8627

Diag. Cht. No. 9400

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Planimetric (Photogrammetric)

Field No. Ph-29 (47) *Office No.* T-8627

LOCALITY

State Alaska

General locality Arctic Coast

Locality Barter Island

194 9

CHIEF OF PARTY

Hubert A. Paton, Chief of Field Party

L.C. Lande, Div. of Photogrammetry, Wash., D.C.

LIBRARY & ARCHIVES

DATE JULY 19, 1955

B-1870-1 (1)

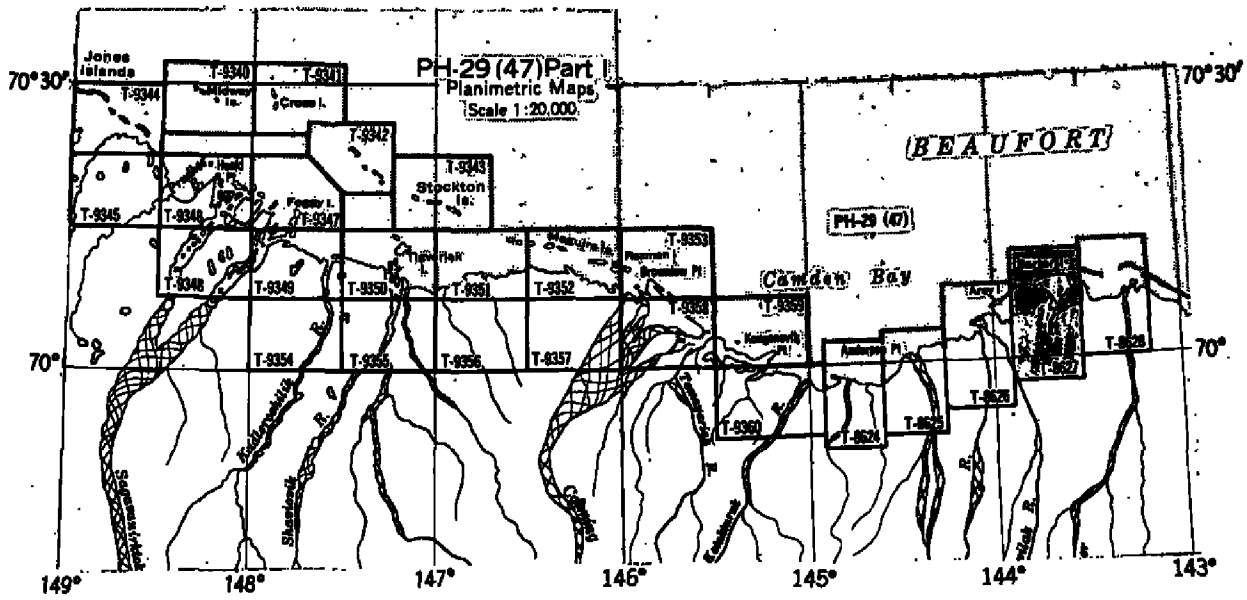
8627

PLANIMETRIC MAPPING PROJECT PH-29(47)

Photographs taken July 1947 Scale 1:20,000

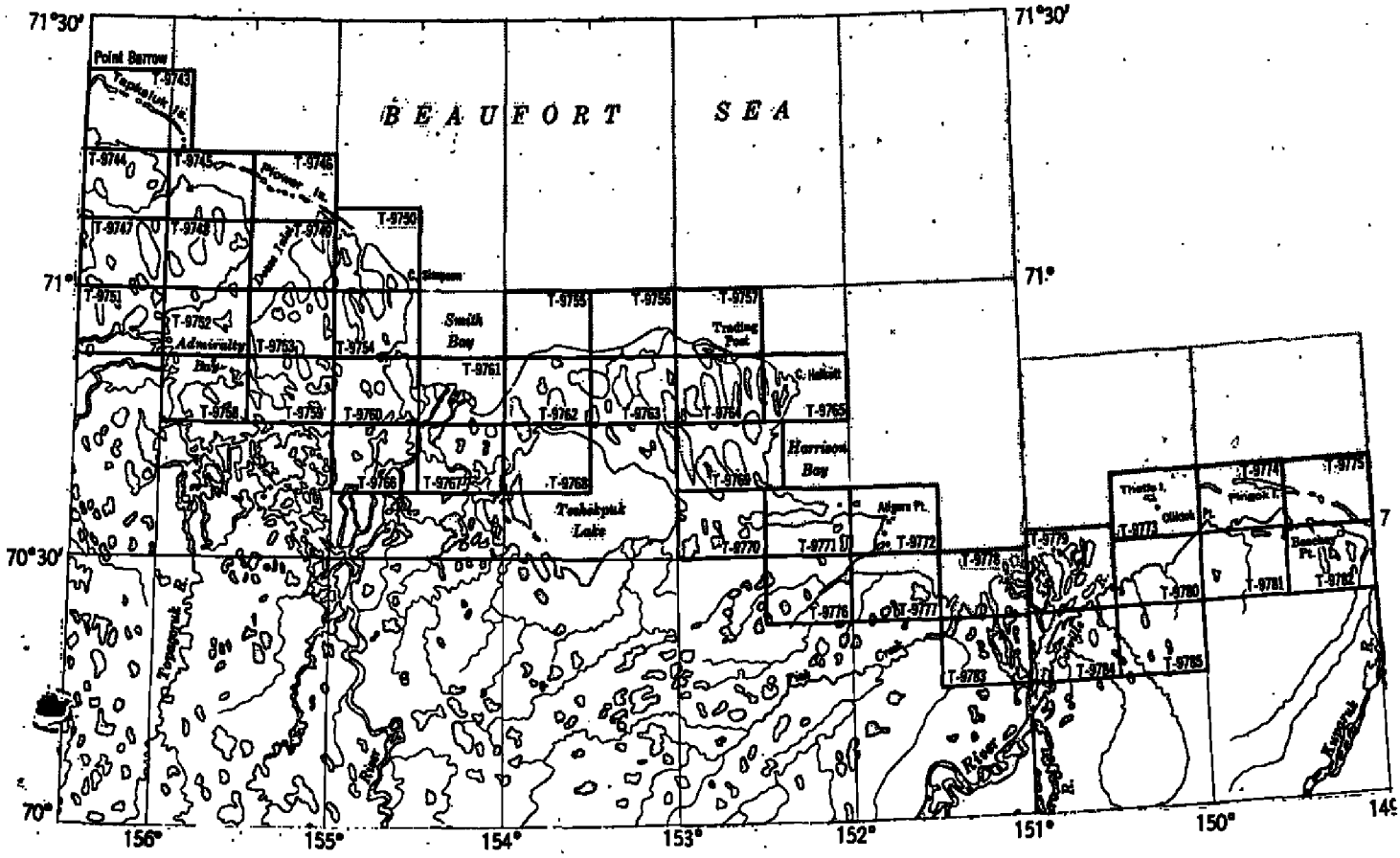
Part I

ALASKA Barter Island to Jones Islands



Part II

ALASKA Jones Islands to Point Barrow



Summary to Accompany T-8627

Planimetric project Ph-29(47) consists of 69 maps, scale 1:20,000, - 26 in Part I (Barter Island westward to Jones Islands) and 43 in Part II (Jones Islands to Point Barrow). The project covers that part of the Arctic Ocean coastal area (Beaufort Sea) which extends from 143° 10' to 156° 30' west longitude.

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

T-8627 is one of the Part I group. It includes the eastern half of Arey Island and Arey Lagoon; Barter Island; Bernard Harbor; Akvakniakvik Lagoon; and Martin 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 of their disposition.

DATA RECORD

T-8627

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

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

Graphic Compilation Section

Photogrammetric Office (III): Div. of Photogrammetry Officer-in-Charge: L. C. Lande

Washington 25, D. C.

Instructions dated (II) (III):

Copy filed in Division of Photogrammetry (IV)

Method of Compilation (III): Radial Plot (including trimetrogon radial plot)

Manuscript Scale (III): 1:20,000 Stereoscopic Plotting Instrument Scale (III):

Scale Factor (III): 2.000 and 1.000

Date received in Washington Office (IV): 7-19-49 Date reported to Nautical Chart Branch (IV):

Applied to Chart No. Date: Date registered (IV): 15 June, 1955

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

Geographic Datum (III):

Barter Island 1948

The difference between Barter Island 1948 Datum and preliminary N.A. 1927 Datum is Lat. ~~plus~~/minus 40 m. and Long. ~~plus~~/minus 216 m. Rcl.

Vertical Datum (III): M.H.W.

Elevations referred to M.S.L.

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): Barter Astro Azimuth, 1948 G-7630 - Alaska Description Book 89

Lat.: 70° 04' 39.328" Long.: 143° 36' 57.736" ~~Adjusted~~ Unadjusted

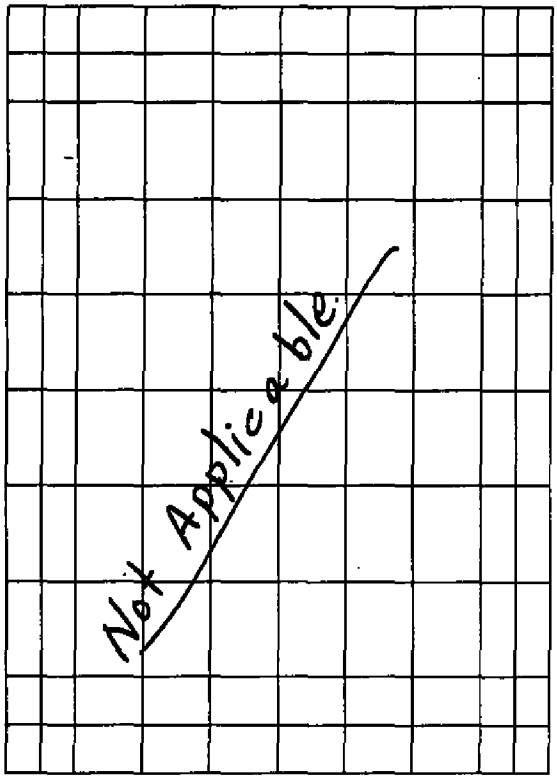
Plane Coordinates (IV): State: Zone:

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)



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

DATA RECORD

Field Inspection by (II): C. A. J. Pauw — Date: Summer 1948

Planetable contouring by (II): — Date:

Completion Surveys by (II): — Date:

Mean High Water Location (III) (State date and method of location):

Nine-Lens Photographs 7/29/47
Trimetrogon Photographs 6/23/47
Hydro Survey Sheet No. H-7658 1948
Air Force Single lens ~~7/29/47~~ June 1950

Projection and Grids ruled by (IV): W. E. Ward — Date: 12/30/48

Projection and Grids checked by (IV): W. E. Ward — Date: 12/30/48

Control plotted by (III): S. G. Blankenbaker — Date:

Control checked by (III): C. Hanavich — Date:

Radial Plot or Stereoscopic Control extension by (III): Radial Plot - S.G.B. (see Compilation Report for T-8624) - Jan. 1949 — Date:

Trimetrogon Plot - L.M. 6 (see compilation Report for T-8628) Apr. '49 — Date: Plot N.S. Schultz 7-13-54

Stereoscopic Instrument compilation (III): Planimetry single lens radial

Contours E.H.R. L.M.G. (Trimetrogon) — Date:

Manuscript delineated by (III): E.H. Ramey (nine-lens) L.M. Gazik (trimetrogon) N.S. Schultz (single lens) — Date: 4/1/49 7-13-54

Photogrammetric Office Review by (III): Stanley J. Hathorn — Date: 5/8/50

Elevations on Manuscript checked by (II) (III): (III) Neil S. Schultz — Date: 5/8/50

Camera (kind or source) (III):

PHOTOGRAPHS (III)

Number	Date	Time	Scale	Stage of Tide
20240 20241 20242	7-29-47	15:00	1:20,000	Negligible (See below)
For trimetrogon photographs used see T-8628	6-23-47	27034 (VT) 94 to 106 (VT)	1:10,000, 1947	

Predicted Tide (III)

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

Reference Station: Kodiak

*Subordinate Station: Flaxman Island

Subordinate Station:

* Observed tide 16 July-21 Sept '48 at Barter I. same as above.

Washington Office Review by (IV): L.T. Stevens Date: 10-15-51

Final Drafting by (IV): J. Dr Zy Date: 3-18-55

Drafting verified for reproduction by (IV): Date:

Proof Edit by (IV): Date:

Land Area (Sq. Statute Miles) (III): 46

Shoreline (More than 200 meters to opposite shore) (III):

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

Control Leveling - Miles (II):

Number of Triangulation Stations ~~searched for~~ established (II): 10 Recovered: Identified: 2*

Number of BMs searched for (II): Recovered: Identified:

Number of Recoverable Photo Stations established (III):

Number of Temporary Photo Hydro Stations established (III):

Remarks:

Four unmarked topographic points were located by transit fixes and identified for photo control.

* An additional station, Mars 1948, was office identified.

Air Force Photos Acc # 1968

Number	Date	Scale
98-104	18 June 1950	1:10,000
120-125	" " "	"
165-170	"	"

Descriptive Report: T-8627

Project: Ph 29(47) Arctic Coast, Alaska

Location: Barter Island

Scale: 1:20,000

A series of five shoreline sheets of which this is the fourth covers the Arctic Coast from Camden Bay to the mouth of the Jago River, more specifically, from longitude 144° 55' West to 143° 10' West. This series is also identified with C.S. 320.

The field party, under Hubert A. Paton, Chief of Party, furnished photo identification and description of triangulation stations, photo inspection of shoreline, marsh limits and other necessary data for compilation in this office.

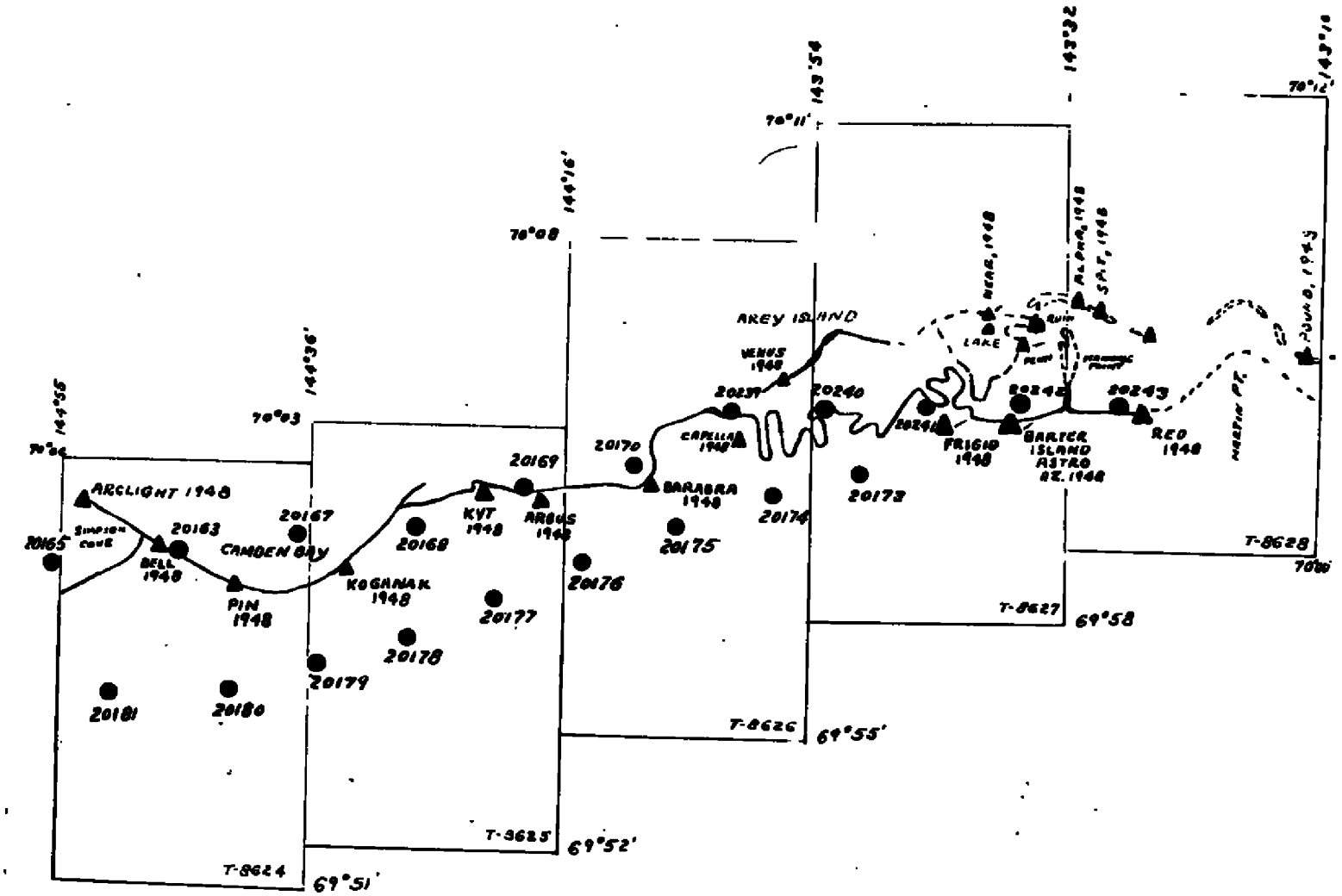
This manuscript, T-8627, and its accompanying descriptive report, are filed in the Division of Photogrammetry.

FIELD INSPECTION REPORT
Map Manuscript T-8626
Project Ph-29(47)

Refer to:

REPORT OF PHOTOGRAPH INSPECTION
Barter Island Alaska
Project CS-320
1948

Hubert A. Paton, Chief of Party



BARTER ISLAND AREA
SIMPSON COVE TO MARTIN PT.
dashed line area compiled from trimet photographs

26 and 27 Control and Radial Plot

Information under these headings for this manuscript are included in the compilation report for T-8624 for the nine-lens plot and in the compilation report for T-8628 for the trimetrogon plot.

28 Detailing

Shoreline indicated by dashed line was compiled from trimetrogon photographs taken June 23, 1947. Reduction of detail to 1:20,000 from 1:10,000 scale trimetrogon verticals was accomplished by projector. For detailing from the oblique photographs an oblique sketchmaster was used. Use of the sketchmaster does not afford the same accuracy as compilation directly from vertical photographs. Snow and ice, piled up to and over the shoreline necessitated considerable generalization in delineation of shoreline from the trimetrogon photographs.

The greater part of the shoreline, and other topographic features indicated, were detailed from nine-lens photographs taken July 25, 1947 when the snow and ice line had disappeared and therefore the major portion of the manuscript is believed to be within the standard map accuracy.

The smaller ponds and ditches were so numerous throughout this region that many were omitted or generalized.

The land area of this manuscript is tundra of varying degrees of wetness. In most instances there was difficulty in ascertaining marsh limits. Generally, lake beds remaining after seasonal inundation, comprised many of the marsh areas.

Comparison between the nine-lens photographs, which were taken one month later than the trimetrogon photographs, show that many marsh and wet areas became dry in a short time as the arctic summer advances. Many of the marsh areas, now indicated as such on the manuscript, may similarly become dry as the warm season advances still further.

30 Mean High Water Line

Two sections of shoreline, shown in red on manuscript, are as shown on Hydro. Survey Sheet No H-1658 These changes were made during the compilation of H-7658 to make the shoreline conform with the positions of hydro. signals in area.

The shoreline was delineated directly from the nine-lens photographs by photo-inspection and interpretation in the office holding to radial plot positions. Also refer to comments on shoreline in item 0 v8 above.

32 Details Offshore

Snow and ice obscured any offshore details that may have been otherwise visible on the trimetrogon photographs. No others were visible in the areas covered by the nine-lens photographs than those indicated in the compilation.

33. Classified Information

The manuscript has been designated "Restricted" accordingly.

34 Landmarks and Aids to Navigation

None (see form 567, attached)

44 Comparison with Existing Topographic Surveys

No topographic surveys at this or comparable scales are available in this area.

45 Nautical Chart Comparison

No nautical chart of this area is available for comparison.

Only limited comparison with H-7657 was possible. After considering a discrepancy between the soundings of H-7657 and the shoreline in the vicinity of triangulation station AREY, 1948, it was decided that the position of the shoreline detailed was stronger and no changes were made in the manuscript.

Submitted by:

L. Martin Gazik

L. M. Gazik

Approved by:

L C Lande

L. C. Lande

SUPPLEMENTAL COMPILATION REPORT T-8627

Detail was revised where field inspection of the photographs was incomplete, as recommended by personnel familiar with this area.

The delineation of detail was extended inshore to the limit of the photographic coverage, changing T-8627 from a Shoreline Manuscript to a Planimetric Manuscript.

N. S. Schultz

G. B. Willey

5 June 1950

ong

SUPPLEMENTAL COMPILATION REPORT T-9627 & T-8628

Detail was revised on the islands and spits lying off shore. Detail on Manning Point was also revised. These areas had been delineated from 1947 trimetrogon photography and were shown with an approximate mean high water line.

A radial plot was laid using 1950 single lens Air Force photos. The positions agreed very well with the old work. There were minor changes in detail. The shoreline was shown as solid instead of approximate. On Manning Point there was a slight disagreement in position and there was no photo coverage for a small area of this point. Therefore, the position of this area was made to agree with the radial plot position and shown as approximate.

The northern shore of Barter Island agreed with the previous work and was shown with a solid line. Several buildings and a road were added on the northern shore. There was no photo coverage for a portion of the eastern shore of Barter Island and there were no changes made in that area.

Neil S. Shultz
15 July 1954

PHOTOGRAMMETRIC PLOT REPORT PH-29
T-8627, T-8628, T-11039 (Supplement)

21. Area Covered:

This radial plot covers the western half of T-11039 and T-8628 and part of T-8627.

22. Method:

Since the photography was at a scale of 1:10,000, the manuscripts were ruled at 1:10,000 scale on four sheets with polyconic projections.

The photographs were taken by the Air Force in June 1950. They are single lens contact prints on double weight matte paper at a scale of 1:10,000. The following photographs were used:

98-104	185-187	289-293
108-125	268-274	307-315
165-182	280-282	320-337

The purpose of this radial plot was to take off from the plot used on the eastern half of T-11039 and bridge to T-8628, then continue from there to bridge to control on T-8627. Due to Clouds on the nine lens photographs used in the eastern half of T-11039, and poor coverage by the single lens, and also two different years of photography, it was not possible to identify common pass points. It was impossible to tie into common pass points on T-8628 for the same reasons. It was possible to identify only two control points on T-8628 and two on T-8627. There were four common points of detail identified on T-8627. Since there were so few control points it was necessary to bridge quite a distance.

Closure and adjustment to control was good with the exception of one station (Eskimo House, 1952).

23. Adequacy of Control:

The following control stations were field identified and held in the plot:

POUND, 1948	(Sub Sta D, 1948) (Sub Sta A, 1952)	GRAVES, 1952	(Sub Sta)
		GRIFFIN, 1952	(Sub Sta A)
SPIT, 1948	(Sub Sta A)	CORWIN 1952	(Sub Sta A)
RUIN, 1948	(Sub Sta A)	AMBER, 1952	(Sub Sta A)
NEAR, 1948	(Sub Sta A)	TAP, 1952	(Sub Sta A)

HV-009 and HV-010 were located by a tie to GRAVES. HV-007 and HV-008 were located by a tie to AMBER. LOG is a hydro station and was located by a sextant fix from CORWIN, AMBER, POUND and GRAVES. All the stations held very good.

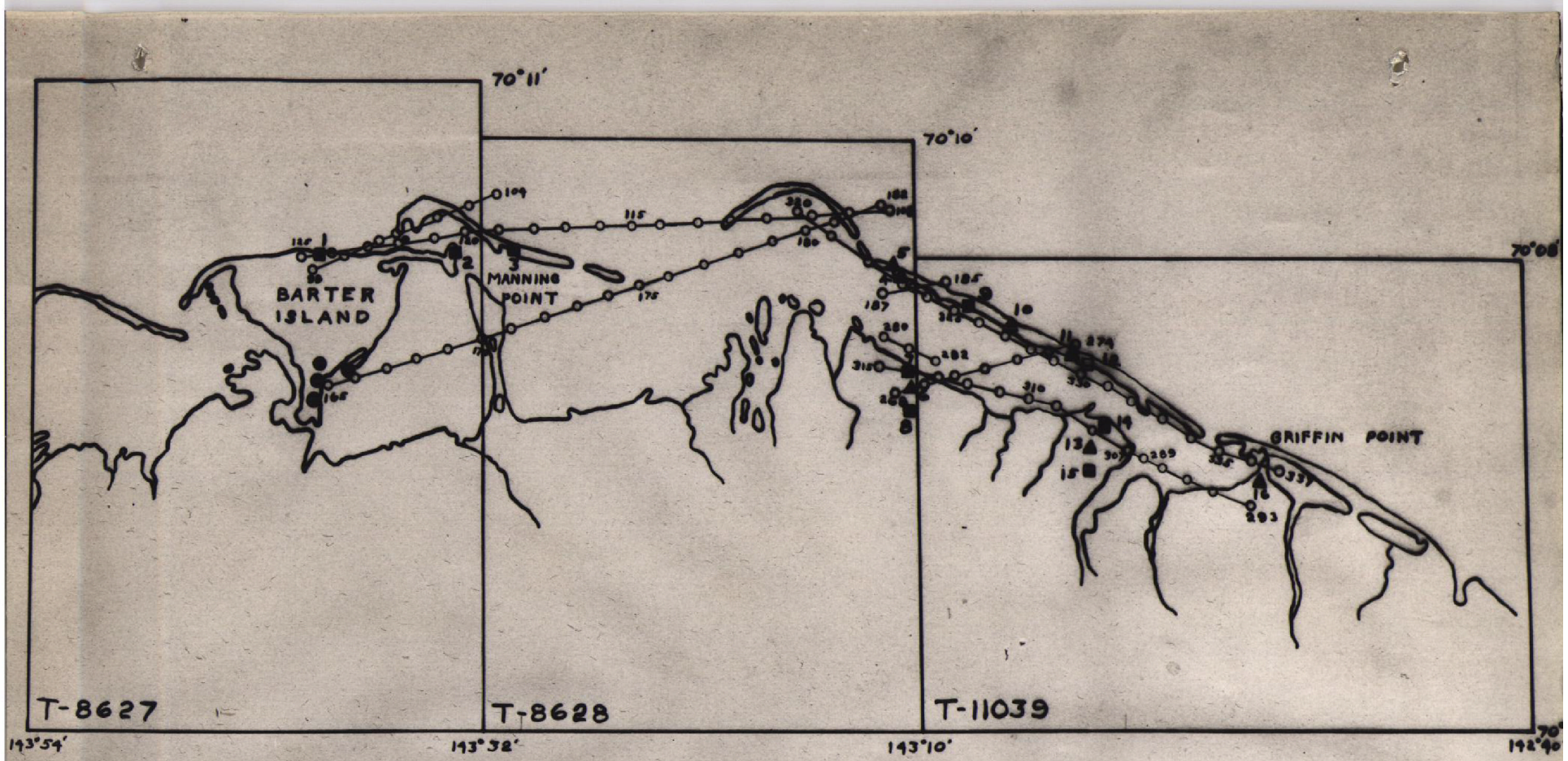
The only point that did not hold was ESKIMO HOUSE. This was located by sextant fix from GRIFFIN, GRAVES, AMBER, and TAP. The radial plot point was 3.0 MM SE of the plotted point. Since TAP (550 meters north west of ESKIMO HOUSE) held, it was assumed that ESKIMO HOUSE was misidentified.

25. Photography:

There is no satisfactory index of the Air Force photography and the coverage was inadequate. The flights did not fall inland enough to cover the complete shoreline. There was more control inland which could not be used due to lack of coverage. A few flights had too much side lap while some had no side lap. The photos just east of GRIFFIN POINT were too dark and cloudy to use. The flight of photos along the shoreline of T-8628 were also too cloudy to use.

Submitted By:
Neil S. Shultz

July 1954



Ph-29

RADIAL PLOT INDEX

July, 1954

▲ Triangulation Stations

■ Topo and Hydro Stations

□ Topo Station not held

● Map points

○ Photo centers (USAF, June, 1950)

1 NEAR, 1948 (S.S A)
2 RUIN, 1948
3 SPIT, 1948 (S.S A)
4 POUND, 1948 (S.S. D)
5 POUND, 1948 (S.S. A 1952)
6 AMBER, 1952 (S.S. A)
7 HV-008, 1952
8 HV-007, 1952
9 LOG, 1952
10 COWIN, 1952 (S.S.A)
11 TAP, 1952
12 ESKIMO HOUSE, 1952
13 GRAVES, 1952 (S.S. A)
14 HV-009
15 HV-010
16 GRIFFIN, 1952 (S.S. A)

Form T-2

PHOTOGRAMMETRIC OFFICE REVIEW

T- 8627

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

CONTROL STATIONS

5. Horizontal control stations of third-order or higher accuracy SJH 6. Recoverable horizontal stations of less than third-order accuracy (topographic stations) SJH 7. Photo hydro stations X 8. Bench marks X
9. Plotting of sextant fixes X 10. Photogrammetric plot report SJH 11. Detail points SJH

ALONGSHORE AREAS

(Nautical Chart Data)

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

PHYSICAL FEATURES

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

ON Δ Stas.

CULTURAL FEATURES

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

BOUNDARIES

31. Boundary lines X 32. Public land lines X

MISCELLANEOUS

33. Geographic names SJH 34. Junctions SJH 35. Legibility of the manuscript SJH 36. Discrepancy overlay X 37. Descriptive Report SJH 38. Field inspection photographs SJH 39. Forms SJH
40. Stanley J. Halton 8 June 1950 L C Landy
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-2661-12

PHOTOGRAMMETRIC OFFICE REVIEW

T-8627

5. The following triangulation stations were added to the manuscript:

Ice, 1948
Barter Radio Mast, Tallest, 1948
Barter Flagpole, 1948
Barter Radio Mast, West Shack, 1948

The manuscript designation of the following unmarked stations, located by transit-fixes, for control of the radial plot was changed from triangulation to topographic point and labeled "(n.m,n.d.)":

Lake, 1948
Near, 1948
Penn, 1948
Ruin, 1948

Positions of all triangulation stations on the manuscript agree with preliminary GP's contained in "Alaska No. 89 - Barter Island Area, Alaska".

17. Three landmarks shown on Arctic Coast Chart No. 8, corrected to 3/13/50, were added to the manuscript and reported on Form 567. Form 524 was submitted for two not located as triangulation.

A Form 567 recommending two of these landmarks was found in the Chart Division, and that information was transferred to the Form 567 included in this report. No record recommending the other landmark could be found. Lewis V. Evans, member of the hydrographic party, stated he had no knowledge of it having been recommended. However, it has been included since it appears on the above chart.

25. Unadjusted trigonometric elevations of monumented triangulation stations determined at the time of horizontal observations, and shown with the preliminary GP's, were added to the manuscript.

Submitted
8 June 1950

Stanley J. Hathorn

Stanley J. Hathorn
Photogrammetrist

GEOGRAPHIC NAMES

Survey No. T-8627

Name on Survey	A On Chart No.	B On previous survey No.	C On U. S. quadrangle Maps	D From local information	E On local Maps	F P. O. Guide or Map	G Rand McNally Atlas	H U. S. Light List	K	
Alaska			(for title)							1
Arctic Coast			"	"						2
Beaufort Sea									USGB	3
										4
Barter Island			(now used in singular only for one island; no longer for a group, so title should be changed)						USGB	5
Arey Island										6
Arey Lagoon										7
Bernard Spit										8
Bernard Harbor										9
Akvakvik Lagoon										10
Manning Point										11
				Names underlined in red are approved. 6-5-50 L. Heck						12
				Re-checked 10-16-51. L.H.						13
										14
										15
										16
										17
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										21
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										23
										24
										25
										26
										27

M 234

Form 567
April 1945

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

~~NONFLOATING AIDS OR~~ LANDMARKS FOR CHARTS

TO BE CHARTED / ~~TO BE DELETED~~ — STRIKE OUT ONE

Arctic Shore Party 30 Nov, 1948

I recommend that the following objects which have ~~(have not)~~ been inspected from seaward to determine their value as landmarks be charted on ~~(deleted from)~~ the charts indicated.

The positions given have been checked after listing by Horace G. Conerly

Hubert A. Paton

Chief of Party.

STATE Alaska

CHARTING NAME	DESCRIPTION	SIGNAL NAME	POSITION LATITUDE ° '	LAT. D.M. METERS	POSITION LONGITUDE ° '	LONG. D.P. METERS	DATUM	METHOD OF LOCATION AND SURVEY No.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
Tripod	(Log) approx. 25' high	ICE	70 08	1752.5	143 34	359.5	Barter I. '48	Triang. HS 7658	May 1948			x	9400
House	(W.Gable) larger of 2 large Bldgs.	DON	70 07	1836.0	143 42	254.0	"	Sextant	June 1948			x	9400
	Above information abstracted by S.J.H. from Form 567 (Ltr 990(1948)) by H.A.P. Dec. '48. On file in Chart Division, June 1950.												
* Tripod	Wood, 16' high (legs of 2" x 4", 12' high, with 3" x 3" center pole)	BOB	70 07	786.0	143 53	549.0	"	HS 7658 "	"			"	"

* Not recommended by field parties (verbal according to Lew Evans), but shown on Arctic Coast Chart No. 7, corrected to 3/6/50. Position scaled from smooth sheet by S.J.H., 7/11/50.

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and *nonfloating aids* to navigation, if redetermined, shall be reported on this form. The data should be considered for the charts of the area and not by individual ... given.

U. S. GOVERNMENT PRINTING OFFICE: 1949 O...

Control to be smooth-drafted on T-8627

Triangulation

Mars, 1948
Arey, 1948
Frigid, 1948
Barter Radio Mast, tallest, 1948
Barter Radio Mast, west shack, 1948
Barter Flagpole, 1948
Tripod, Log, 25 ft. high
(Ice, 1948)
Kakto, 1948
Barter Astro, 1948
Barter Astro, Azimuth, 1948

Topographic

Tripod, 1948, 15 ft. high
House, (West Gable) 1948

NAUTICAL CHARTS BRANCH

SURVEY NO. 8627

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
Aug. 1949	9400	Rizzari	Thru Arctic Chart #8. Before ~~After~~ Verification and Review
3/50	9403	Burgoyne	Applied Thru Ch #7 + direct Before ~~After~~ Verification and Review
Apr. '55	9403	Ellise Evens	~~Before~~ After Verification and Review Thru Chart 9476
			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
			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.

61. Only a cursory review was made of the compilation from trimetrogon photographs (1:10,000) covering Bernard Spit, Manning Point and the northeastern half of Barter Island. Inspection and measurements on the photographs reveal that the northern shoreline between 143° 37' to 43' follows the top of the bluff which is steep to vertical. Though ice and snow are abundant along the shoreline, it does not fully conceal indication of a beach along the whole northern shore. Stream outlets indicate that this beach may be as much as fifty feet wide in some places. Lacking proof, the shoreline was not altered during review.

62. Comparison with Registered Topographic Surveys:

No previous topographic maps have been made of this area.

63. Comparison with Maps of Other Agencies:

USGS Barter Island, Recon., 1:250,000, 1951

The C&GS compilations were used for this quadrangle.

64. Comparison with Contemporary Hydrographic Surveys:

H-7658 1:20,000, 1948

The northern shoreline of Barter Island west spit was altered to conform to the hydrographic survey. This complies with office instructions of December 14, 1949 for the series of map manuscripts west of this area. *

65. Comparison with Nautical Charts:

9400 1:1,587,870 (at 70°) ed. May 1947, cor., Nov. 1950

The small scale of the chart precludes more than an indication of agreement in general form.

66. Accuracy:

*Except for the trimetrogon delineation in the northeastern part of the mapped area, the shoreline and interior meets the standard for Arctic charting.

67. Geographic Names:

The names in this project are from "Geographic Names Report, Project CS-320" submitted by the hydrographic party (no signature) September, 1948. Supplementary and additional names, same area,

were submitted October, 1949.

Reviewed By: Lena T. Stevens
Lena T. Stevens

* Additional Review, 29 July 1954

64. Comparison with Contemporary Hydrographic Surveys:

The end of this spit was again revised, using the USAF June, 1950 photographs (Nos. 94 & 95VV). (See also paragraphl, Supplemental Compilation Report).

66. Accuracy:

All the shoreline in the original trimetrogon area now meets the standard for Arctic charting, except a short length on the east shore of Akvakniavik Lagoon and a portion of Manning Point. These portions were not covered by the 1950 photographs.

L.T.S.

Approved By:

L C Lande
Chief, Review Branch
Div. of Photogrammetry

H R Edmonston
Chief, Nautical Chart Branch
Division of Charts GFJ

L W Swanson
Chief, Div. of Photogrammetry
15 July 1955 WSR

Earl O. Heaton
Chief, Div. of Coastal Surveys