

9402

Diag. Cht. No. 9400

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Planimetric

Field No. Ph-28(47) Office No. T- 9402

LOCALITY

~~SAS~~ Territory of Alaska

General locality Chukchi Sea

Locality Omaliq Lagoon

1948 - 50

CHIEF OF PARTY

R.A.Earle, Chief of Field Party

C.W.Clark, Portland Photo. Office

LIBRARY & ARCHIVES

DATE April 19, 1957

9402

Applied to Arctic Chart No. 16. 6/14/51 Before Rev. C.R. Wittmann

Applied to Cht 9455 3-10-58 RK DeLaurin

DATA RECORD

T - 9402

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

Quadrangle Name (IV):

Field Office' (II): Point Lay, Alaska

Chief of Party: R.A. Earle

Photogrammetric Office (III): Portland, Oregon

Officer-in-Charge: Charles W. Clark

Instructions dated (II) (III): 9 November 1950 (Office)

Copy filed in Division of
Photogrammetry (IV)Supplemental { 4 February 1948
Instructions { 15 February 1949 } (Field)
Project CS-320 { 8 March 1950 }

Method of Compilation (III): Graphic

Manuscript Scale (III): 1:20,000

Stereoscopic Plotting Instrument Scale (III):

Scale Factor (III): None

Date received in Washington Office (IV): 6-7-51

Date reported to Nautical Chart Branch (IV): JUN 13 1951

Applied to Chart No.

Date:

Date registered (IV): 3-24-57

Publication Scale (IV):

Publication date (IV):

Geographic Datum (III): Point Barrow

Vertical Datum (III): Mean Sea Level

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 165 m.

Reference Station (III): OMALIK NORTH BASE, 1950

Lat.: 69° 09' 59.893" 1855.9m Long.: 163° 29' 54.549" 601.6 m Adjusted
(3.3m) (60.1 m) Unadjusted X

Plane Coordinates (IV):

State:

Zone:

Y=

X=

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)

DATA RECORD

Field Inspection by (II): David M. Whipp

Date: Early July 1950

Planetable contouring by (II):

Date:

Completion Surveys by (II):

Date:

Mean High Water Location (III) (State date and method of location): Located on 9-lens field photographs by field inspection in early July 1950 and this location transferred to office photographs with the use of stereoscope and then compiled on map manuscript.

Projection and Grids ruled by (IV):

Date:

Projection and Grids checked by (IV):

Date:

Control plotted by (III): Roy A. Davidson

Date: 1-3-51

Control checked by (III): Ree H. Barron

Date: 1-3-51

Radial Plot or Stereoscopic Roy A. Davidson & J.E. Deal
Control extension by (III):

Date: 1/15/51

Stereoscopic Instrument compilation (III):
Planimetry

Date:

Contours

Date:

Manuscript delineated by (III): M.B. Elrod

Date: 3/14/51

Photogrammetric Office Review by (III): Ree H. Barron

Date: 5/3/51

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

Date:

Camera (kind or source) (III): U.S.C. & G.S. 9-lens focal length 8.25 inches.

PHOTOGRAPHS (III)				
Number	Date	Time	Scale	Stage of Tide
22765	7/23/48	14:33(150° W)	1:20,000	0.65 ft. above M.L.L.W.
22794 to 22796	7/23/48	15:00(150° W)	1:20,000	0.65 ft. above M.L.L.W.

Tide (III)

Reference Station: Kodiak, Alaska (Time Meridian 165° W)
 Subordinate Station: Point Barrow, Alaska (Time Meridian 150° W)
 Subordinate Station:

Ratio of Ranges	Mean Range	Diurnal
		Range
1.0	6.6	8.5
0.1	0.4	0.5

Washington Office Review by (IV):

Date:

Final Drafting by (IV):

Date:

Drafting verified for reproduction by (IV):

Date:

Proof Edit by (IV):

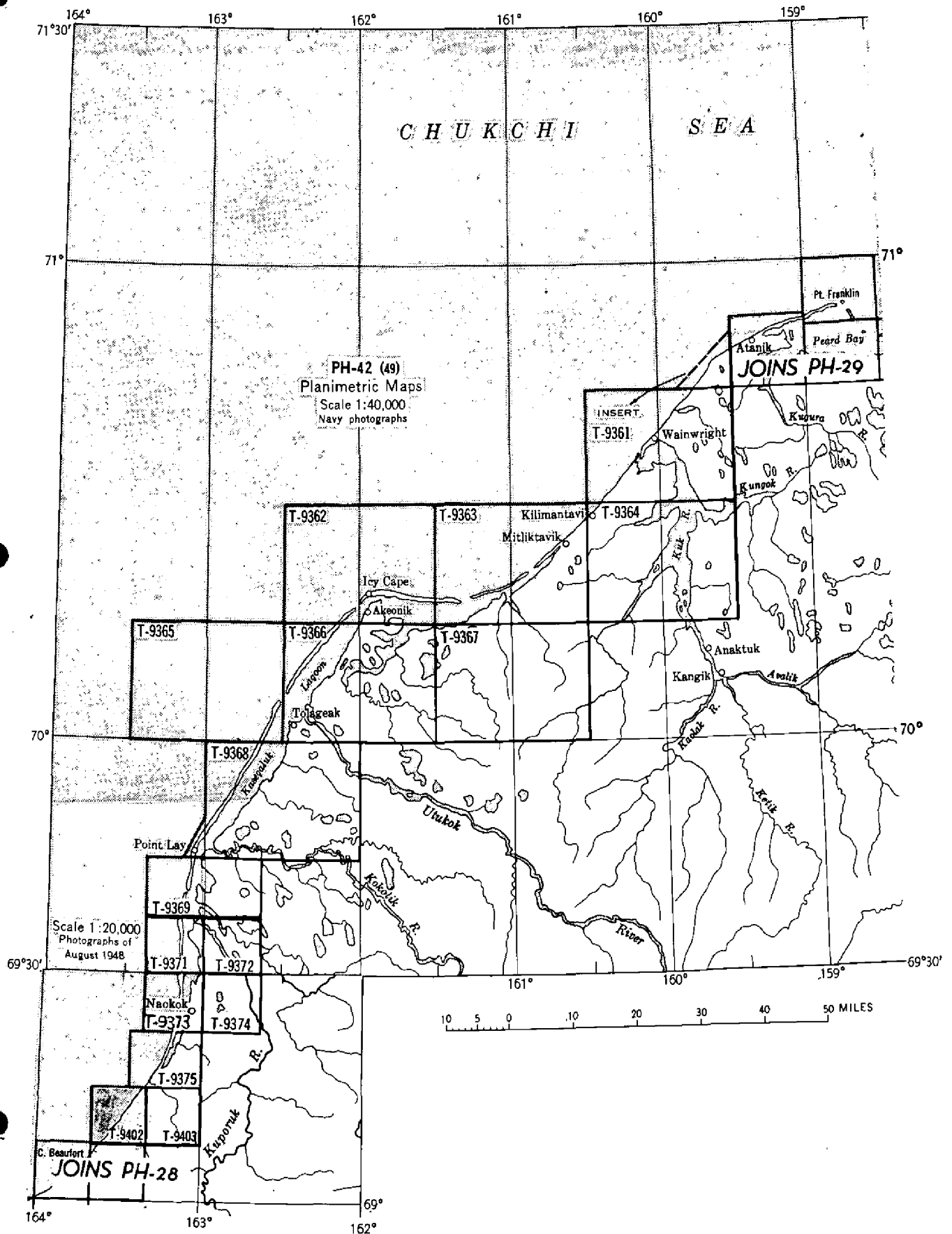
Date:

Land Area (Sq. Statute Miles) (III): 24.7
 Shoreline (More than 200 meters to opposite shore) (III): 14.2
 Shoreline (Less than 200 meters to opposite shore) (III): 0.5
 Control Leveling - Miles (II):
 Number of Triangulation Stations searched for (II): 2 Recovered: 2 Identified: 2
 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

Remarks:

PLANIMETRIC MAPPING PROJECT PH-42

ALASKA, Chukchi Sea, C. Beaufort to Atanik



Summary to Accompany T-9402

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, the latter two being additions to the original southern limits. T-9402 includes the shoreline of Chukchi Sea from Koocheek River to a point about two miles south of Omalik Lagoon.

Field work was accomplished in 1950, and included establishment of control, of shoreline delineation on nine-lens photographs (July 1948) and some notes describing land features.

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 or reports not bound with the Completion Report, but filed elsewhere.

FIELD INSPECTION REPORT
Map Manuscript No. T-9402
Project Ph-28(47)

Refer to Special Report "Photogrammetric Control - Station
Identification Kasegaluk Lagoon to Cape Beaufort, Arctic Coast of
Alaska, Project CS-320 (1950)", R.A. Earle, Chief of Party.

PHOTOGRAMMETRIC PLOT REPORT
Map Manuscripts Nos. T-9375 (Revision), T-9402 and T-9403
Project Ph-28(47)

21: AREA COVERED:

This radial plot covers an area about 8 miles wide along the shoreline of Chukchi Sea from a point about 2 miles south of the south end of Omalik Lagoon to a point about 4 miles north of the south end of Kasegaluk Lagoon. It comprises Map Manuscripts T-9402 and T-9403 and a revision radial plot for the area south of Latitude $69^{\circ} 20'$ for Map Manuscript T-9375.

Originally it had been planned to also include the areas of Map Manuscripts T-9404 and T-9405 but due to the lack of horizontal control the radial plot in this area was laid aside pending additional field work in 1951. Refer to letter from The Director 711-rs, dated 18 January 1951, Subject: "Radial Plot, Project Ph-28(47)" a copy of which is included with this report.

22: METHOD:

The radial plot was run by the usual hand templet method using 9-lens photographs taken in August 1948. Three map manuscripts were joined together with cellulose tape and the radial plot was run directly on the combined map manuscripts. T-9402 and T-9403 were of vinylite material and each of these were ruled with a polyconic projection and a Universal Transverse Mercator grid system of 2500 meter squares. T-9375 was of acetate material and was ruled with a polyconic projection only.

Master calibration templet No. 22561 was used for paper distortion corrections and for the correction of transforming errors.

Templets of the photographs were made on sheets of .005" clear acetate.

No unusual difficulties were encountered in running the radial plot. All identified horizontal control stations were held to and excellent intersections of radials to pass points were obtained.

Due to including the 1950 control station KOOCHEOK in this radial plot some minor changes were made at the southern part of the original radial plot for T-9375. These changes are shown by circles in red ink on the reverse side of the map manuscript.

It is believed that the results obtained in this radial plot are well within the limits of accuracy requirements for the project except for the following.

There were no horizontal control stations in the southeastern interior area of T-9403 and the location of pass points at the extreme eastern and southern limits of this map depended solely on control stations located along the shoreline which is about 10 miles to the west.

23: ADEQUACY OF CONTROL:

There was an adequate number of control stations identified except in the area outlined in the last paragraph of side heading 22 of this report.

24: SUPPLEMENTAL DATA:

There were no supplemental data for the area of this radial plot.

25: PHOTOGRAPHY:

The nine-lens photography was adequate for the area.

Approved:

Charles W. Clark
Charles W. Clark
Officer-in-Charge

Respectfully submitted:

J. Edward Deal, Jr.
J. Edward Deal, Jr.
Cartographer

C
O
P
Y

DEPARTMENT OF COMMERCE
U.S. Coast and Geodetic Survey
Washington 25

C
O
P 711-rs
Y

AIR MAIL

18 January 1951

To: Lt. Comdr. Charles W. Clark
U.S. Coast and Geodetic Survey
c/o Swan Island Postal Station
Portland 18, Oregon

Subject: Radial Plot, Project Ph-28(47)

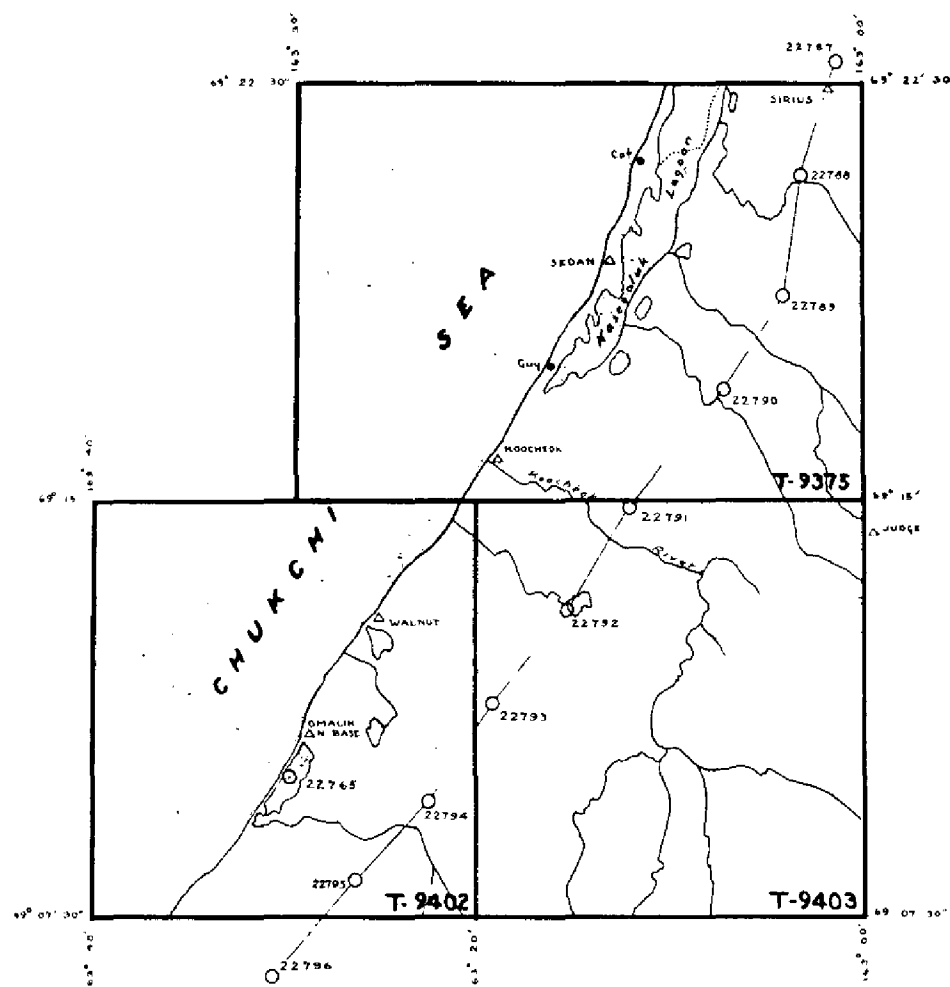
This is in reply to your recent letter on the same subject. Compilation of maps T-9404 and T-9405 may be omitted pending the establishment and identification of additional control. Triangulation and photogrammetric surveys from Point Hope to Cape Beaufort are planned in 1951 and these manuscripts can be compiled next winter.

The station identification cards, photograph indexes, and map layouts requested in your letter were forwarded 17 January 1951 under a separate transmitting letter, with the exception of diagrams for Project Ph-65. Project diagrams for Ph-65, with the photographs indicated thereon, were forwarded 19 December 1950 under transmitting letter 579-Ph-50.

The date and time of nine-lens photographs are as follows:
(The time is 165th meridian).

22757	23 August 1948	14:25
22765	23 August 1948	14:33
22787	23 August 1948	14:58
22804	23 August 1948	15:09

/s/ H.W. Hemple
Acting Director



PH-28 (47)
CAPE BEAUFORT AREA-ALASKA

MAP T-9375...

Page 11

MAP T-9402

PROJECT NO. Ph-28(47)

SCALE OF MAP..... 1:20,000.....

SCALE FACTOR None

[illegible]

SCALE FACTORNone

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COMPILATION REPORT
Map Manuscript No. T-9402
Project Ph-28(47)

31: DELINEATION:

Graphic methods were used for the compilation of this map manuscript.

The field inspection consisted of spot locations of the mean high water line and notes relative to photo interpretation and the heights of bluffs.

The compilation of the mean high water line and alongshore details were at first completed and a tracing showing these details, made on .005" thick clear vinylite, were forwarded to the Arctic Party then based in Seattle, Washington for use in processing the smooth sheets of the hydrographic survey. Sometime later, after work of higher priority on other projects had been completed, the interior planimetric details were compiled to the extent of photograph coverage.

32: CONTROL:

Refer to side-heading 23: "Adequacy of Control" of the Photogrammetric Plot Report which is included in this descriptive report.

33: SUPPLEMENTAL DATA:

There were no supplemental data.

34: CONTOURS AND DRAINAGE:

Contours are not applicable.

The drainage has been delineated by stereoscopic examination of the photographs.

35: SHORELINE AND ALONGSHORE DETAILS:

The mean high water line was indicated at key points on the field photographs. This location was transferred to the office photographs with the use of the stereoscope and then compiled. Alongshore areas consist of a sand beach and bluffs which have been compiled as indicated by field inspection and office examination of the photographs.

36 through 38:

Refer to Special Report side heading 9 through 12, entitled "Photogrammetric Control - Station Identification, Kasegaluk Lagoon to Cape Beaufort, Arctic Coast of Alaska", Project CS-320, 1950.

39: JUNCTIONS:

Complete and satisfactory junctions have been made with adjoining map manuscripts.

40: HORIZONTAL AND VERTICAL ACCURACY:

Vertical accuracy is not applicable.

Refer to last paragraph of side heading 22 of the Photogrammetric Plot Report which is included in this descriptive report.

46: COMPARISON WITH EXISTING MAPS:

There were no topographic or planimetric maps available to the photogrammetric office for comparison purposes.

47: COMPARISON WITH NAUTICAL CHARTS:

A visual comparison was made with nautical chart No. 9402, Scale 1:700,000, 1st Edition of 1950, printed 5/8/50 and hand corrected May 15, 1950.

Omalak Lagoon, located along the shoreline between Lat. $69^{\circ} 09'$ and Lat. $69^{\circ} 10'$, is not shown on the chart.

Items to be applied to nautical charts immediately:

None

Approved:

Charles W. Clark
Charles W. Clark
Officer-in-Charge

Respectfully submitted:

J. Edward Deal, Jr.
J. Edward Deal, Jr.
Cartographer

T-9402

48: GEOGRAPHIC NAMES:

From Chart No. 9402:

Chuckchi Sea

From field inspection:

Omalik Lagoon

Note: The geographic names report referred to in side heading 18: Geographic Names, of the Special Report entitled "Photogrammetric Control - Station Identification, Kasega-luk Lagoon to Cape Beaufort, Arctic Coast of Alaska" Project CS-320, (1950) was not furnished the photogrammetric office.

PHOTOGRAMMETRIC OFFICE REVIEW

T-9402

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. Lee H. Barron J. Edward Deal Jr.
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:

M-2623-12

Review Report T-9402
Planimetric Map
5 October 1953

61. General.-This map manuscript is compiled on Pt. Barrow datum. Each of the stations was later plotted on the N. A. 1927 datum (correction figures) in order to use them in the radial plot for Ph-28(47) to the south. Ph-28 is to be made on the N.A. 1927 datum. The replotted stations have been left on the map manuscript using the broken-line triangle,* thus affording a ready means of ~~reading~~ translation from one datum to the other.

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

63. Comparison with Maps of Other Agencies.-

USGS Point Lay, Alaska (Recon.) 1:250,000 1951
Astronomic Datum.

The general shapes of shoreline, drainage and large ponds are similar. The small scale of the map precludes a detailed comparison.

64. Comparison with Contemporary Hydrographic Surveys.-

H-7858 1:40,000 1950 Southern Kasegaluk Lagoon to south end of Omalik Lagoon.

The shoreline of T-9402 had already been applied to H-7858. No changes were made during review.

65. Comparison with Nautical Charts.-

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

The small scale of the chart affords little basis for comparison other than to note a general agreement.

66. Accuracy.-The shoreline is well controlled and was delineated to agree with field inspection. Interior delineation is of an accuracy adequate for interior charting.

Reviewed by:

Lena T. Stevens
Lena T. Stevens

APPROVED

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

Max B. Little
Chief, Nautical Chart Branch
Division of Charts

W. Swanson
Chief, Div. of Photogrammetry

J. Bowie
Chief, Div. of Coastal Surveys

12 April 57

Do not show on the file copy. App.

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.