa-like forms of an over-lying formation.

In the new classification the former "higher tundra" and the above-described remnants are included under the term "drier tundra"; and the former term "lower tundra" is designated "wet tundra". This classification makes it possible to better retain the "pattern" of the area.

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 miltiplying 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 * 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. T9365-6

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
10/21/55	9457	J F Walker	~~Before~~ After Verification and Review Completely
10/25/55	9458	J F Walker	~~Before~~ After Verification and Review Completely
~~5-9-60~~	~~6399~~	~~R. K. DeLawder~~	~~Before After Verification and Review Completely~~
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review

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.