Diagram Cht. No. 9400

Form 804

U. S. COAST AND GEODETIC SURVEY
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Planimetric

T-9769

Field No. Ph-29(47) 11 Office No. thru T-9772

LOCALLY

Territory Alaska

General locality Beaufort Sea, North Arctic
Coast

Locality Harrison Bay, Kogru River,

Atigaru Point

1951 52

CHIEF OF PARTY
Max G. Ricketts, Arctic Party
Fred A. Riddell, Portland, Oregon

PHOTOGAOMETRIC OFFICE

LIBRARY & ARCHIVES

DATE JUNE 22, 1955
DATA RECORD

T - 9769 thru T-9772

Project No. (II): Ph-29(47)II Quadrangle Name (IV):

Field Office (II): Arctic Field Party Chief of Party: Max G. Ricketts

Photogrammetric Office (III):

Instructions dated (II) (III):
1/13/48, 3/8/50, 2/6/51, 2/1/52 and 2/15/52 (Field)
12/14/49, 1/27/50, 11/9/50 and 11/23/51 (Office)

Copy filed in Division of Photogrammetry (IV)

Method of Compilation (III): Graphic

Manuscript Scale (III): 1:20,000

Scale Factor (III): None

Date received in Washington Office (IV):

Date reported to Nautical Chart Branch (IV):

Applied to Chart No. Date:

Date registered (IV): 19 July, 1954

Publication Scale (IV):

Publication date (IV):

Geographic Datum (III): Point Barrow 1945

Mean Sea Level

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

Reference Station (III): (See paragraph 12 of Office Instructions Ph-29 (47)
dated 11 December 1949)

Lat.: Long.: Adjusted Unadjusted

Plane Coordinates (IV):

Y= X=

State: T.9771 Zone: T.9772

The difference between Point Barrow 1945 Datum
and preliminary N.A. 1927 Datum is Lat. plus/minus
40 m. and Long. minus 156 m. ±14 ft.

The difference between Ph-Barrow 1945 Datum
and preliminary N.A. 1927 Datum is Lat. plus/minus
40 m. and Long. minus 156 m. ±14 ft.

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): L. W. Eason, II Date: 27 July 1952 to 28 August 1952

Planetable contouring by (II): Date:

Completion Surveys by (II): L. W. Eason, II (Supplemental control) Date: 7 May 1952 28 August 1952 23 April 1952

Mean High Water Location (III) (State date and method of location): By stereoscopic examination of the photographs at the Portland Photogrammetric Office in 1953 on Photographs taken in 1947.

Projection and Grids ruled by (IV): Date:

Projection and Grids checked by (IV): Date:

Control plotted by (III): Gordon R. Combs Date: 9 February 1953

Control checked by (III): James L. Harris Date: 26 February 1953

Radial Plot or Stereoscopic James L. Harris and J. E. Deal Date: 20 March 1953
Control extension by (III):

Planimetry

Stereoscopic Instrument compilation (III):
Contours

Manuscript delineated by (III): See reverse side Date: July-Aug 1953

Photogrammetric Office Review by (III): T-9769, T-9770 and T-9772 by J. E. Deal Date: 8/6/53 thru 8/24/53
T-9770 by J. L. Harris 8/20/53

Elevations on Manuscript J. E. Deal checked by (II) (III):

Date: Same as above
PHOTOGRAPHS (III)

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Tide (III)

Reference Station: Kodiak, Alaska
Subordinate Station: Point Barrow, Alaska
Subordinate Station:

Washington Office Review by (IV):

Final Drafting by (IV): Robinson A.T.

Drafting verified for reproduction by (IV):

Proof Edit by (IV):

Land Area (Sq. Statute Miles) (III): 205
Shoreline (More than 200 meters to opposite shore) (III): 146
Shoreline (Less than 200 meters to opposite shore) (III): 15
Control Leveling - Miles (II):

Number of Triangulation Stations searched for (II): Recovered: 18 Identified: 18
Number of BMs searched for (II): Recovered: 18 Identified: 18
Number of Recoverable Photo Stations established (III): None
Number of Temporary Photo Hydro Stations established (III): None

Remarks:

Form T-Page 4
Summary to Accompany T-9769 - 72, Incl.

Planimetric project Ph-29(47) consists of 76 maps, scale 1:20,000; 26 in Part I (Barter Island westward to Jones Islands); 43 in Part II (Jones Islands westward to Point Barrow); and 7 in Part III (US-Can. Boundary, westward to Barter Island).

This project was designed as surveys for new nautical charts at a much larger scale than the present regional chart, and to furnish bases to the U.S. Geological Survey for projected topographic maps.

T-9769 to 72 includes the western shore of Harrison Bay, i.e., from about 5 miles south of Cape Halkett to about 3 miles south of Atigara Point.

When all the map manuscripts in this project have been reviewed, smooth-drafted, reproduced, and registered, a Completion Report will be filed in the Bureau Archives. This report will describe the project as a whole, and will list the materials received, with a statement regarding their disposition.
FIELD: INSPECTION REPORT

Map Manuscripts T-9770 thru T-9772

Project Ph-29(47)II

Refer to Descriptive Report:

Shoreline - Photogrammetric

Alaska

North Arctic Coast

Cape Halkett to Colville River

1952

Chief of Party: Max G. Ricketts
PHOTOGRAMMETRIC PLOT REPORT
Map Manuscripts T-9769 thru T-9772, T-9776 & T-9777
Project Ph-29 (47) II

21. Area Covered

This radial plot covers a strip of land along the North Arctic Coast from about 2.5 miles south of Cape Mikkaw to about 9.0 miles west of the Colville River and includes the shorelines of Harrison Bay and the Kogru River. It comprises map manuscripts T-9769 thru T-9772, T-9776 and T-9777.


In general Items 22 thru 25 of the Photogrammetric Plot Report for Map Manuscripts No's. T-9743 thru T-9754 and T-9755, Project Ph-29 (47) II which is included in the Descriptive Report for Map Manuscripts T-9743 thru T-9746 are applicable. The following exceptions are noted:

References to damaged map manuscripts do not apply.

It was necessary to extend the projection for T-9769 eight minutes easterly so that the shoreline of Harrison Bay would be covered.

The southwest limits of T-9776 could not be completed because of insufficient photograph coverage.

A radial plot was first completed for T-9769 thru T-9772 which are on "Point Barrow 1943" datum. T-9776 and T-9777 are on "Flaxman Island 1912" datum. Geographic positions for triangulation stations ATIGARU, 1951 and AKULIK, 1951 were furnished on both datums. These two stations fall within the limits of T-9772.

In order to make a radial plot junction the projection for T-9777 was extended northward to include Latitude 70° 33' and these two stations were plotted on the "Flaxman Island 1912" datum. A straight line was then drawn between these plotted positions. Also a straight line was drawn between the plotted positions of these two stations, (Point Barrow 1912 datum) on T-9772. These two straight lines and the plotted positions of the two stations on both datums were then coincided and the two sheets were fastened together with cellulose tape. T-9776 was then joined on the west of T-9777 by matching meridians and parallels common to each sheet. The pass points at the junction or along the south limits of T-9771 and T-9772 which were established in the radial plot for T-9769 thru T-9772 were then transfer-
red to T-9776 and T-9777 and the radial plot was completed for these two sheets on the "Flaxman Island 1912" datum.

When making a junction to the east with the previous radial plot for T-9778, it was necessary to make slight adjustments in that plot west of Longitude 152° 20' because of the identification of additional control stations during the 1952 field season.

For station "LAMBY 1952", distance in meters to the sub-station is in error. The distance in feet was used and held in radial plot.

At "KOCRU EAST BASE, 1952", sub-stations would not hold. By swinging arcs from each of the three identified sub-stations, using as radii the distances entered on the pricking card, the arcs failed to meet at a common point of intersection by several hundred meters. The difficulties were not resolved.

At station "IDONO, 1951", there is an apparent discrepancy between the diagram on the pricking card for sub-station "b" and the description of the station. The description indicates R.M. 1 is to the west of the station and the pricking card places the R.M. 1 to the east. Several attempts were made to reconcile this difference. If the assumption is made that the instrument occupied the R.M. 1 mark and the observations were made with the station as zero, the relation of the sub-stations, the station, and R.M. 1 is in general agreement with the sketch. The position of sub-station "b" computed and plotted with this assumption could be held.

Approved:  

Respectfully submitted:

Fred A. Riddall  
Officer-in-Charge  
Portland Photogrammetric Office

J. Edward Deal, Jr.  
Cartographer
COMPILATION REPORT

Map Manuscripts T-9769 thru T-9772

Project Ph-29 (47) II

These four map manuscripts portray the shoreline and planimetric details approximately seven miles interior along the North Arctic Coast from 2.5 miles south of Cape Halkett to 2.5 miles south of Atigaru Point.

In general Items 31 thru 47 of the Compilation Report for Map Manuscripts T-9743 thru T-9746, Project Ph-29 (47) II are applicable. Exceptions are noted in the following paragraphs.

35: Shoreline and alongshore details.

There was no field inspection of the mean high-water line at any place in the area of these four map manuscripts. This interpretation was made by stereoscopic study of the photographs aided by experience gained when compiling similar areas in this project where some data on the mean high-water line was obtained by field inspection.

Refer to remarks in field inspection report Paragraph VII.

39: Junctions:

Satisfactory junctions have been made between all map manuscripts included in this compilation report and with all other adjoining map manuscripts.

The junction of planimetry between the "Point Barrow 1945" datum and the "Flaxman Island 1912" datum was made at about Latitude 79° 30'. When matching planimetry between T-9771 and T-9776 and between T-9772 and T-9777 disregard the projection lines and coincide common pass points and triangulation stations in the junction area. Also coincide Latitude 70° 30' on T-9771 and T-9772 (Point Barrow 1945 datum) with match line shown in red ink on both T-9776 and T-9777.

Approved:

Fred A. Riddall
Officer-in-Charge
Portland Photogrammetric Office

Respectfully submitted:

J. Edward Deal, Jr.
Cartographer
48. Geographic Names:

The geographic names Report listed under Item XIV of the field report "Shoreline - Photogrammetric, Alaska, North Arctic Coast, Cape Hakett to Colville River 1952", was not furnished the Photogrammetric Office.

Names shown on the map manuscripts were obtained from the nautical chart, various other maps and descriptions of stations and are shown for location purposes only.
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PHOTOGRAMMETRIC OFFICE REVIEW
T. 9769 thru T-9772


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 alongshore cultural features

PHYSICAL FEATURES
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

Reviewer: Edward Deal
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:
61. **General.** These maps cover a low area of little relief so that even the so-called "higher tundra" is wet, though the "polonem" pattern is not so prominent here as elsewhere; and the "lower tundra" appears to have more water than vegetation, in places.

62. **Comparison with Registered Surveys.**—No earlier surveys exist for this area.

63. **Comparison with Maps of Other Agencies.**—

USGS Harrison Bay, Alas. (Recon) 1:250,000, ed. 1951.
Astronomic Datum.

The small scale of the quadrangles precludes more than a general comparison, and this discloses no major difference. No contours are drawn in the area.

64. **Comparison with Contemporary Hydrographic Surveys.**—

**H-7991 (ARN 4152) 1:40,000, 1952, Harrison Bay, Cape Halkett to Atigara Point.**

No shoreline was drawn on this survey, but soundings are not in conflict with the shoreline on T-9769-72, nor to the soundings recorded on field inspection photographs covering Kogru River and its mouth and the Point Comfort area.

These field inspection photographs are:

- 20087, Point Comfort, 2, 20089, Kogru R. 151° 53' to 152° 03½' Aug. 6, 1952
- 20088 " " 152° 03' to 152° 17' Aug. 4, 1952 1000-1100
- 19924 " " 152° 19' to 152° 36' Aug. 5, 1952 0930-1030
- ARN 4252 east of H-7991 Not available
- ARN 4352 " ARN 4252 Not available.

65. **Comparison with Nautical Charts.**—


The small scale of the chart affords little basis for comparison.

66. **Accuracy.**—Effective control is well distributed in the radial plot, and delineation is as accurate as office interpretation can give, so that this group of maps meet the needs of Arctic charting.

Reviewed by:

Lena T. Stevens
APPROVED

[Signatures]

C. Lander
Chief, Review Branch
Div. of Photogrammetry

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

Earl O. Herron
Chief, Div. of Coastal Surveys

[Date: 11 May 1935]
HORIZONTAL DATUM ADJUSTMENT

ARCTIC OCEAN AREA, ALASKA

Corrections to Preliminary N.A. 1927 Datum from the various independent horizontal datums on the north coast of 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 from adjusted N.A. 1927 Datum stations at about the 63rd Parallel on the Canadian Boundary, followed the 141st Meridian (TEC Datum) to Beaufort Sea (Arctic Ocean), thence westward through the Barter Island 1918, Flaxman Island and Point Barrow 1945 Datums to a connection with adjusted N.A. 1927 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.

PLANEOMETRIC MAPPING PROJECT

Ph-29(47) PART II

Point Barrow to Jones Island, Alaska

T-9743 thru T-9795

T-9743 thru T-9772: Point Barrow 1945 Datum, correction to Preliminary N.A. 1927 Datum in Latitude is +1.30 sec. on all the maps, and in Longitude, ranges from -14.93 sec. on T-9743 to -15.26 sec. on T-9772. These corrections were converted into meters, and stamped on page T-2 of each Descriptive Report, and near the title block of each manuscript and registered cloth-backed map, with the following stamp:

T-9773 thru T-9785: Flaxman Island Datum, correction to Preliminary N.A. 1927 Datum is ranges from -1.26 sec. on T-9777 to -3.00 sec. on T-9782, and in Longitude from plus 8.95 sec. on T-9777 to plus 9.90 sec. on T-9782. These corrections were stamped on page T-2 of each Descriptive Report, and near the title block of each manuscript and cloth-backed registered map, with the exception that the cloth-backed maps have not been completed for T-9777, T-9779 thru 9782, and T-9784 thru 9785. When these maps are completed they should be stamped the same as have been their descriptive reports, with the following stamp:

The difference between Point Barrow 1945 Datum and Preliminary N.A. 1927 Datum is Lat. plus/mm and Long. minus/mm.

See the Special Report on HORIZONTAL DATUM ADJUSTMENT for Ph-29(47), Parts I, II, & III, filed with the completion report for a project index showing the correction for each map.