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

**DESCRIPTIVE REPORT**

<table>
<thead>
<tr>
<th>Type of Survey</th>
<th>Planimetric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field No.</td>
<td>Ph-29(47) 11</td>
</tr>
<tr>
<td>Office No.</td>
<td>T-9762 to T-9765 Incl.</td>
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**LOCALITY**

<table>
<thead>
<tr>
<th>Territory</th>
<th>Some Alaska</th>
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<tbody>
<tr>
<td>General locality</td>
<td>Beaufort Sea (North Arctic Coast)</td>
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<tr>
<td>Locality</td>
<td>Cape Halkett, Harrison Bay, Smith Bay</td>
</tr>
</tbody>
</table>

1949-51

**CHIEF OF PARTY**

Max G. Ricketts, Chief of Party
Fred A. Riddell, Photogrammetric Office, Portland, Oregon

**LIBRARY & ARCHIVES**

**DATE**

JUNE 20, 1955
DATA RECORD

T - 9762 to T-9765 Incl.

Project No. (II): Ph-29(47) II Quadrangle Name (IV):
Field Office (II): Arctic Field Party (West 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): JUL 17 1952 Date reported to Nautical Chart Branch (IV): JUL 28 1952
Applied to Chart No. Date: Date registered (IV): 19 July, 1952

Publication Scale (IV):
Publication date (IV):
Vertical Datum (III): Mean-Sea-Level
Geographic Datum (III): Point Barrow

Correction figures to N.A. 1927
are now available.

T-9762 to T-9765
The difference between Point Barrow, 1945 Datum
and preliminary N.A. 1927 Datum is Lat., plus/minus 40 m. and Long., minus 153 m.

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

Lat.: Long.: Adjusted

Plane Coordinates (IV):
State: Zone: Unadjusted

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

Field Inspection by (II): Leo W. Eason II
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): Delineated by stereoscopic examination of photographs with the aid of spot locations shown on reverse side of field photographs.

Projection and Grids ruled by (IV):
Date:

Projection and Grids checked by (IV):
Date:

Control plotted by (III): C.G. Wiebe, R.A. Davidson, R.H. Barron
Date: 2-7-52

Control checked by (III): R.A. Davidson & R.H. Barron
Date: 2-7-52

Radial Plot or Stereoscopic J.L. Harris & J.E. Deal
Control extension by (III):

Planimetry
Date:

Stereoscopic Instrument compilation (III):
Contours
Date:

Manuscript delineated by (III): See reverse side
Date:

Photogrammetric Office Review by (III): See reverse side
Date:

Elevations on Manuscript R.H. Barron
checked by (II) (III):
Date: 7-1-52
<table>
<thead>
<tr>
<th>Manuscript delineated by</th>
<th>Shoreline</th>
<th>Date</th>
<th>Interior</th>
<th>Date</th>
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<tr>
<td>T-9762</td>
<td>L.L. Graves</td>
<td>2/14/52</td>
<td>J.L. Harris</td>
<td>6/20/52</td>
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<tr>
<td>T-9763</td>
<td>None</td>
<td>2/15/52</td>
<td>L.L. Graves</td>
<td>6/13/52</td>
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<tr>
<td>T-9764</td>
<td>L.L. Graves</td>
<td>2/15/52</td>
<td>C.C. Wiebe</td>
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<tr>
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<td>L.L. Graves</td>
<td>2/15/52</td>
<td>J.L. Harris</td>
<td>5/29/52</td>
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<th>Shoreline</th>
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<tr>
<td>T-9762</td>
<td>J.E. Deal</td>
<td>2/18/52</td>
<td>R.H. Barron</td>
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<td>6/26/52</td>
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<td>R.H. Barron</td>
<td>6/27/52</td>
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<tr>
<td>T-9765</td>
<td>R.H. Barron</td>
<td>2/19/52</td>
<td>R.H. Barron</td>
<td>6/24/52</td>
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**PHOTOGRAPHS (III)**

<table>
<thead>
<tr>
<th>Number</th>
<th>Date</th>
<th>Time</th>
<th>Scale</th>
<th>Stage of Tide</th>
</tr>
</thead>
<tbody>
<tr>
<td>19907 &amp; 19908</td>
<td>7/20/47</td>
<td>14:47</td>
<td>1:20,000</td>
<td>0.8' ft. above MLLW</td>
</tr>
<tr>
<td>19928 to 19935 Incl.</td>
<td>7/20/47</td>
<td>15:39</td>
<td>1:20,000</td>
<td>0.7' ft. above MLLW</td>
</tr>
<tr>
<td>20061 : 67-72</td>
<td>7/25/47</td>
<td>10:35</td>
<td>1:20,000</td>
<td>0.06' ft. above MLLW</td>
</tr>
<tr>
<td>20079</td>
<td>7/25/47</td>
<td>11:11</td>
<td>1:20,000</td>
<td>0.02' ft. above MLLW</td>
</tr>
<tr>
<td>20081 to 20085 Incl.</td>
<td>7/25/47</td>
<td>11:33</td>
<td>1:20,000</td>
<td>0.02' ft. above MLLW</td>
</tr>
</tbody>
</table>

**Tide (III)**

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

<table>
<thead>
<tr>
<th>Ratio of Ranges</th>
<th>Mean Range</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ratio of Range</td>
<td>6.6 8.5</td>
<td></td>
</tr>
<tr>
<td>Ratio of Range</td>
<td>0.1 0.4</td>
<td>0.5</td>
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</tbody>
</table>

**Washington Office Review by (IV):**

**Final Drafting by (IV):**

**Drafting verified for reproduction by (IV):**

**Proof Edit by (IV):**

| Land Area (Sq. Statute Miles) (III): 226 |
| Shoreline (More than 200 meters to opposite shore) (III): 216 |
| Shoreline (Less than 200 meters to opposite shore) (III): 19 |
| Control Leveling - Miles (II):         |
| Number of Triangulation Stations searched for (II): Recovered: Identified: |
| Number of BMs searched for (II):       |
| Number of Recoverable Photo Stations established (III): |
| Number of Temporary Photo Hydro Stations established (III): |

**Remarks:**

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Form T-Page 4
Summary to Accompany
Descriptive Report T-9762 to 65, 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 and completed the coverage of the Arctic Coast of Alaska.

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-9762 to 65, inc. extends from the east shore of Smith Bay to Halkett Point on the west shore of Harrison Bay. T-9263 and 64 cover interior areas.

When all the map manuscripts in the project have been revised, 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 Nos. T-9762 to T-9765 Incl.
Project Ph-29(47) II

Refer to Descriptive Report.

Shorline - Photogrammetric
Alaska
North Arctic Coast
Point Barrow to Cape Halkett
1951
Chief of Party: Max G. Ricketts
PHOTOGRAMMETRIC PLOT REPORT
Map Manuscripts T-9762 to T-9765 Incl.
Project Ph-29(47) II

Refer to remarks pertaining to the radial plot contained in the Descriptive Report for T-9755 to T-9757 Incl.
Map manuscript T-9765 includes the planimetric details along the shore of the Beaufort Sea, north Arctic Coast, Alaska in the vicinity of Cape Halkett from Escook to Harrison Bay. Map manuscripts T-9762 to T-9764 portray the planimetric details of a strip of land approximately 8 miles wide lying just interior to the shore of Beaufort Sea from Smith Bay to Escook. There are no offshore barrier islands in these areas and the character of the planimetry is similar to areas previously compiled for this project. Because of inadequate coverage, the southwestern corner and the southern one-minute area of T-9763 were not delineated.

Side headings 32, 34, 35, 36, 39, 40, 46, and 47 of the Descriptive Report for T-9773 to T-9775 and of the Descriptive Report for T-9778 to T-9785 are in general applicable except for remarks pertaining to offshore barrier islands.

33. Supplemental data.

There were no supplemental data.

35. Shoreline and alongshore details.

An exception to remarks contained in side heading 35 of the above references is:

Sketches made in the field and shown on the reverse side of the field photographs gave detailed delineation of the mean high-water line at numerous places.

37. Landmarks and aids.

The special report referred to in paragraph "A" side heading IX of the field inspection report was not furnished this office.

38. Control for future surveys.

Not applicable. Refer to side headings XI and XIV of the field inspection report.

T-9765 was returned to the Portland Office 25 March, 1953 for probable changes in the area of junction with T-9764 which includes T-9761 control. The 1951 control for the south half of T-9765 was not utilized in the radial plot of which T-9765 forms a part.

See Supplemental Report attached herefor.
Approved:

Fred A. Riddell
Officer in Charge
Portland Photogrammetric Office

Respectfully submitted:

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

The geographic names report referred to in side heading XIII of the field inspection report was not furnished to this office. The following names were obtained from sources listed below.

T-9762
Smith Bay

T-9763
None

T-9764
None

T-9765
Beaufort Sea
Cape Halkett
Harrison Bay

Pogivk Bay

Ishuk I. (if it exists)

Sources
Nautical Charts Nos. 9400 and 9495
Various aeronautical charts
Field inspection notes
Description of stations

Names approved 2-9-53
L. Heck
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-7922 (ARW 4351) 1:40,000 1951-52. Esock to Kolovik

No shoreline is shown on this survey, and the hydrography is incomplete in the area of T-9765, Cape Halkett and vicinity.

H-7991 (4152) 1:40,000 1952. Cape Halkett to Atigaru Point, i.e., Harrison Bay.

This survey is not available for comparison.

65. Comparison with Nautical Charts:

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

No record is attached to the descriptive report to indicate that these maps have been applied to charts prior to review.

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

66. Accuracy:

The delineation of these maps conforms to project instructions, and the control was sufficient to secure a good shoreline except in the Harrison Bay area (T-9765). Interior delineation is from office interpretation of the character of the terrain.

Reviewed by:

[Signature]

Lena T. Stevens

APPROVED:

[Signature]

Chief, Review Section
Div. of Photogrammetry

[Signature]

Chief, Div. of Photogrammetry

[Signature]

Chief, Div. of Coastal Surveys

Wallace A. Bruder

Acting Chief, Nautical Chart Branch
Division of Charts

Earl A. Hesston

Chief, Div. of Coastal Surveys

11 May 1955

The delineation T-9765 mentioned in 66 has been superseded by a new manuscript which was received 16 July, 1953.
7 July 1953

To: The Director
U. S. Coast & Geodetic Survey
Department of Commerce
Washington 25, D. C.


References: (a) Photogrammetric Plot Report contained in Descriptive Report for T-9755 to T-9757 Incl., Project Ph-29 (47) II
(b) Photogrammetric Plot Report contained in Descriptive Report T-9773 to T-9775 Incl., Project Ph-29 (47) II

The original radial plot for T-9765, which utilized 1951 field data, extended eastward to station HALKETT 1951 located in the north central part of the map manuscript. Although no horizontal control stations were identified to the south of station HALKETT during the 1951 field season the radial plot was extended beyond the limits of horizontal control to include the south limits of T-9765.

In order to hold station HALKETT in this original radial plot it had been necessary to adjust along the azimuths of the flights and these were not rigidly held. At that time the difficulty could not be determined because of the lack of other identified horizontal control stations.

The 1952 Arctic Field Party identified three additional horizontal control stations namely POINT 1951, STILE 1951, and ABRAHAM 1952 which are sufficient to give a satisfactory location for planimetry in the south part of T-9765.

This control was used when laying the radial plot for T-9769
To: The Director
7 July 1953

thru T-9772 and in order to make a satisfactory junction between T-9764, T-9765 and T-9769 the entire original radial plot for T-9765 had to be revised.

Difficulties at station HALKETT were resolved as follows:

(a) On the control identification card the descriptions of the sub-points are in reverse to that indicated on the sketch and field photograph. The sketch was accepted as correct.

(b) The distances given as measured from HALKETT to each of the sub-points will not intersect and it can be assumed that one of the two distances is in error. The radial plot indicates this error is in the distance to sub-point "a" and sub-point "b" was held in the plot although it is described as doubtful on field print No. 20069.

For station POINT, 1951 sub-point "b" was held because it was the only one of three sub-points selected in the field for which an angle and distance were measured. The other two were the results of considerable field computations which would require much time to verify.

Vacuum failures are evident at the outer limits of the chambers of many photographs and for this reason Photograph No. 20031 cannot be oriented in its entirety in the radial plot.

No. 20069 apparently is tilted and the photograph was rotated chamber by chamber when using radials for minor detail points.

A new projection was furnished for T-9765 and the planimetry was detailed to agree with the results of the revised plot.

The corrections and additions made by the Review Section of the Washington Office which are shown in red ink on the original compilation of T-9765 have been included on the subsequent compilation.

From stereoscopic study of the photographs it appears that many of the hatchures added by the Washington Office Review Section on T-9765 are not in agreement with recommendations made to this office in a letter from the Acting Director 711-ks dated 5 April 1950, Subject: "Delineation of Interior Details in the Arctic", Paragraph, 1 Sub-headings (a) and (b).

At the south limits of the inundated area at Lat. 70° 49' 12" between Long. 132° 44' and Long. 132° 16' the bluff is very low and not an outstanding feature of the area. The inundation
symbol should be sufficient to indicate a low area within a slightly higher area which probably also is wet. The hachures shown in red ink on the original compilation are close together, heavy and indicate a very prominent relief characteristic.

Similar conditions are evident where hachures have been added as follows:

- North from station HALKETT to shoreline.
- North of station CRA.
- In vicinity of station COW.

The hachures added at station ELOUISE do illustrate a prominent feature. They should however, be more open than those shown in red ink because station ELOUISE has an elevation of only 16 feet and the bluff is very eroded.

The planimetry for this map probably would be more satisfactorily portrayed if all hachures were eliminated except for those around the tundra knolls at station HALKETT (Elev. 17 ft.), SAMUEL (Elev. 22 ft.), ELOUISE (Elev. 16 ft.) and ADD (Elev. unknown). These are easily recognized by a distinctive gray tone on the photographs and are the most prominent features of relief when viewed with a stereoscope. On field photograph No. 20063 the field inspector notes the knoll at station HALKETT as "high ground".

Similar additions of relief features by the review section appear on T-9764 and because this type of addition probably has been made to all map manuscripts reviewed to date they have been retained on the redrawn map manuscript T-9765. The hachures have been spaced farther apart and drawn lighter to soften the relief feature.

Approved and forwarded:  
Fred A. Riddell  
Chief of Party

Respectfully submitted:  
J. Edward Deal, Jr.  
Cartographer
HORIZONTAL DATUM ADJUSTMENT

ARCTIC OCEAN AREA, ALASKA

Corrections to Preliminary M.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 M.A. 1927 Datum stations at about the 63rd Parallel on the Canadian Boundary, followed the 114th Meridian (IBC Datum) to Beaufort Sea (Arctic Ocean), thence westward through the Barter Island 1945, 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 M.A. 1927 Datum in Latitude is +1.30 sec. on all the maps, and in Longitude, ranges from -16.93 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 M.A. 1927 Datum use ranges from -1.26 sec. on T-9777 to -3.00 sec. on T-9782, and in Longitude from plus 0.95 sec. on T-9777 to plus 9.90 sec. on T-9782. These corrections were stamped on page T-2 of each Descriptive Report, and near the title block of each manuscript and cloth-backed registered map, with the exception that the cloth-backed maps have not been completed for T-9777, T-9779 thru 9782, and T-9784 thru 9785. When these maps are completed they should be stamped the same as have been their descriptive reports, with the following stamp:

The difference between Point Barrow 1945 Datum and preliminary M.A. 1927 Datum is Lat. plus/minus A. m. and Long. plus/minus A. 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.