9773 9774 9775

~~CONFIDENTIAL~~

Diag. 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-9773 to T-9775 Incl.

LOCALITY

Territory
~~State~~ Alaska

General locality Beaufort Sea (Arctic Coast)

Locality Thetis Island and Jones Islands

19~~4~~ 51

CHIEF OF PARTY

Max G. Ricketts, Field, Chief of Party
Fred A. Riddell, Portland, Ore., Photo. Office

LIBRARY & ARCHIVES

DATE JUNE 28, 1955

B-1870-1 (1)

9773 9774 9775

~~CONFIDENTIAL~~

CONFIDENTIAL
DATA RECORD

T-9773 to T-9775 Inclusive

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

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

Photogrammetric Office (III): Portland, Oregon Officer-in-Charge: Fred A. Riddell

Instructions dated (II) (III): 1/13/48, 3/8/50, 2/6/51, 3/16/51 (Field) 12/14/49, 1/27/50, 11/9/50, 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): 6-30-52 Date reported to Nautical Chart Branch (IV): 7-8-52

Applied to Chart No. Date: Date registered (IV): 5 Oct. 1954

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

Geographic Datum (III): Flaxman Island 1912
Correction figures to NA 1927 are now available
LTS Mar. 1953
See reverse side of this Page
G.B.W. Sept, 1954

Vertical Datum (III): Mean ~~sea level~~ High Water

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 14 December 1949.)

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

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.

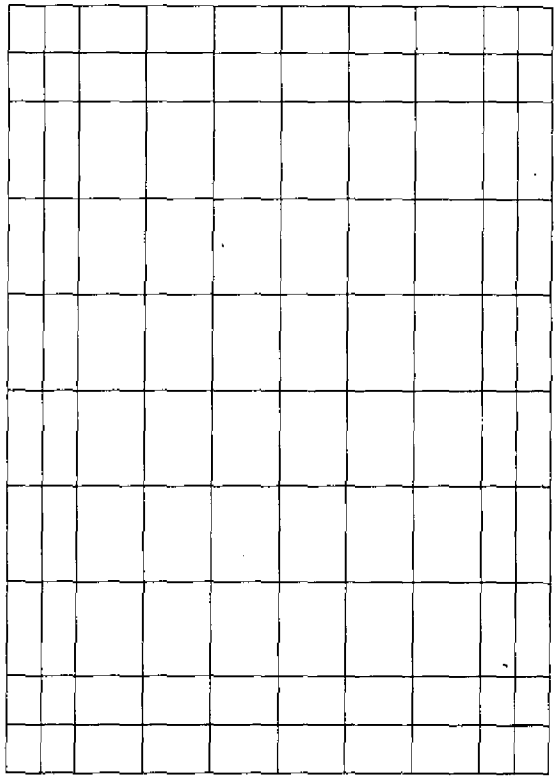
When entering names of personnel on this record give the surname and initials, not initials only.

M-2618-12(4)

T-9773 The difference between Flaxman Island Datum and preliminary N.A. 1927 Datum is Lat. ~~plus~~/minus 78m. and Long. plus/~~minus~~ 101 m. G.B.W.
✓L.C.L.

T-9774 The difference between Flaxman Island Datum and preliminary N.A. 1927 Datum is Lat. ~~plus~~/minus 81 m. and Long. plus/~~minus~~ 101 m. G.B.W.
✓L.C.L.

T-9775 The difference between Flaxman Island Datum and preliminary N.A. 1927 Datum is Lat. ~~plus~~/minus 88m. and Long. plus/~~minus~~ 102m.
✓L.C.L.



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

DATA RECORD

Field Inspection by (II): Cornelius A.J. Pauw — Date: Field season 1951

Planetable contouring by (II): — Date:

Completion Surveys by (II): — Date:

Mean High Water Location (III) (State date and method of location): Location delineated by stereoscopic examination of photographs and in some cases by planetable locations during the 1951 field season.

Projection and Grids ruled by (IV): — Date:

Projection and Grids checked by (IV): — Date:

Control plotted by (III): Ree H. Barron & J.L. Harris — Date: 1-10-52

Control checked by (III): J.L. Harris & Ree H. Barron — Date: 1-11-52

Radial Plot or Stereoscopic Control extension by (III): J.L. Harris & J.E. Deal — Date: 1-22-52

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

Manuscript delineated by (III):
T-9773:- J.L. Harris — Date: 1-24-52
T-9774:- C.H. Bishop — 1-28-52
T-9775:- R.H. Barron — 1-22-52

Photogrammetric Office Review by (III):
T-9773:- R.H. Barron — Date: 1-25-52
T-9774:- J.E. Deal — 1-31-52
T-9775:- J.E. Deal — 2-5-52

Elevations on Manuscript checked by (II) (III): None — Date:

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

PHOTOGRAPHS (III)

Number	Date	Time	Scale	Stage of Tide
20019 thru 20025	7/23/47	10:46	1:20,000	0.0 above M.L.L.W
20041 and 20042	7/23/47	11:53	1:20,000	0.15 above M.L.L.W

Tide (III)

Ratio of Ranges	Mean Range	Diurnal Range
	6.6	8.5
0.1	0.5	0.7

Reference Station: Kodiak, Alaska
Subordinate Station: Flaxman Island
Subordinate Station:

Washington Office Review by (IV): Lena T. Stevens Date: 16 Feb 1953

Final Drafting by (IV): T-9775 - Breane, T-9774 - Breane, John H. Frazier T-9773 Date: 9775 - 11/20/53, 9774 - 12/3/53, 2/16/54

Drafting verified for reproduction by (IV): W.O. Hallum T-9775, 9774, 9773 Date: 4-1-54, 4-2-54

Proof Edit by (IV): Date: 4-2-54

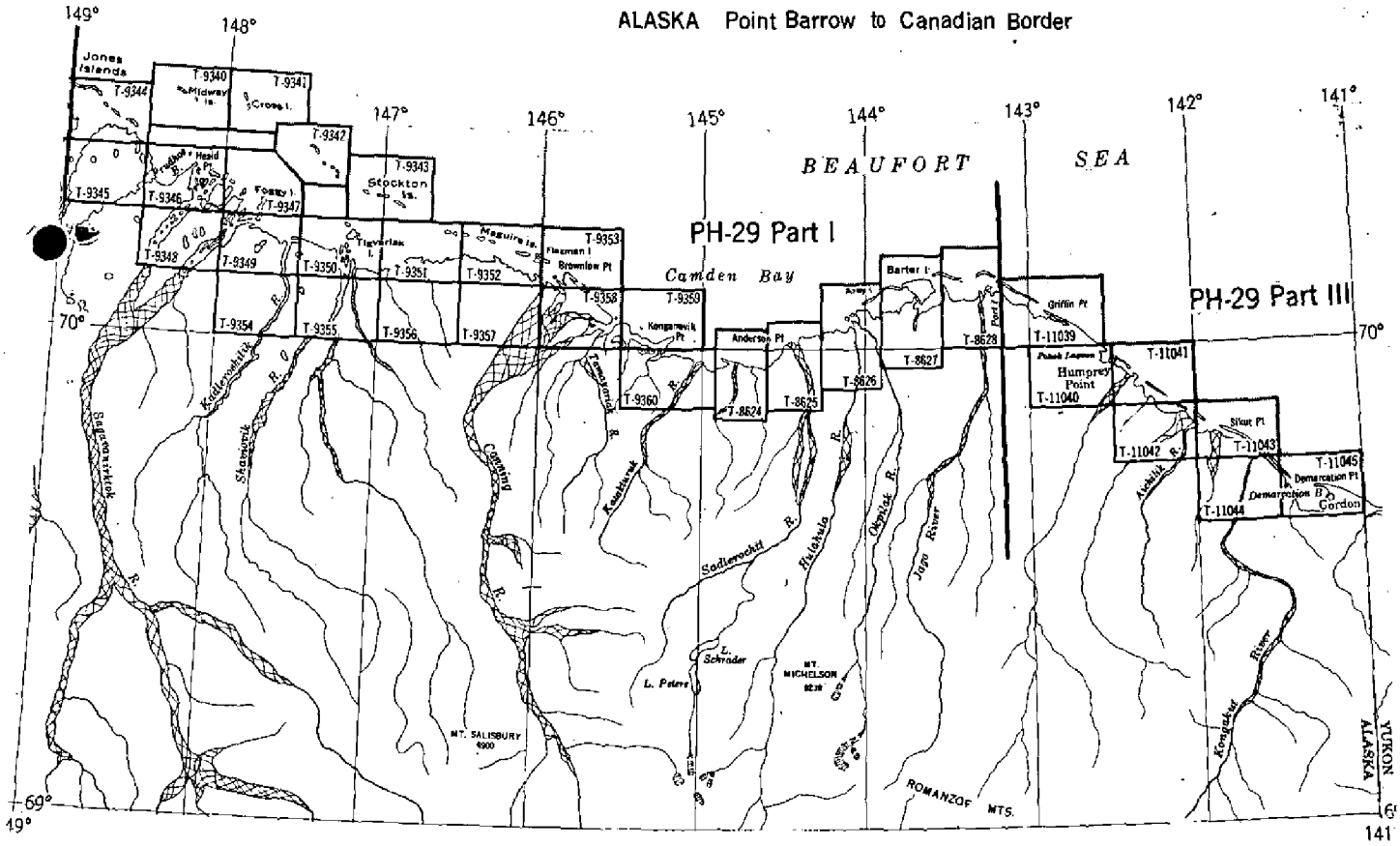
Land Area (Sq. Statute Miles) (III): 16
Shoreline (More than 200 meters to opposite shore) (III): 56.8
Shoreline (Less than 200 meters to opposite shore) (III): None
Control Leveling - Miles (II):
Number of Triangulation Stations searched for (II): 17 Recovered: Identified: 9
Number of BMs searched for (II): Recovered: Identified:
Number of Recoverable Photo Stations established (III): None
Number of Temporary Photo Hydro Stations established (III): None

Remarks:

M-2618-12(4)

PLANIMETRIC MAPPING PROJECT PH-29 I-II-III

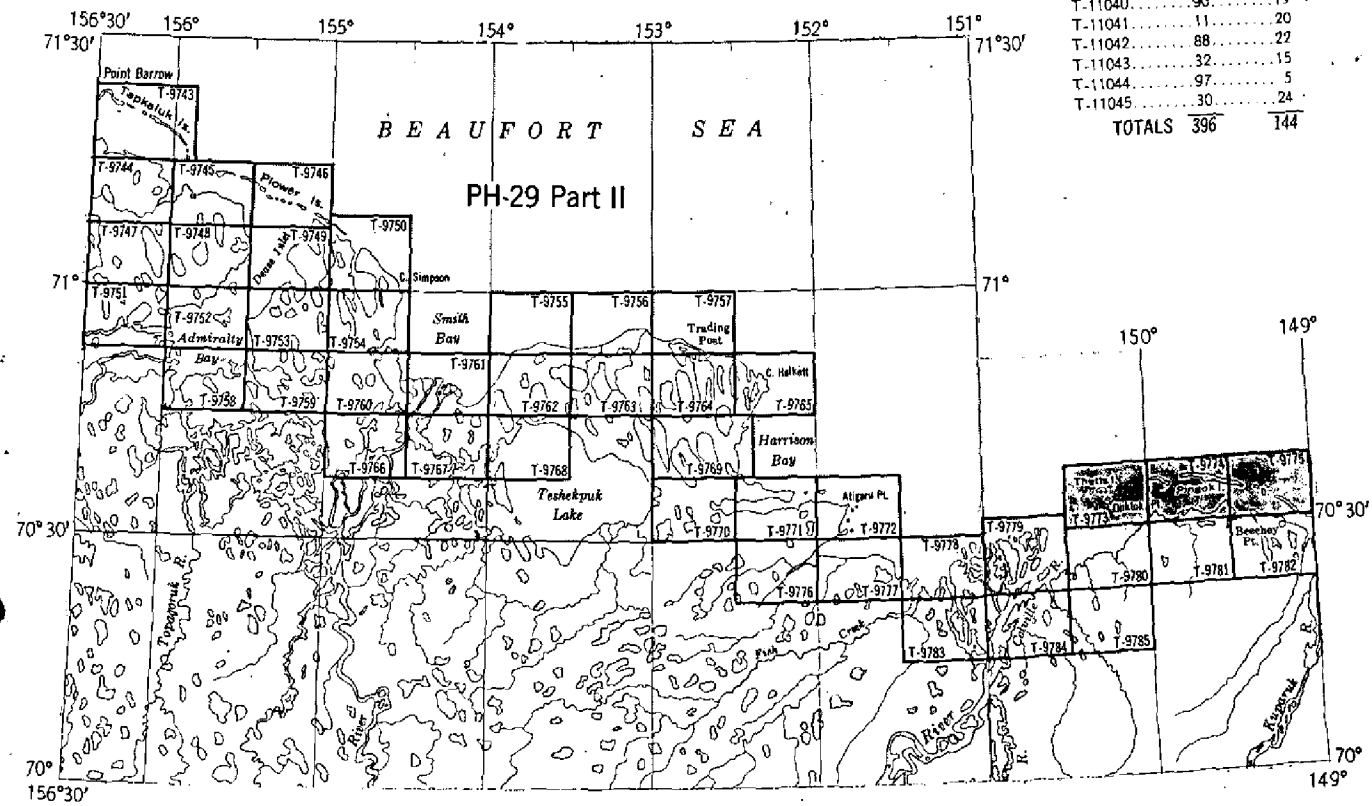
ALASKA Point Barrow to Canadian Border



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	88	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
Descriptive Report T-9773 to 75, Inc.

Planimetric project Ph-29(47) consists of 76 maps, scale 1:20,000, - 26 in Part I (Jago River, westward to Jones Islands); 43 in Part II (Jones Islands westward to Point Barrow); 7 in Part III (Canadian boundary, westward to Jago River). Part III was added to the project in 1952.

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

Manuscripts T-9773 to 75, inc. includes Thetis Island and Spy, Pingok, Bertoncini, Bodfish, and nearly all of Cottle Island of the Jones Islands group. Only small areas of the mainland fall within this series of maps, of which Olektok Point and Milne Point are noteworthy.

When all the map manuscripts in the project have been reviewed, smooth-drafted, reproduced, and registered, a Completion Report will be filed in the Bureau Archives. This report will discuss the project in its entirety.

FIELD INSPECTION REPORT
Map Manuscripts T-9773 to T-9775 Incl.
Project Ph-29(47) II

Refer to Field Inspection Report "Arctic North Coast of Alaska, Kuparuk River to Fish Creek", Project CS-320 (1951), Max G. Ricketts, Chief of Party.

PHOTOGRAMMETRIC PLOT REPORT
Map Manuscripts Nos. T-9773 to T-9775 Incl. and T-9778 to T-9785 Incl.
Project Ph-29(47) II

21. Area covered.

This radial plot covers a strip of land, approximately nine miles wide, along the shore of Beaufort Sea (North Arctic Coast, Alaska) from Sakonowyak River to Harrison Bay. It also includes Thetis Island and most of the offshore group of islands which are collectively known as Jones Islands. It comprises Map Manuscripts Nos. T-9773 to T-9775 Incl. and T-9778 to T-9785 Incl.

22. Method.

A polyconic projection, scale 1:20,000, in one minute intervals for latitude and two minute intervals for longitude, drawn on sheets of vinylite, was furnished this office for the area of each manuscript. Also shown on these sheets are the Universal Transverse Mercator Alaska Grids for each respective area. Base grid sheets were not used.

The usual methods were followed for plotting the horizontal control stations, preparation of the photographs, drawing the templets, and laying the radial plot.

Master Calibration Templet No. 21682, dated September 1948, was used for the correction of transforming and paper distortion errors in the nine lens unmounted photographs when drawing the templets.

The pricking and transferring of photogrammetric points on the office photographs was done by the use of the prism stereoscope and floating marks.

The radial plot was not completed to the south limits of map manuscripts T-9782 to T-9785 Incl. because of insufficient photograph coverage.

The planetable survey of Thetis Island was tied into the radial plot by an office identification on photographs Nos. 20019 and 20041 of station THETIS ISLAND, 1951.

It is believed that the results of this radial plot are satisfactory because the identified horizontal control stations were strongly held and excellent intersections of radials to pass points were obtained.

23. Adequacy of control.

An adequate number of horizontal control stations were identified to satisfactorily control the orientation of the templets. Two or more sub-stations were located in the field for each identified horizontal control station and for each of these stations, one sub-station was evaluated in the office as being the best for use in the radial plot. These selected sub-stations were pricked on all office photographs on which they appeared and were held in the radial plot.

24. Supplemental data.

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

25. Photography.

Refer to paragraph 5 of sub-heading 22. "Method" for data on insufficient coverage.

Vacuum failures were evident in the outer limits of at least two chambers on most photographs. This condition did not cause unusual difficulties in this plot, probably because there were large water areas where no points were being established and except in two small areas there were not more than two flights of photographs to be oriented together. It is believed to have caused serious difficulties in the radial plot for the 3rd priority area of this project where there were six parallel flights of photographs over a large land area and the trouble encountered there will be fully described in the photogrammetric plot report for that area.

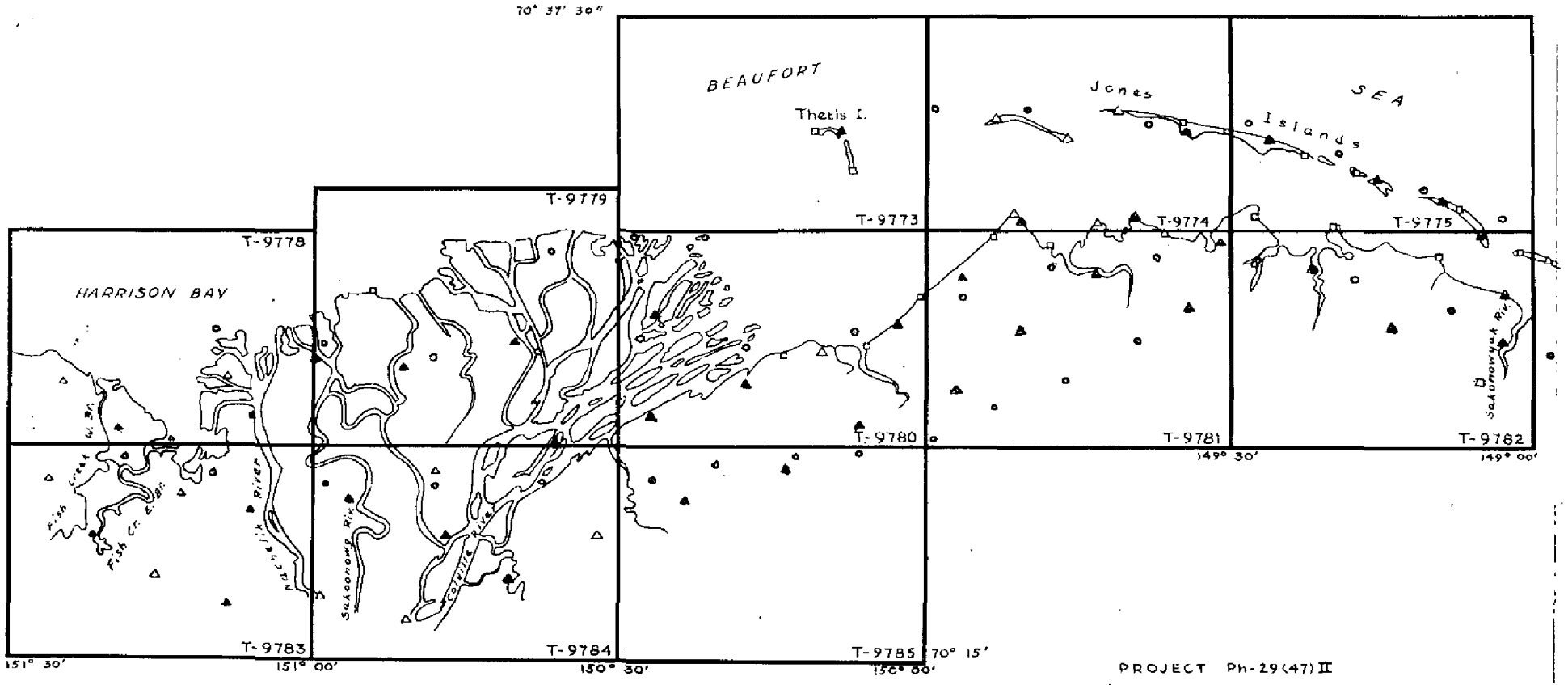
Tilt was evident in several photographs but was not excessive enough to cause trouble in the radial plot.

Approved:

Fred A. Riddell
Fred A. Riddell
Officer in Charge

Respectfully submitted

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



PROJECT Ph-29(47)II

1st Priority Area Radial Plot

△ Triangulation Stations ◭ used

□ Topographic Stations

○ Photograph Centers

COMPILATION REPORT
Map Manuscripts T-9773 to T-9775 Incl.
Project Ph-29(47) II

31. Delineation.

Graphic methods, supplemented by planetable surveys of certain portions of the barrier islands, were used.

Data relative to shoreline of the offshore islands which may have been shown on boat sheets of the area were not furnished this office for the compilation work.

All of Thetis Island was traced from a planetable survey submitted by the field inspection party. 1951-A

For most of Spy Island a planetable survey submitted by the field party was to be correlated with the photographs for the completion of the planimetry of the island. In this case it was necessary to turn photograph No. 20020 out of azimuth to make a junction of detail between the survey and photograph. 1951-B see also Review Report

Data submitted by the 1951 field party on the reverse side of photographs Nos. 20105 and 20106 changed* the planimetry of Long Island as compiled in 1951 on Map Manuscript T-9344. Junction with the former compilation and the new field data could not be made in several places. These corrections are shown in red ink on a clear acetate print of T-9344.

Refer to side heading 35 of this report for additional remarks concerning the field inspection of shoreline details.

* T-9344 (1947-49) will not be revised to the 1951 field inspection.
5-28-53 CBAkins

32. Control.

Refer to side heading 23. "Adequacy of Control" of the photogrammetric plot report.

33. Supplemental data.

Two planetable survey sheets, by the field party, supplemented the field inspection of the photographs.

34. Contours and drainage.

Drainage was delineated by stereoscopic study of the photographs and then detailed.

Contours are inapplicable.

35. Shoreline and alongshore details.

The location of the mean high-water line, for the areas of the offshore barrier islands which were not included in the planetable surveys, was not indicated by field inspection except at hydrographic station LAR and point "Q". No location of the mean high-water line was indicated on the field photographs for the main shoreline of the Arctic Coast in this area. (T-9774, Pingok Island

In view of the remarks contained in paragraph "c" side heading 1 of the field inspection report and the changes indicated by the planetable surveys, the personnel of this office are doubtful that the location of the mean high-water line, in the areas not field inspected and in which the mean high-water line was delineated by stereoscopic examination of the photographs, is in correct position and shape as of the time of field inspection during the year 1951. Some data confirming its location were obtained from descriptions of stations but in general it is believed that the location should be considered as that of July 23, 1947, the date of photography. re: barrier islands

A typical case may be found on field photograph No. 20021 east of station NOPOINT, 1951 where a note has been entered along a 3000 meter stretch of shoreline as follows: "receding shore 4 to 6 ft. bluff." No indication has been made to show the distance the shoreline has receded during the 7 years since the time of photography or the present shape and location of the mean high-water line in this area.

The personnel of this office are aware of the difficulties encountered and time limitations for obtaining complete field inspection data along the Arctic Coast and the foregoing remarks are not intended as criticism of the field work but merely to describe the accuracy of the location of the mean high-water line as shown on these map manuscripts.

All features and notes indicated by field inspection pertaining to alongshore details have been shown.

36. Offshore details.

Refer to side heading 10 of the field inspection report. (which, in turn, refers to hydrographic sheets for the area.)

37. Landmarks and aids.

The field inspection party submitted Form 567 covering landmarks and aids. The data on the geographic positions of four landmarks for charts to be entered on Form 567 has been returned to the Washington office as part of the previous compilation work done by this office. Orig. = C. Let. No. 791 (1951) Dup. attached to Field Inspection Report.

38. Control for future surveys.

Not applicable to the compilation work.

39. Junctions.

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

40. Horizontal and vertical accuracy.

Provided the compilation of the planimetry as described in side headings 31 and 35 is acceptable there are no areas believed to be of sub-normal horizontal accuracy.

Vertical accuracy is not applicable.

46. Comparison with existing maps.

There were none available to this office for comparison purposes.

47. Comparison with nautical charts.

Comparison was made with Nautical Chart No. 9400, Scale 1:1,587,870 at Lat. 70° 00', published May 1947 (6th Edition) corrected 11-27-50.

Approved:

Fred A. Riddell
Officer in Charge
Portland Photogrammetric Office

Respectfully submitted

J. Edward Deal Jr.
Cartographer

sm

48. Geographic Names List.

The geographic names report, side heading 18 of the field inspection report was not furnished the compilation office. The following were from sources listed below:

T-9773

Beaufort Sea

Thetis Island

T-9774

Beaufort Sea

Jones Islands

Oliktok Point

Pingok Island

Simpson Lagoon

Spy Island

T-9775

Beaufort Sea

Bertocini Island

Bodfish Island

Cottle Island

Jones Islands

Milne Point

Pingok Island

Simpson Lagoon

Kavearak Point

(according to Project Names Report - 1951 - this name correctly applies to large water area between Jones Islands and mainland)

Sources

Nautical Chart No. 9400

Various Aeronautical Charts of area

Field Inspection notes

Descriptions of stations

Names approved 2-16-53. Based on Project Names Report (1954)

Form T-2

PHOTOGRAMMETRIC OFFICE REVIEW

T-9773 to T-9775 Incl.

1. Projection and grids X 2. Title X 3. Manuscript numbers X 4. Manuscript size X

CONTROL STATIONS

5. Horizontal control stations of third-order or higher accuracy X 6. Recoverable horizontal stations of less than third-order accuracy (topographic stations) X 7. Photo hydro stations X 8. Bench marks _____

9. Plotting of sextant fixes _____ 10. Photogrammetric plot report X 11. Detail points X

ALONGSHORE AREAS

(Nautical Chart Data)

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

PHYSICAL FEATURES

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

CULTURAL FEATURES

27. Roads _____ 28. Buildings X 29. Railroads _____ 30. Other cultural features X

BOUNDARIES

31. Boundary lines _____ 32. Public land lines _____

MISCELLANEOUS

33. Geographic names X 34. Junctions X 35. Legibility of the manuscript X 36. Discrepancy overlay _____ 37. Descriptive Report X 38. Field inspection photographs X 39. Forms X

40. ~~Reo H. Barron~~ (Reviewer) J. Edward Deal 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

Review Report T-9773 to 75, Inc.
Planimetric Maps
16 February 1953

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

63. Comparison with Maps of Other Agencies: None

64. Comparison with Contemporary Hydrographic Surveys:

H-7916	1:20,000	1951	Pingok Id. to Cottle Id. T-9774-5
H-7917	1:20,000	1951	Thetis Id. to Pingok Id. T-9773-4

T-9774: That portion of Spy Island shoreline which was delineated from the photographs (see Compilation Report, p. 11) was moved southward during review to make it conform to the soundings on the hydrographic survey, which was made four years subsequent to photography.

T-9775: "Shoals and Breakers" areas between islands on T-9775 are delineated as islets and bars awash on H-7916. They were not transferred to T-9775.

65. Comparison with Nautical Charts:

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

The small scale of this chart affords little bases for comparison of shoreline, No interior detail is charted.

66. Accuracy: The delineation complies with project instructions and meets the Bureau standards.

Reviewed by:

Lena T. Stevens
Lena T. Stevens

APPROVED

L C Lande
Chief, Review Section
Div. of Photogrammetry

H. M. Edmonston
Chief, Nautical Chart Branch
Div. of Charts EFU

Lt/ Swanson
Chief, Div. of Photogrammetry
June 27, 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 Flaxman Island 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.

T-9773 applied to Cl. 9403 thru Cl. 9470. Hsu. abn. 1955

T-9773
T-9774
T-9775
} applied to Cl. 9403 thru Cl. 9471. Hsu. abn. '55