

8998

9011

INCL.

9011 INCL.

8998

Diag. Cht. No. 9400

Form 504

## U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

## DESCRIPTIVE REPORT

Type of Survey TOPOGRAPHIC- PLANIMETRIC

T-8998-

Field No. (II)Ph-27-(47) Office No. T-9011 Incl.

## LOCALITY

State ALASKA

General locality CHUKCHI SEA, ALASKA

Locality POINT BARROW TO PEARD BAY

1947

## CHIEF OF PARTY

R.W.Woodworth, Chief of Field Party.

R.A.Earle, Portland Photogrammetric Office

## LIBRARY &amp; ARCHIVES

DATE Nov - 25 - 1952.

\* 9002,  
\* 9006, 9007 9011  
"FOR OFFICIAL USE ONLY"

2 288  
557



## DATA RECORD

T- 8998 to T-9011 inclusive.

Quadrangle (II): ~~Unknown~~ This project covers <sup>part of Barrow, Meade River & Wainwright-USGS-1:250000</sup> Project No. (II): Ph-27 (47)  
~~Scale Quadrangles.~~

Field Office: Point Barrow, Alaska Chief of Party: R. W. Woodworth

Compilation Office: Portland, Ore. Chief of Party: R. A. Earle

Instructions dated (II III): 28 Nov. 1947 (office)  
 also See letter 5 April, 1950, in this report.

Div. of Phtg - Office Files  
 Copy filed in Descriptive  
 Report No. T- (VI)

Completed survey received in office: April + May 1948

Reported to Nautical Chart Section:

Reviewed: 9-18-50

Applied to chart No.

See attached sheet.

Date:

Redrafting Completed: - *Verified - Breane - 6/13/51* *W. Streiffer*

Registered: ~~2-11-52~~

Published: Not to be published

Compilation Scale: 1:20000

Published Scale:

Scale Factor (III): None

Geographic Datum (III): Point Barrow, 1945<sup>\*</sup> Datum Plane (III): <sup>High</sup> Mean ~~Low~~ Water

Reference Station (III): See reverse side Form T-1 (Page 3)

Lat.: <sup>\*</sup> *to Preliminary N.A. 1927 Datum.* *(Page 2), for correction*  
*G.B. Willey, 20 July 1954* Long.: *Adjusted*  
*Unadjusted*

State Plane Coordinates (VI):

X =

Y =

Military Grid Zone (VI)



PHOTOGRAPHS (III)

<u>Number</u>	<u>Date</u>	<u>Time</u>	<u>Scale</u>	<u>Stage of Tide</u>
19816 to 19871 Incl.	Aug. 1947		1:20000	Tides negligible
19958 to 19962 "	" "		"	in this area
19985 to 19987 "	" "		"	(See below)
20008 to 20010 "	" "		"	

Lt. Conerly (personally)  
Tide from (III): Tide tables Pacific Ocean and Indian Ocean 1947.

Mean Range: 0.4 feet ~~Spring~~ Range: 0.5 feet  
Diurnal

Camera: (Kind or source) U. S. C. & G. S. 9 lens, focal length 8.25 inches.

Office examination assisted.  
Field Inspection by: by Lt. Conerly (see *Compilation Report*) date: Feb. 24, 1948

Field Edit by: None date:

Date of Mean High-Water Line Location (III): Same as date of photographs.

Projection and Grids ruled by (III) Washington Office date: March 1948

" " " checked by: " " date: " "  
J. E. Deal, J. Lajoie,  
Control plotted by: R. Davidson, F. H. Elrod. date: March, April 1948  
Control checked by: M. B. Elrod, R. Davidson, date: " " "  
F. H. Elrod

Radial Plot by: F. H. Elrod and J. E. Deal date: " " "

Detailed by: See under remarks date:

Reviewed in compilation office by: Ree H. Barron date: March, April, May, 1948

Elevations on Field Edit Sheet  
checked by: None date:

The difference between Point Barrow 1945 Datum  
and preliminary N.A. 1927 Datum is Lat. plus/minus 40 m. and Long. plus/minus 148 m. T-8998

The difference between Point Barrow 1945 Datum  
and preliminary N.A. 1927 Datum is Lat. plus/minus 40 m. and Long. plus/minus 149 m. T-8999-T-9000

The difference between Point Barrow 1945 Datum  
and preliminary N.A. 1927 Datum is Lat. plus/minus 40 m. and Long. plus/minus 150 m. T-9001  
T-9002

The difference between Point Barrow 1945 Datum  
and preliminary N.A. 1927 Datum is Lat. plus/minus 40 m. and Long. plus/minus 151 m. T-9003 thru T-9006

The difference between Point Barrow 1945 Datum  
and preliminary N.A. 1927 Datum is Lat. plus/minus 40 m. and Long. plus/minus 152 m. T-9007 thru T-9011



STATISTICS (III)  
Entire Project

Land Area (sq. Statute Miles): 487 (area of ponds not included)

Shoreline (More than 200 meters to opposite shore): 227  
(shoreline of ponds not included)

Shoreline (Less than 200 meters to opposite shore): 15

Number of Recoverable Topographic Stations established: None

Number of Temporary Hydrographic Stations located by radial plot: None

Leveling (to control contours) - miles:

Roman numerals indicate whether the item is to be entered by, (II) Field Party, (III) Compilation Party, or (VI) the Washington Office.

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

Remarks:

<u>Sheet No.</u>	<u>Detailed by</u>	<u>Date</u>
T-8998	M. B. Elrod	4-19-48 to 5-3-48
T-8999	Roy Davidson	4-19-48 to 4-20-48
T-9000	Helen Laube (Letson)	4-15-48 to 5-6-48
T-9001	Carita Wiebe	4-8-48 to 4-21-48
T-9002	Carita Wiebe	4-23-48 to 5-7-48
T-9003	Roy Davidson	3-17-48 to 3-22-48
T-9004	Helen Laube (Letson)	3-23-48 to 3-29-48
T-9005	M. B. Elrod	4-2-48 to 4-15-48
T-9006	M. B. Elrod	4-15-48 to 4-16-48
T-9007	M. B. Elrod	3-17-48 to 4-2-48
T-9008	Carita Wiebe	3-17-48 to 4-7-48
T-9009	Helen Laube (Letson)	3-29-48 to 4-14-48
T-9010	Roy Davidson	3-23-48 to 4-13-48
T-9011	Roy Davidson	4-13-48 to 4-14-48

MAP T. 8998 PROJECT NO. Ph 27(47) SCALE OF MAP 1:20,000 SCALE FACTOR

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR $\psi$ -COORDINATE LONGITUDE OR $\chi$ -COORDINATE	DISTANCE FROM GRID IN FEET. OR PROJECTION LINE IN METERS FORWARD (BACK)	DATUM CORRECTION	N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD (BACK)	FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD (BACK)
✓ Pt Barrow	GPList	Pt	71 19 25.660				
South Base, 1945	Alaska #80	Barrow 1945	156 36 46.110				
Pt Barrow	"	"	71 21 25.061				
North Base, 1945	"	"	156 32 36.526				
✓ Pt Barrow	"	"	71 20 16.719				
Astronomic, 1945	"	"	156 38 39.738				
✓ Elson, 1945	"	"	71 17 18.043				
✓ Eskimo, 1945	"	"	156 26 43.356				
✓ Brower, 1945	"	"	71 16 19.792				
✓ Utkiavie, 1945	"	"	156 42 08.647				
Ice, 1945	"	"	71 18 57.793				
Doctor, 1945	"	"	156 43 10.436				
✓ Nuwuk, 1945	"	"	71 17 14.873				
✓ Brant, 1945	"	"	156 48 08.950				
Spit, 1945	"	"	71 20 14.855				
			156 27 43.665				
			71 21 38.598				
			156 21 45.001				
			71 23 15.760				
			156 27 30.655				
			71 19 23.159				
			156 34 05.247				
			71 22 20.759				
			156 24 38.744				

1 FT. = 3048006 METER

COMPUTED BY:

DATE

CHECKED BY:

DATE

M-2388-12

MAP T. 8998 PROJECT NO. Ph 27 (47) SCALE OF MAP 1:20,000 SCALE FACTOR

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR $\psi$ -COORDINATE LONGITUDE OR $\chi$ -COORDINATE	DISTANCE FROM GRID IN FEET, OR PROJECTION LINE IN METERS FORWARD (BACK)	DATUM CORRECTION	N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD (BACK)	FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD (BACK)
Bogt, 1945	GPIst Alaska #80	Pt Barrow 1945	71 21 52.874 156 35 51.197				
Ghinney on House, 1945	"	"	71 23 10.53 156 27 45.19				
North. Radio Pole (C.B. Camp), 1945	"	"	71 19 36.577 156 40 53.455				
South Radio Pole (C.B. Camp), 1945	"	"	71 19 35.008 156 40 55.269				
Air Beacon 1945	"	"	71 19 38.109 156 40 46.648				
Wind Sock (C.B. Camp), 1945	"	"	71 20 07.58 156 38 45.74				
Wireless Mast (Barrow), 1945	"	"	71 17 33.031 156 46 47.251				
Barrow Presbyterian Church Spire, 1945	"	"	71 17 32.289 156 47 03.045				
Barrow Windmill, 1945	"	"	71 17 53.506 156 46 27.343				
Ooglianice (1921 Mag. Sta.), 1945	"	"	71 17 52.600 156 46 31.252				
Hide, 1945	"	"	71 18 31.257 156 44 24.396				
Astronomic Position (AAF 1942), 1945	"	"	71 17 25.324 156 47 50.588				

1 FT. = 3048006 METER

COMPUTED BY:

DATE

CHECKED BY:

DATE





MAP T. 8999 PROJECT NO. Ph 27 (47) SCALE OF MAP 1:20000 SCALE FACTOR

[illegible]

1 FT. = .3048005 METER

COMPUTED BY: 1

DATE:

**CHECKED BY:**

DATE:

M-2388-12

.....

[illegible]

1 FT. = 3048006 METER

COMPUTED BY:

DATE \_\_\_\_\_

CHECKED BY:

DATE \_\_\_\_\_

M. 2388-12



MAP T. 9001.

[illegible]

COMPUTED BY:

CHECKED BY:..

DATE:

M-2388.12

MAP T-9002

PROJECT NO. Ph 27(47)

SCALE OF MAP 1

1:20:00

SCALE FACTOR

STATION	✓ Post, 1947
---------	--------------

1 FT. = 3048006 METER

COMPUTED BY:

DATE.

CHECKED BY:...

DATE: \_\_\_\_\_

M-2388-12

MAP T. 9003 PROJECT NO. P4 27(47) SCALE OF MAP 1:20000 SCALE FACTOR

[illegible]

1 FT. = 3048006 METER



MAP T: 90047 PROJECT NO. Ph 27(47) SCALE OF MAP 1:20000 SCALE FACTOR

[illegible]

1 FT. = 3048006 METER

COMPUTED BY:...

DATE.

CHECKED BY:

DATE..

M-2388-12

1: 20.000

SCALE OF MAP.....

Ph 27 (47)

PROJECT NO....

7005

MAP T-.....

[illegible]

COMPUTED BY:

DATE \_\_\_\_\_

CHECKED BY.

DATE \_\_\_\_\_

M-2388-12

MAP T-9007 PROJECT NO. Ph 27(47) SCALE OF MAP 1:20,000 SCALE FACTOR

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR Y-COORDINATE LONGITUDE OR X-COORDINATE		DISTANCE FROM GRID IN FEET, OR PROJECTION LINE IN METERS		DATUM CORRECTION	N.A. 1927-DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS		FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS	
					FORWARD	(BACK)		FORWARD	(BACK)	FORWARD	(BACK)
✓ Orville, 1947	GP List Acc # G7244	PT Bartow 1947	70 52	53.595							
✓ Luis, 1947	"	"	159 04	35.078							
✓ Luis, Azimuth Marks, 1947	"	"	70 48	48.755							
			159 04	05.828							
			70 48	25.43							
			159 00	39.90							
Down, 1947	"	"	70 47	43.676	Not marked - Deleted from map manuscript.						
✓ Flint, 1947	"	"	159 03	00.054							
			70 49	29.589							
			159 11	43.045							
✓ Lump, 1947	"	"	70 52	01.860							
			159 12	14.912							
✓ Nanuk, 1947	"	"	70 51	18.495							
			159 17	45.742							
✓ Kuguruk, 1947	"	"	70 46	27.585							
			159 15	29.197							
End, 1947	"	"	70 49	51.86	Not marked - Deleted from map manuscript.						
✓ Atanik, 1947	GP List Acc # G7273	"	159 08	50.65							
			70 49	32.637							
			159 25	08.230							
✓ Igklo, 1947	"	"	70 47	10.402							
			159 21	40.985							
✓ Larry, 1947	"	"	70 46	06.240							
			159 26	52.012							

1 FT. = 3048006 METER

COMPUTED BY:

DATE

CHECKED BY:

DATE

20002:1

SCALE FACTOR

[illegible]

COMPUTED BY:

DATE:

**CHECKED BY:**

DATE \_\_\_\_\_

M-2388.12

MAP T-9009 PROJECT NO. Ph 27 SCALE OF MAP 1:20,000 SCALE FACTOR

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR Y-COORDINATE LONGITUDE OR X-COORDINATE		DISTANCE FROM GRID IN FEET, OR PROJECTION LINE IN METERS		DATUM CORRECTION	N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS		FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS	
✓ Herbert, 1947	GP 1st Acc # G7244	Pt Barrow 1945	70 50	02.699							
✓ Tail, 1947	"	"	158 00	31.142							
✓ Bluffs, 1947	"	"	70 47	35.201							
✓ Car, 1947	"	"	158 00	40.112							
			70 49	10.563							
			158 08	44.998							
			70 49	13.414	No check position						
			158 08	47.45							
Pil, 1947	"	"	70 49	03.12	Not marked - Deleted from map manuscript						
✓ Rise, 1947	"	"	158 12	38.91							
			70 48	31.589							
✓ Faun, 1947	"	"	158 14	48.729							
			70 47	00.798							
			158 11	22.938							
✓ Hump, 1947	"	"	70 47	02.521							
			158 15	53.327							
✓ Flat, 1947	"	"	70 47	04.819							
			158 18	13.394							
✓ Fox, 1947	"	"	70 47	40.537							
			158 23	42.674							
✓ Kyle, 1947	"	"	70 48	37.359							
			158 21	53.391							
✓ Ice, 1947	"	"	70 49	22.976							
			158 22	56.990							

1 FT. = 3048005 METER

COMPUTED BY:

DATE

CHECKED BY:

DATE

M-7388-12

MAP T-9609

SCALE FACTOR

[illegible]

COMPUTED BY:

DATE \_\_\_\_\_

M. 2389.12

MAP T-9010.

[illegible]

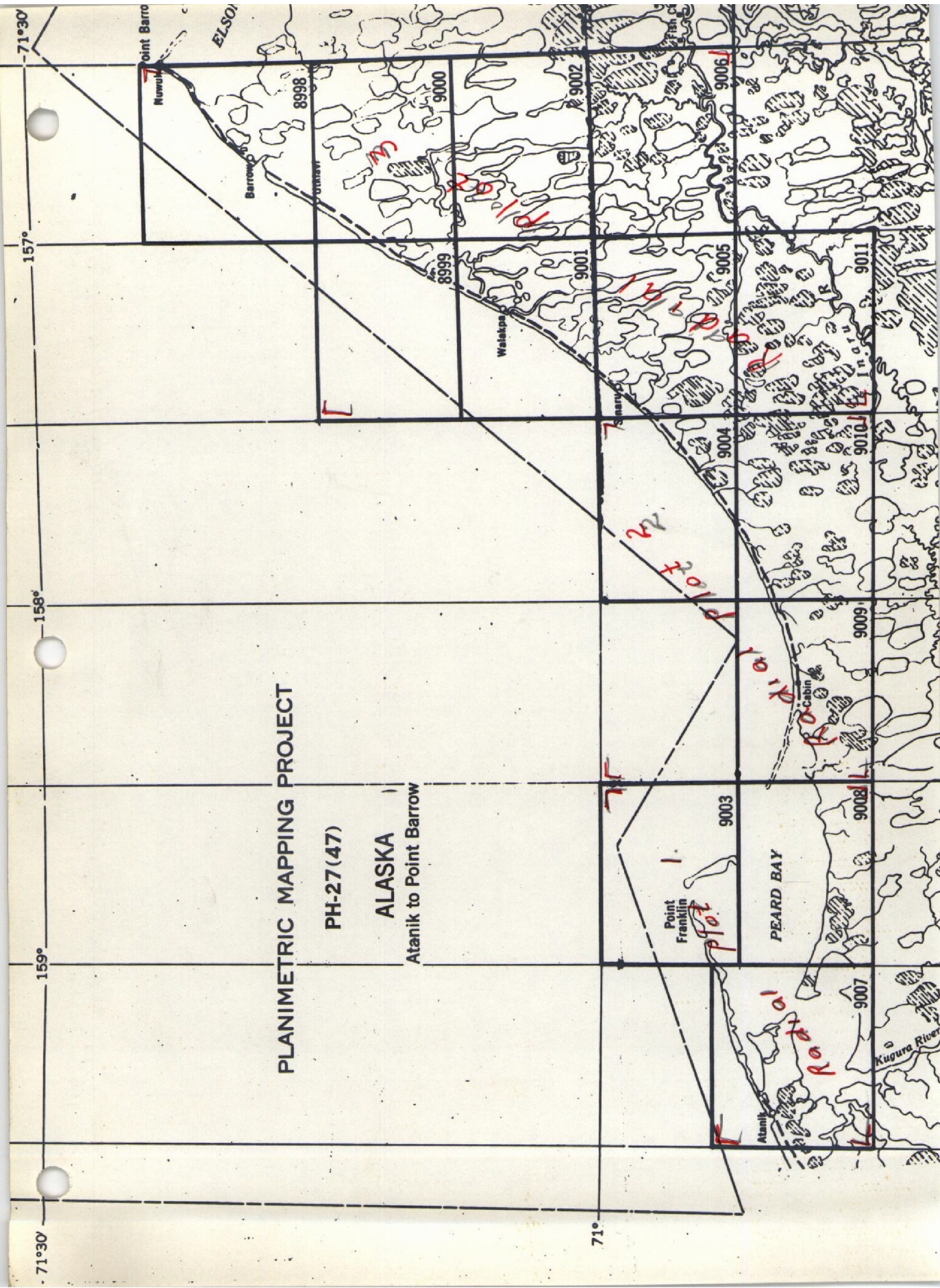
COMPUTED BY:

CHECKED BY:

LYC

M-2388-12





PLANIMETRIC MAPPING PROJECT

PH-27(47)

ALASKA

Atanik to Point Barrow



SUMMARY TO ACCOMPANY T-8998 through T-9011

Project Ph-27(47) consists of 14 Planimetric Maps covering the coast of Alaska along the Chukchi Sea from Pt. Barrow to Pt. Franklin including Peard and Kugrua Bays. Compilation was confined to a strip along the coast approximately nine miles wide because of incomplete photographic coverage.

Shoreline and planimetry were compiled from nine lens photographs taken in 1947 by office interpretation. The only field work done on this project was the identification of control in 1947 by a triangulation party under the direction of R. W. Woodworth.

The map manuscripts cover 7.5 min. of latitude and 30 min. of longitude at a scale of 1:20,000. The limits of two of the map manuscripts have been extended slightly to complete the coverage of the project area. A cloth-backed lithographic print of each map at the compilation scale will be registered with the combined Descriptive Report in the Bureau Archives. These maps are Restricted and will not be published.

COMPILATION REPORT  
Map Manuscripts T-8998 to T-9011 Inclusive  
Project Ph-27 (47)

There was no field inspection of planimetric details for the area of this project. Pertinent data on photographic interpretation of planimetric details was obtained during a conference between Lt. H. G. Conerly and personnel of the compilation office, held in Portland on February 24 and 25, 1948. At this time all photographs in the area were examined under the stereoscope, the character of the country was discussed, and notes were made on the ~~field inspection~~ photographs to clarify the detail for the compilers. Lt. Conerly also assisted in identifying, by office inspection, several horizontal control stations in the vicinity of Point Barrow. Work on the compilation of the map manuscripts proceeded from this point. See Review Report # 28

26: CONTROL:

Except in the area of T-8998, a sufficient number of horizontal control stations had been satisfactorily identified to adequately control the running of the radial plot. Sketches and other data relative to the identification of these stations are contained in 3 sketchbooks titled "Airphoto Control, Alaska Arctic Coast, 1947". Data for the computation of the sub-stations is contained on a Form 525 for each station.

At most stations, the field party had located two or three sub-stations. This was an excellent factor in as much as the compilation office could use the one which could be identified and pricked with the most certainty on the photographs. In a few instances, where sub-stations could not be determined from the field identification sketch, the stations were pricked direct, in accordance with the identification on the field photographs.

In the area of T-8998 considerable time was devoted to identifying the horizontal control stations by office inspection. Through careful examination of the photographs under the stereoscope and with the assistance of Lt. Conerly and Mr. E. H. Taylor good results were obtained. Those stations which were identified with certainty in this area and rigidly held, were as follows:

BARROW PRESBYTERIAN CHURCH SPIRE, 1945  
CHIMNEY ON LONE HOUSE, 1945  
AIR BEACON, 1945

Additional stations which were believed to be correctly identified, and which held fairly well with no radial displaced over 5 meters, were:

POINT BARROW NORTH BASE, 1945  
POINT BARROW ASTRONOMIC, 1945  
NUWUK, 1945  
DOCTOR, 1945

The identification of stations ELSON, 1945 and FINE, 1945 was apparently poor; in as much as the stations could not be held during the running of the radial plot.

In the area of T-9001, station LORAN TOWER, 1947 was correctly identified by office inspection.

All horizontal control stations falling in the area of this project, which were established in 1945 and 1947, were plotted on the map manuscripts.

Station RISE, 1947 was incorrectly identified on the field photograph by approximately 200 meters. The geographic position of station END, 1947 listed on field computation Accession No. G-7244 page 8 is in error. The correct geographic position, which was verified by Lt. Conerly on March 18, 1948 is: 63

Lat. 70° 49' 51.86"  
Long. 159° 08' 50.65"

The horizontal control stations shown on the map manuscripts for this project have been listed on several sheets of Form M-2388-12, which are attached to this descriptive report. Notes, indicating whether or not the station was used for the compilation of the map manuscripts, have been entered in a special column.

27: RADIAL PLOT:

The radial plot for this project was divided into three sections. Map manuscripts included in each section are as follows:

Section No. 1.....T-9003, T-9007, T-9008  
Section No. 2.....T-9004, T-9009, T-9010  
Section No. 3.....T-8998, to T-9002 inclusive, T-9005, T-9006 and T-9011.

Because of the excellent distribution of horizontal control stations, it was decided to start radial plot work in Section 1. In this area the stations are located on both sides of the two flight lines and several fall far enough inland so that the south limits of the inshore flight of photographs could be rigidly fixed. In this manner strong pass points were established well within and along the outer limits of the radial plot for the area of Section 2, where there were no identified horizontal control stations.

These newly established pass points augmented the identified control stations located along the shoreline, in Section 2 and a strong radial plot was completed in this area from which excellent pass points were established along the south limits of T-9010 where control stations were badly needed. The work on the radial plot for Section 3 proceeded from this point and it is believed that excellent results were obtained not only for the areas along the shoreline of this project where there is an abundance of identified stations, but also for the interior areas, to or beyond the line of the detail limits indicated on the index map for this project.

The work on each section of the radial plot proceeded as follows:

- (1) Conjugate centers were transferred to overlapping photographs.
- (2) Azimuth and cross azimuth lines were plotted on all photographs.
- (3) All horizontal control stations or substitute stations, which were identified by the field inspection parties, were pricked on all photographs on which they appeared.
- (4) Well defined pass points, which would be cut in during the running of the radial plot, were then selected and pricked on the office photographs and radial lines were drawn to all points.
- (5) Templets were made on sheets of clear acetate in accordance with Photogrammetry Instructions No. 11, dated 2/28/47, "Corrections to Radial Directions on Nine Lens Photographs for Radial Plotting". Inks of various colors were used to designate the azimuth and cross azimuth lines, and the radial lines to horizontal control stations, topographic stations, and pass points.

(Prior to 2 April 1948, the date all the radial plot work for this project was completed, only one master templet, namely calibration photograph No. 16445, had been furnished this office. On 2 April 1948, calibration photograph No. 21445 was received at this office without instructions for its use, and on or about 16 April 1948 the master templet for calibration photograph No. 16664 arrived. A letter, dated 20 April 1948 from Chief, Division of Photogrammetry, outlined instructions on the use of these calibration photographs. It will be noted from the above that this office was not cognizant of the existence of other material for the correction to radial directions, prior to the completion of the radial plots for this project. Templets were made therefore, by using calibration photograph No. 16445, rather than calibration photograph No. 21445. As there were only slight differences in these master templets and as the results obtained in this plot were exceptionally good, this point is felt to be inconsequential).

- (6) A scale plot was run and the photographs were found to be close to a scale of 1:20000. Fourteen polyconic projections, ruled on acetate, at a scale of 1:20000 were furnished this office for use as map manuscripts for each of the three sections of the radial plot. The horizontal control stations, which had been established in the area in 1945 and 1947 and their substitute stations, if they had been identified, were plotted and checked. Standard symbols, listed in Photogrammetry Instructions No. 12 dated 3/17/47, were used to indicate all stations.
- (7) The map manuscripts of each section were joined together by matching common meridians and parallels. Clear cellulose tape was used to hold the sheets together.
- (8) The templates for each section of the radial plot were oriented directly over the joined map manuscripts of the section. In the few cases where the horizontal control stations were doubtfully identified on the photographs, notes pertaining to the accuracy of the identification were lettered on each template near the radials to said control stations. Those templates which contained several clearly identified and well distributed horizontal control stations and which could be rigidly fixed were then oriented. The remaining templates were oriented by holding to clearly identified control stations, azimuth lines, cross azimuth lines and pass points which had been established by orienting the rigidly fixed templates. In this manner we could usually determine which of the horizontal control stations were incorrectly identified on any particular photograph, and the pricking of all doubtful stations could be checked. If a radial was still doubtful it was eliminated from the photograph.
- (9) When each section of the radial plot was satisfactorily completed and all the templates were securely fastened to the joined map manuscripts, it was turned over so that the templates were face down on the radial plot table. The locations of all pass points and photograph centers were carefully pricked and indicated directly on the reverse side of each map manuscript with circles in blue ink.
- (10) An additional check was then made by reorienting the templates for each individual sheet; thus a check on all points was obtained. The results obtained in this radial plot were considered excellent, and it is believed that manuscripts, which were well within the limits of accuracy for the project, were compiled.

28: DETAILING: See Review Report # 28

These maps were compiled in accordance with instructions for Project Ph-27 (47). Features and symbols were shown as indicated in Photogrammetry Instructions No's. 10, 12, and 17 and in a special symbol of hachures, furnished by the Washington Office.

The transforming printer at the Washington Office was not in proper adjustment at the time the photographs were printed and they could not be oriented in their entirety at the compilation table when radially plotting various types of pass points. Enough pass points had, however, been established during the radial plot so that each chamber of each photograph could be separately oriented. For at least two of the chambers on each photograph it was found necessary to de-center the photograph radially, to or from the chamber being oriented, so that the radials to the pass points and horizontal control stations in the chamber would pass through their positions on the map manuscripts.

In Directors letter, 711-rs, dated, 6 February 1948, this office was notified that the map manuscripts, or a copy thereof, were to be forwarded directly to the Washington Office upon completion of the shoreline details. In later correspondence we were notified that; due to the small amount of additional time involved, we could complete the manuscripts before forwarding them. These points are mentioned in as much as they amend the original instructions.

In spite of the priority given this project, projections were not received until 12 March 1948. After all data were received the radial plots were rapidly completed and the detailing of shoreline and other planimetric details was accomplished faster than at first anticipated. For this reason, and with the approval of the Washington Office, the map manuscripts were completely compiled and office reviewed before they were forwarded.

As previously stated the photograph interpretation for this project was obtained from descriptions of the area personally furnished by Lt. Conerly, during an office examination of the photographs. While this examination furnished a general idea of the character of the country, there were many minute details pertaining to the high-water line, drainage, intermittent ponds, buildings, marsh areas, and foreshore areas, which were determined by the personnel of the compilation office as the detailing advanced. These features were determined, after a careful examination of the photographs under the stereoscope.

Most of the area is covered by deep growths of tundra which made it particularly difficult to determine the drainage pattern, from office examination of the photographs. In many places this growth covered the drainage and it could only be seen in places where a stream bed was established by erosion or where it followed a natural ravine. For this reason the drainage pattern, as shown on the manuscripts, is believed to be incomplete in many places. From a careful examination of the photographs under the stereoscope, it is believed that many of the elliptical shaped ponds or lakes are connected in the drainage pattern. However, this fact cannot be determined without a detailed field inspection of the area. Cliffs, bluffs, steep banks and similar features were delineated by use of the stereoscope. Detail pass points were radially plotted near or along the tops of these features so they could be compiled as accurately as possible.

*Due in large part to fact that  
features called for a radial plot  
from Washington Office which was not furnished  
promptly 1948*

29: SUPPLEMENTAL DATA:

There was no supplemental data furnished for the area of this project.

30: MEAN HIGH-WATER LINE:

The location of the mean high-water line was discussed with Lt. Conerly when he visited Portland. Since the mean range of tide at Point Barrow is only 0.4 ft., the consideration of tides for the delineation of the high-water line was negligible. For the most part the high-water line was located very close to the base of the bluff which parallels the shoreline. At the mouths of prominent drainage streams, mud deposits have built up and often form a dam which prevents the drainage from emptying into the Chukchi Sea. At certain periods during the year the streams will break through these dams and the ponds which had formed will drain into the sea. At these places the high-water line meanders away from the bank and around the mud deposits.

The mean high-water line is shown by a continuous black acid ink line .008" in thickness. There is one small mud flat area, in T-9007, where the mean high-water line could not be definitely determined. This area has been indicated by a dashed line. Standard symbols have been used to indicate areas which are not firm ground and which border the high-water line.

31: LOW-WATER & SHOAL LINES:

In view of the negligible tides, no attempt was made to delineate a low-water line.

Approximate shoal lines were delineated by office examination of the photographs and have been shown by a light, dashed, black acid ink line.

32: DETAILS OFFSHORE FROM THE MEAN HIGH-WATER LINE:

There are no details offshore from the mean high-water line.

33: WHARVES AND SHORELINE STRUCTURES:

No wharves or shoreline structures were found during the office examination of the photographs and none were indicated in triangulation descriptions or by the 1947 Artic Field Party.

34: LANDMARKS AND AIDS TO NAVIGATION:

It is assumed that a report on these features was submitted by the hydrographic parties at Point Barrow in 1945 and 1947. See *Previous Reports* Nos 34, 43 & 44



35: HYDROGRAPHIC CONTROL:

The hydrographic signal sites were established by the field parties at Point Barrow. None of these stations were used to control the radial plots and they were not plotted on the map manuscripts.

36: LANDING FIELDS AND AERONAUTICAL AIDS:

There is a small landing field at the Navy Base which lies about 5 miles southwest of Point Barrow. It is assumed that a report on Aeronautical Aids was submitted by the Artic Field Parties.

37: GEOGRAPHIC NAMES:

This office was furnished a copy of nautical chart No. 9400 on which several recommended geographic names were indicated in red crayon pencil. Elsewhere over the project, the names have been shown as printed on nautical charts of the area.

38: RECOVERABLE TOPOGRAPHIC STATIONS:

According to ~~the~~ paragraph 6 of the instructions, topographic stations were to be located from sextant angles, etc. by the Seattle Processing Office. No additional stations were located by this office.

39: JUNCTIONS:

Complete and satisfactory junctions have been made between all map manuscripts in this project.

44: COMPARISON WITH EXISTING TOPOGRAPHIC SURVEYS:

The planimetry on map manuscript, T-8998 was compared with that on correction sheet No. 315, Point Barrow, Alaska, and found to be in good agreement at most points.

Discrepancies are as follows:

A pond, located about 2 miles southwest of Point Barrow on the sand spit, is not as large as shown on CS-315.

The high-water line at the entrance to a pond, located at approximately Lat.  $71^{\circ} 20' 15''$  and Long.  $156^{\circ} 35' 30''$  is not in agreement between the two surveys.

1580 A small sand spit, located at approximately Lat.  $71^{\circ} 17' 45''$  and Long.  $156^{\circ} 32' 00''$  is not shown on CS-315.

158



(8)

45: COMPARISON WITH NAUTICAL CHARTS:

A visual comparison was made with nautical chart No. 9400 scale 1:1,624,000 and there were no apparent discrepancies.

Approved after additional  
Comments were added:

*RA Earle*  
R. A. Earle,  
Lt. Comdr., USC&GS,  
Chief of Party

Respectfully submitted:

*J. Edward Deal Jr.*  
J. Edward Deal Jr.  
Photogrammetric Engineer

C  
O  
P  
Y

Manuscripts for Project C  
Ph 27 - T 8998 to T 9011 as originally compiled  
at the Portland Photogrammetric office were  
revised in accordance with the following instructions  
which are apply also to adjoining projects Ph 29  
and Ph 42. 5 April 1950

AIR MAIL

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

R. G. Jones  
10/50

Subject: Delineation of Interior details in the Arctic

- References: (1) Instructions - Project Ph-29(47)-Office,  
dated 14 December 1949  
(2) Instructions - Project Ph-29(47)-Office,  
Supplement 1, dated 27 January 1950  
(3) Your letter dated 6 March 1950, Delineation  
of Interior Detail, Project Ph-29(47)  
(4) Letter from Comdr. R. A. Earle, dated  
3 March 1950, recommending symbols for  
manuscripts on project Ph-27(47)

1. This letter is an attempt to summarize the various  
recommendations for delineation of details on planimetric  
maps of the Arctic into tentative instructions applicable  
to projects Ph-27, Ph-29, and Ph-42. These tentative in-  
structions are stated briefly as follows:

(a) Cliffs and bluffs.—These shall be  
shown by hachures in accordance with figure 5.8  
page 63, of the Topographic Manual. This figure  
has been redrawn for the final edition of the  
manual and a copy is enclosed. The broken line  
symbol shall not be used along the crests of  
cliffs and bluffs. The use of hachures shall be  
restricted to cliffs and bluffs that appear vertical  
or nearly vertical on the photographs, that is, at  
sharp breaks. Hachures shall not be used to in-  
dicate gentle slopes in the tundra and along the  
lakes and streams, etc. See also (b) below.

(b) Hills and ridges.—Pingos or other  
prominent hills and ridges shall be indicated by  
hachures when they appear as distinct landmark  
features on the photographs regardless of the fact  
that the slopes may not be steep and abrupt.

(c) Low areas.—When on any map or group of  
maps the terrain is predominantly relatively high  
tundra with occasional depressions or low swamp-  
like areas, these latter may be outlined on the

5 April 1950

manuscripts in accordance with the instructions of the Topographic Manual for outlining swamp or marsh areas. These low areas will then be symbolized on the printed maps with the symbol for seasonal inundation as illustrated on page 154 of the manual; the symbol will be applied by stick-up in the Washington Office. This system of delineation appears to be applicable to a large part of project Ph-29 but probably is not applicable to that section of project Ph-29 covered by photograph 20107, maps T-9344 and T-9345, and similar areas. See also item (d) below.

(d) When the terrain on any map or group of maps is predominantly low swampy tundra, the symbolization specified in (c) above should be avoided and may be omitted. In these areas the occasional sections of higher tundra, where not marked by cliffs or bluffs, shall be outlined with the dashed line symbol ordinarily used for line clearings and as illustrated on page 148 of the manual. Only such areas that appear definitely higher and can be readily segregated under the stereoscope shall be outlined. If the compiler finds segregation of an area doubtful and confusing, that area should be omitted. These areas of higher tundra shall occasionally be labeled "Higher tundra". Further, the label "Low swampy tundra" shall occasionally be shown in the lower areas.

(e) Lakes and drainage.-Lakes and drainage shall be delineated in accordance with the reference instructions.

(f) All of the features mentioned in paragraph 1(a) to 1(d) shall be outlined under the stereoscope prior to delineation. They must not be outlined solely in accordance with variations in tone on the photographs without stereoscopic examination. In interpreting the terrain under the stereoscope, the compiler must constantly bear in mind that the heights of features and the slopes are greatly exaggerated.

2. In reference (3) it apparently was your intention to restrict your recommendation to project Ph-29, but it seems advisable to prepare instructions applicable to projects Ph-27, Ph-29, and Ph-42 so that the same general treatment will be applied to all of these projects, at the same time permitting the proper interpretation and symbolization of variations in the terrain which may occur within a project as well as between projects.

3. A copy of reference 4 is enclosed. The office agrees with the intent expressed in paragraph 2 of reference 4 but feels that even though the symbol were lightened as recommended in paragraph 1, hachures if used extensively to delineate the gentle slopes will still appear as the most prominent feature on the map and will be misinterpreted by the map user.

4. I should like to have your opinion of the above tentative instructions before preparing formal supplemental instructions for projects Ph-29, and Ph-42, and for the revision of project Ph-27. This office has made a careful stereoscopic study of the photographs on a section of map T-8998, project Ph-27, and has redrawn a portion of that map in accordance with the above tentative instructions. A copy of this is being forwarded to you together with the photographs so that you can examine it before replying to this letter.

5. The delineation of manuscripts on project Ph-29 may be continued in accordance with the tentative instructions quoted in this letter, except that if you desire to submit counter-recommendations the symbolization of features affected by such recommendations should be delayed pending a further reply from this office. This office will attempt to answer any further correspondence promptly so as not to delay the work at your office.

s/ K. T. Adams  
Acting Director

Enc.

cc: Comdr. Paton  
Comdr. Earle

**DEPARTMENT OF COMMERCE**  
**U. S. COAST AND GEODETIC SURVEY**

## NONFLOATING AIDS OR LANDMARKS FOR CHARTS

## TO BE CHARTED

**STRIKE OUT ONE**

Washington Office

Aug. 25 1950

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

S. V Griffith

**Chief of Party.**

[illegible]



# GEOGRAPHIC NAMES

Survey Nos.

T 8998 - T9011

Ph 27 (47)

Name on Survey

Arctic Ocean										1
Point Barrow										2
Elvitkak Pass										3
Brant Point										4
Elson Lagoon										5
Barrow										6
Chukchi Sea	(Arctic Ocean to west and southmost of Pt. Barrow)									7
Utkiari	(Locality name) omit									8
Walakpa	(1947 USGS maps show village)									9
Sinaru	(Locality name)									10
Skull Cliff										11
Seahorse Islands										12
Point Franklin										13
Kugrua Bay	(1949 USGS N)									14
Kugrua River	"									15
Peard Bay										16
Atanik	(Locality name)									17
Alaska										18
Beaufort Sea	(Arctic Ocean to East and SE. of Pt. Barrow)									19
No recent names report for this area.										20
other than descriptive reports for hydrographic sheets.										21
										22
										23
Approved list filed in Geographic Names Section.										24
										25
Names underlined in red are approved. 5-15-51										26
(see also lists for individual sheets)										27
L. HECK										M 234



## GEOGRAPHIC NAMES

Survey No.  
Ph. 27(47) #1

GEOGRAPHIC NAMES										
Survey No. Ph. 27(47) #1										
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	
T-8998:										1
✓ Arctic Ocean										2
✓ Chukchi Sea								US+B		3
Beaufort Sea								"		4
✓ Point Barrow								"		5
✓ Barrow								"		6
✓ Brant Point										7
✓ Elson lagoon								US+B		8
Eluitkan Pass										9
Doctor Island								US+B		10
										11
T-8999:										12
✓ Chukchi Sea								US+B		13
✓ Will Rogers and Wiley Post Memorial										14
T-9000:										15
✓ Chukchi Sea								US+B		16
T-9001:										17
✓ Chukchi Sea								US+B		18
✓ Walatpa										19
T-9002:										20
Chukchi Sea (no names)								US+B		21
T-9003:										22
✓ Chukchi Sea								US+B		23
✓ Point Franklin										24
✓ Seahorse Islands										25
✓ Peard Bay										26
										27

M 234

# GEOGRAPHIC NAMES

Survey No.

Ph 27(47) #2

Name on Survey

	On Chart No.	On previous survey No.	On U. S. quadrangle Maps	From local information	On local Maps	P. O. Guide or Map	Rand McNally Atlas	U. S. Light List	
A	B	C	D	E	F	G	H	K	
T-9004:									1
✓ Chukchi Sea								USLB	2
✓ Skull cliff								"	3
T-9005:									4
✓ Chukchi sea								USLB	5
✓ Sinaru									6
T-9006: (nothing)									7
T-9007:									8
✓ Chukchi Sea								USLB	9
✓ Peard Bay									10
✓ Kugrua Bay								USLB	11
✓ Kugrua River									12
✓ Atanik									13
T-9008:									14
✓ Peard Bay									15
✓ Kugrua Bay								USLB	16
T-9009:									17
✓ Chukchi Sea								USLB	18
✓ Peard Bay									19
T-9010:									20
✓ Chukchi Sea								USLB	21
✓ T-9011: (nothing)									22
									23
									24
									25
									26
									27

Names underlined in  
red are approved  
5-25-57



Review Report T-8998-9011 Inc.  
Planimetric Maps  
September 18, 1950

26. Control.-All triangulation stations established during the 1945 and 1947 seasons in the project area have been listed on Forms M-2388-12 and made a part of the descriptive report. Stations that are not plotted on the map manuscripts are listed with a note explaining their omission.

28. Detailing.-The manuscripts in this project were detailed in accordance with instructions in the letter, "Delineation of Interior Details in the Arctic", dated 5 April 1950. A copy of this letter is included in this descriptive report.

34. Landmarks and Aids to Navigation.-No landmarks or aids to navigation were recommended during this survey. Landmark, Monument, recommended in Chart Letter 62(48) was pricked on a photograph. A new position was cut in by the radial plot and submitted to the Nautical Chart Branch on Form 567.

39. Geographic Names.-Names were added and corrected in accordance with a list submitted by the Geographic Names Section.

43. Comparison with Contemporary Hydrographic Surveys.-

H-7069	1:20,000	1945
H-7070	"	"
H-7071	"	"
H-7608	1:40,000	1947
H-7609	"	"
H-7606	1:20,000	"
H-7607	"	"

Triangulation stations Nuwuk, Pt. Barrow North Base, Astronomic, Brower, Spit and Tall are shown as aids to navigation on the hydrographic surveys. Triangulation station Air Beacon is an aeronautical aid.

Triangulation stations North and South Radio Poles, Barrow Windmill, Wireless Mast, Presbyterian Church Spire, Loran Station and Skull Cliff Radar Antenna are shown as landmarks on the hydrographic surveys. Two towers and a radar screen shown as landmarks on H-7609 were not pricked on the photographs and since they are not triangulation stations, they are not shown on the map manuscripts.

44. Comparison with Topographic Surveys.-

T-6996	1:20,000	1945
T-6997	"	"

Triangulation station North Corner of Hanger shown as a landmark on T-6997.

These maps supersede all previous topographic surveys for nautical charting purposes.

45. Comparison with Nautical Charts.-

Chart No. 9400,	1:1,587,870,	1947 Corr. 1950
Chart No. 9495	1:125,000	1946 Corr. 1950
Chart No. 9445	1:40,000	1950
Arctic Coast Charts 1, 2, 3, & 4	1:40,000	
1948-49 (Preliminary Surveys)		

Areas of low, swampy tundra are much more extensive on the map manuscripts than on the nautical charts.

Landmarks and aids to navigation are shown on the charts from previous surveys.

Planimetry on the Arctic Coast Charts was taken from the map manuscripts.

46. Classification.-By authority of the Commander in Chief, Alaskan Command, 19 March 1948, all photographs and maps of the Pt. Barrow Area are restricted. The map manuscripts and the descriptive report are so marked.

\* (See below)  
Reviewed by:

Charles Theurer  
C. Theurer

APPROVED

S. V. Gifford 11/19/52  
Chief, Review Section  
Div. of Photogrammetry

H. C. Edmonson  
Chief, Nautical Chart Branch  
Div. of Charts

O. S. Reading  
Chief, Div. of Photogrammetry

Earl O. Heston  
Chief, Div. of Coastal Surveys

\* 47. Accuracy.

This map complies with Bureau Policy and Bureau Accuracy Requirements.



## 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 from adjusted N.A.1927 Datum stations at about the 63rd Parallel on the Canadian Boundary, followed the 141st Meridian (IBC Datum) to the Arctic Ocean, thence westward through the Barter Island and 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 these stations is subject to further adjustment after more geodetic field work.

### PLANIMETRIC MAPPING PROJECT

Ph-27(47)

Atanik to Point Barrow, Alaska  
T-8998 through T-9011

The correction from Point Barrow 1945 Datum to Preliminary N.A.1927 Datum is:

Lat. plus 1.30 Sec.

\*Long. minus 14.93 Sec.\*

This correction was converted into meters, and stamped on the back of page 2 of Form T-1 in the Descriptive Report for the Project, and on each registered map and manuscript near the datum note in the title block with the following stamp:

The difference between Point Barrow, 1945 Datum  
and preliminary N.A. 1927 Datum is Lat. plus/~~minus~~  
40 m. and Long. ~~plus~~/minus \* m.

\*The value of one second in meters  
varies from 10.149 m. on T-9007  
thru T-9011 to 9.916 m. on T-8998.

See the Special Report on Correction from the Point Barrow, 1945 Datum to Preliminary N.A.1927 Datum, filed with the Completion Report for Ph-27(47), for a Project index showing the corrections for each map.

Report by:

*Gordon B. Willey*  
Gordon B. Willey  
22 July 1954

Applied to Arctic Coast, Alaska Chart #4 - Peard Bay to Wainwright Inlet.

Feb. 10, 1949 - M.M. Rogers

Applied to Arctic Coast Ch. #3 5/21/48 H.F.S.

" " " " Ch #2 Verified 1/4/50 GHE

" " " " Ch #1 " 4/5/50 GHE

" " Ch 9403 - 3/50 - thru Ch #3 and direct

" " " 9402 3/50 " coast charts & direct steamers.

T-8998 + T-9000 possibly applied to Ch 9445 7-20-51 J.E.

Applied to chart 9462 - 3-8-55 - N.D.H.

Applied to chart 9463 - 3-8-55 - H.J.K & J.B.

Applied to Ch 9403 thru 9464 H.E.M. Apr 1958