9769 9770
9771 9772

9770 9772
9769 [redacted] 9771

Diagram Cht. No. 9400

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Planimetric

Field No. Ph-29(47) 11 Office No. T-9769 thru T-9772

LOCALITY

Territory ~~State~~ Alaska

General locality Beaufort Sea, North Arctic Coast

Locality Harrison Bay, Kogru River, Atigaru Point

19# 52

CHIEF OF PARTY

Max G. Ricketts, Arctic Party
Fred A Riddell, Portland, Oregon
~~Photogrammetric Office~~

LIBRARY & ARCHIVES

DATE JUNE 22, 1955

8-1870-1 (1)

* 9769 & 9770 "FOR OFFICIAL USE ONLY"

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): Officer-in-Charge:

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 Stereoscopic Plotting Instrument Scale (III):

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
Correction figures to NA 1927 available.
Jan. 1953
T-9769
The difference between Point Barrow, 1945 Datum and preliminary N.A. 1927 Datum is Lat. plus/~~minus~~ 40 m. and Long. ~~plus~~/minus 155 m. ✓l.c.l.

Vertical Datum (III): Mean ~~Sea Level~~ H. W.
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
T-9770
The difference between Pt. Barrow, 1945 Datum and preliminary N.A. 1927 Datum is Lat. plus/~~minus~~ 40 m. and Long. ~~plus~~/minus 156 m. ✓l.c.l.

Reference Station (III): (See paragraph 12 of Office Instructions Ph-29 (47) dated 14 December 1949)

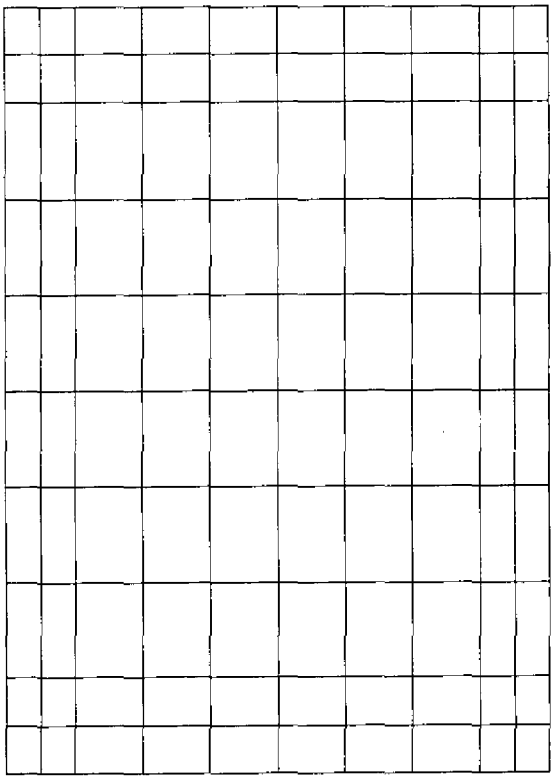
Lat.: Long.: Adjusted / Unadjusted

Plane Coordinates (IV): State: Zone:

T-9771 - T-9772
Y= X=
The difference between Pt. Barrow, 1945 Datum and preliminary N.A. 1927 Datum is Lat. plus/~~minus~~ 40 m. and Long. ~~plus~~/minus 157 m. ✓l.c.l.

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 Febru ary 1953

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

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

Stereoscopic Instrument compilation (III): Planimetry — Date:

Contours — Date:

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 checked by (II) (III): J. E. Deal — Date: Same as above

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
19922 thru 19927	7/20/47	15:20	1:20,000	0.7 ft. above M.L.L.W.
20073 thru 20079	7/25/47	10:50	1:20,000	0.2 ft. above M.L.L.W.
20086 thru 20091	7/25/47	11:50	1:20,000	0.2 ft. above M.L.L.W.

Tide (III)

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

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

Washington Office Review by (IV): Date: 1-15-54 1-26-54

Final Drafting by (IV): 9769 Robinson A.T. 9770 Robinson A.T. 9771 Robinson A.T. 9772 Robinson A.T. Date: 3-3-54

Drafting verified for reproduction by (IV): Hallum - T-9769 T-9770 T-9772 Date: 2-18-54 2-26-54 3-11-54

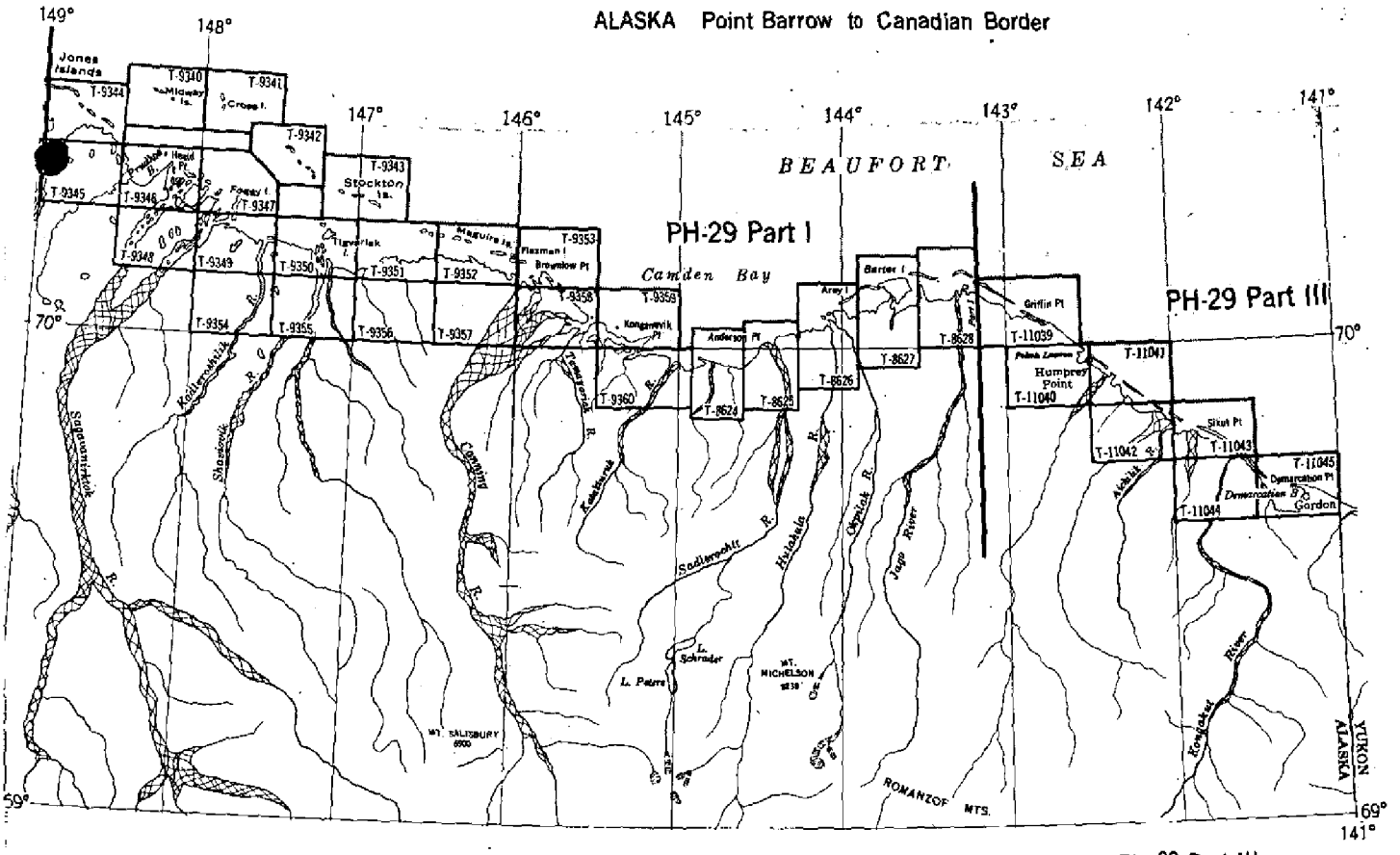
Proof Edit by (IV): Date:

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: - - - Identified: - - -
Number of Recoverable Photo Stations established (III): None
Number of Temporary Photo Hydro Stations established (III): None

Remarks:

PLANIMETRIC MAPPING PROJECT PH-29 I-II-III

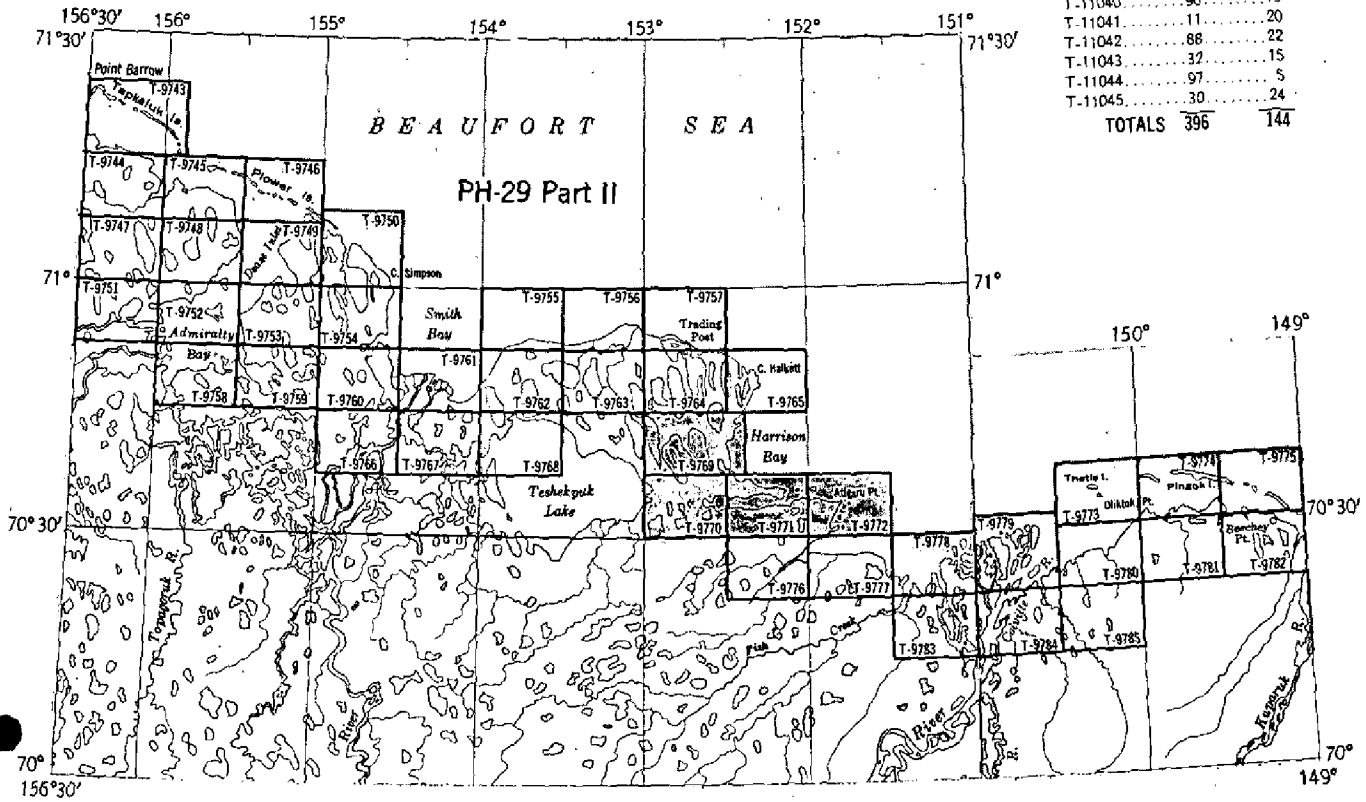
ALASKA Point Barrow to Canadian Border



PH-29 Part III

OFFICIAL MILEAGE FOR COST ACCOUNTS

Sheet No.	Sq. Miles Area	Lin. Miles Shoreline
T-11039	48	39
T-11040	90	19
T-11041	11	20
T-11042	86	22
T-11043	32	15
T-11044	97	5
T-11045	30	24
TOTALS	396	144



Photographs taken July 1947 Scale 1:20,000

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 Atigaru 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 Halkett 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.

22. Through 25.

In general Items 22 thru 25 of the Photogrammetric Plot Report for Map Manuscripts No's. T-9743 thru T-9754 and T-9758, 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 1945" 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 paralells 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 "LAMB, 1952", distance in meters to the sub-station T-9770 is in error. The distance in feet was used and held in radial plot.

At "KOGRU EAST BASE, 1952", sub-stations would not hold. By T-9772 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 descrepancy 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.

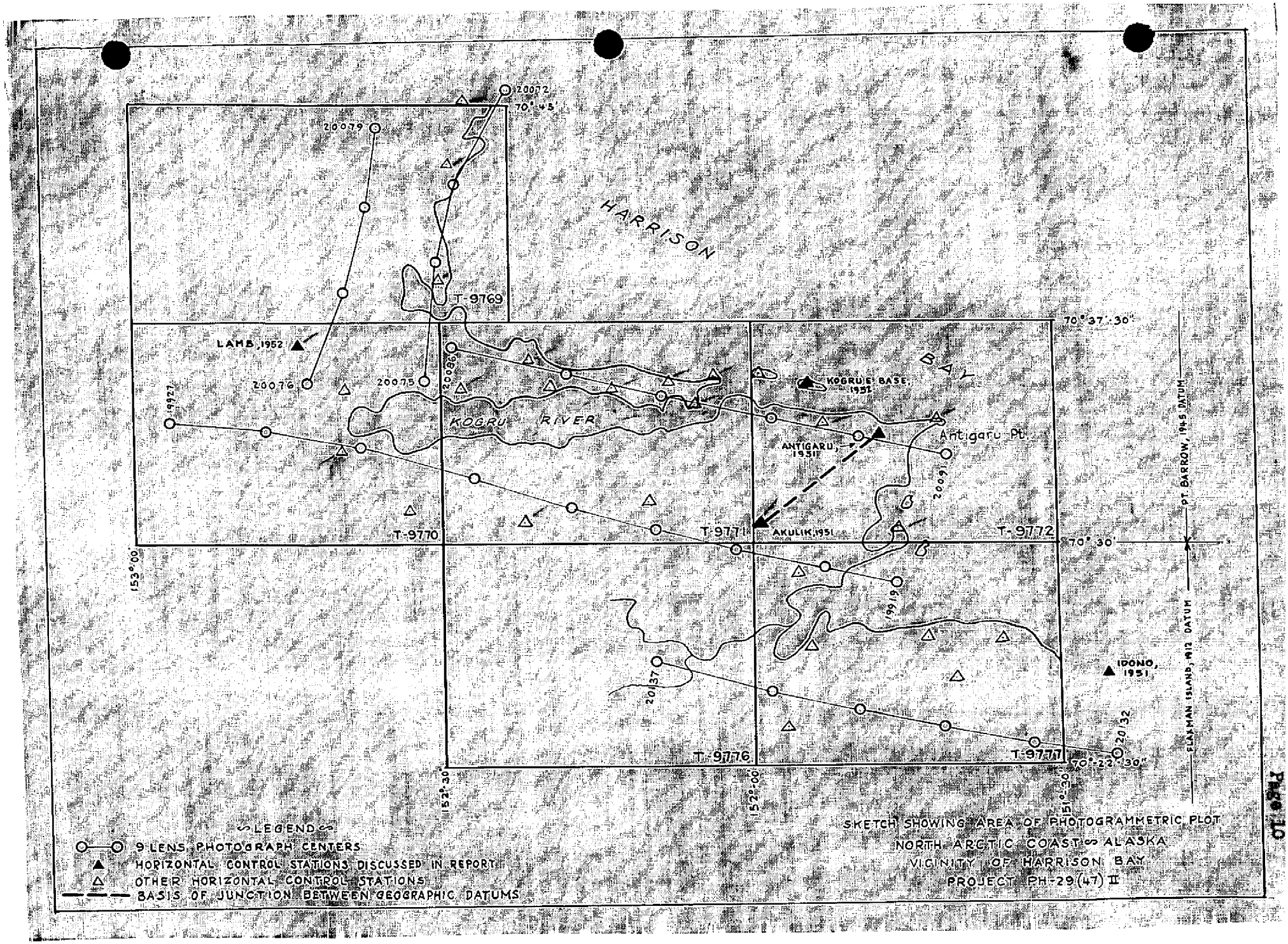
Approved:

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

Respectfully submitted:

J. Edward Deal Jr.

J. Edward Deal, Jr.
Cartographer



SKETCH SHOWING AREA OF PHOTOGRAMMETRIC PLOT
NORTH ARCTIC COAST, ALASKA
VICINITY OF HARRISON BAY
PROJECT PH-29(47) II

Plate 10

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 70° 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. Riddell
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 Halkett 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.

GEOGRAPHIC NAMES

Survey No.

Name on Survey	On Chart No. A	On previous survey No. B	On U. S. quadrangle Maps C	From local information D	On local Maps E	P. O. Guide or Map F	Rand McNally Atlas G	U. S. Light List H	K	
T9769										1
Garry Creek										2
Harrison Bay										
T9770										3
Kogru River										4
Teshepuk Lake										
T9771										5
Harrison Bay										6
Kogru River										
Saktuina Point										7
T9772										8
Atigaru Point										
Eskimo Islands										9
Harrison Bay										
										10
										11
					Names approved					12
						10-28-53				13
							a.j.w.			14
										15
										16
										17
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										24
										25
										26
										27

M 234

Form T-?

PHOTOGRAMMETRIC OFFICE REVIEW

T- 9769 thru T-9772

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 N 8. Bench marks N

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

ALONGSHORE AREAS

(Nautical Chart Data)

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

PHYSICAL FEATURES

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

CULTURAL FEATURES

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

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) J. Edward Dear Jr. (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

61. General.-These maps cover a low area of little relief so that even the so-called "higher tundra" is wet, though the "polygon" 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 Atigaru 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,			
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.-

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

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

Lena T. Stevens

APPROVED

L C Landy
Chief, Review Branch
Div. of Photogrammetry

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

L W Swanson
Chief, Div. of Photogrammetry MSC
11 May 1955

Earl O. Heaton
Chief, Div. of Coastal Surveys

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 (IBC Datum) to Beaufort Sea (Arctic Ocean), thence westward through the Barter Island 1948, 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.

PLANIMETRIC MAPPING PROJECT

Ph-29(47) PART II

Point Barrow to Jones Island, Alaska

T-9743 thru T-9785

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 use 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-9784-9785. 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/~~minus~~
X m. and Long. ~~plus~~/minus X m.

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.