

9646

Diag. Cht. No. 9380

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Planimetric (Photogrammetric)

Field No. .... Office No. T-9646

LOCALITY

State Territory of Alaska

General locality Seward Peninsula

Locality Vicinity of Cape York

1949.50

CHIEF OF PARTY

Marvin T. Paulson-Field

Charles W. Clark-Portland Photogrammetric  
Office

LIBRARY & ARCHIVES

DATE December 23, 1954

B-1870-1 (11)

9646

## DATA RECORD

T-9646

Project No. (II): Ph-65(50)      Quadrangle Name (IV): CAPE YORK

Field Office (II): Shishmaref, Alaska

Chief of Party: Marvin T. Paulson

Photogrammetric Office (III): Washington, D. C.      Officer-in-Charge: O. S. Reading  
L. C. LandeInstructions dated (II) (III): 9 Nov. 1950 (office)  
17 Mar. 1949 (Field)  
Ph-46(49) and Ph-28(47)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): 1.00

Date received in Washington Office (IV):

May 26, 1952

Date reported to Nautical Chart Branch (IV):

Applied to Chart No.

Date:

Date registered (IV): 3-20-53

Publication Scale (IV): 1:20,000

Issue  
Publication date (IV): Oct 1952

Geographic Datum (III): H. A. 1927

Vertical Datum (III): ~~Mean Sea Level~~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  
Shoreline at MHW

Reference Station (III): XOT, 1950

Lat.      Long:

Adjusted X  
Unadjusted

Plane Coordinates (IV):

State: Alaska      Zone: 3

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.

## DATA RECORD

Field Inspection by (II): J. Andrew Hinely

Date: 6/22/49  
to  
9/22/49

Planetable contouring by (II): None

Date: -

Completion Surveys by (II): None

Date: -

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

No field inspection of S.L.  
Office interpretation only  
Date of photographs - 7-31-50

Projection and Grids ruled by (IV): W. O.

Date: 4/52

Projection and Grids checked by (IV): H. Wolfe

Date: 4/52

Control plotted by (III): N. S. Schultz

Date: 4/52

Control checked by (III): J. P. Battley

Date: 4/52

Radial Plot or Stereoscopic: R. J. French  
Control/extension by (III):

Date: 4/10/52

Stereoscopic Instrument compilation (III):  
Planimetry  
Contours None

Date: -

Date: -

Compiled: N. S. Schultz  
Manuscript delineated by (III): Drafted: J. P. BattleyApril, 1952  
Date: May, 1952

Photogrammetric Office Review by (III): R. J. French

Date: May, 1952

Elevations on Manuscript  
checked by (II) (III):

None

Date: -

Camera (kind or source) (III):

Number	Date	Time	Scale	Stage of Tide
27955	7/31/50	11:00	1/20,000	1.5' above MLLW
27956		11:02		
27957		11:04		
27958		11:05		
27959		11:07		

## Tide (III)

Reference Station: Dutch Harbor, Alaska  
 Subordinate Station: Port Clarence, Cape Riley, Alaska  
 Subordinate Station:

Ratio of Ranges	Mean Range	Spring Range
	2.2	3.7
	1.2	1.4

Washington Office Review by (IV):

*L. Martin Jazik*Date: *June 24, 1952*

Final Drafting by (IV):

*M. Webster*Date: *9-16-52*

Drafting verified for reproduction by (IV):

*W. O. Ballin*Date: *9-29-52*

Proof Edit by (IV):

*L. Martin Jazik*Date: *9-29-52*

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

Shoreline (More than 200 meters to opposite shore) (III): 30 miles

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

Control Leveling - Miles (II): --

Number of Triangulation Stations searched for (II): 1 Recovered: 1 Identified: 1

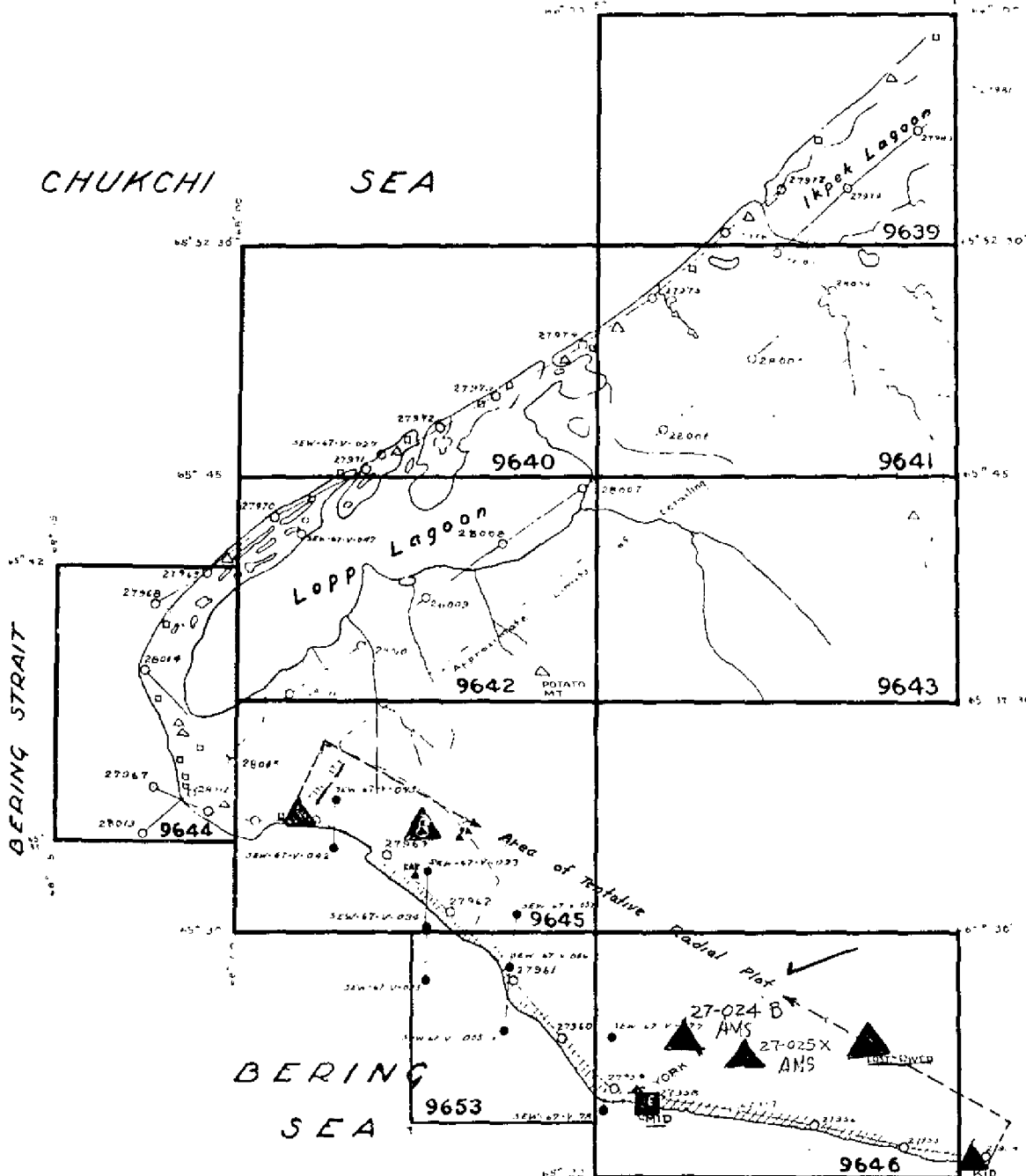
Number of BMs searched for (II): None Recovered: Identified:

Number of Recoverable Photo Stations established (III): Recovered: 1 \*

Number of Temporary Photo Hydro Stations established (III): --

Remarks:

\* Hydro Mid, 1950 was recovered and held to the position shown on H-7838.



- △ Horizontal Control
  - ▲ Horizontal Control Discussed in descriptive report.
  - Topographic Stations
  - 1950 Nine Lens Photographs
  - 1950 Single Lens Photographs
- Area crosshatched is referred to in the Compilation Report as being considered at sub-normal accuracy.
- ▲ Held in final radial plot

PH-65 30)  
CAPE PRINCE OF WALES-ALASKA

✓ This area was relaid in W.O. and is considered good. RJF

#### SUMMARY T-9646

This is one of 16 planimetric maps at 1:20,000 scale in project Ph-65(50) which covers the coastline of the SEWARD PENINSULA northward from CAPE DOUGLAS around CAPE PRINCE OF WALES to the IKPEK LAGOON at the 66° parallel.

The planimetric survey for NOME is on the southern side of the peninsula and does not adjoin the other maps of this project.

Much of this coastal area has not been previously covered by maps at this large scale.

Information concerning the project in its broader aspects will be included in a project completion report to be compiled at the conclusion of the review of all surveys in this project and will be filed in the Bureau Archives.

PHOTOGRAMMETRIC PLOT REPORT (Tentative)  
Map Manuscripts No. T-9645 (part) and T-9646  
Project Ph-65(50)

This tentative radial plot covers a shoreline area of Seward Peninsula about 33 miles in length, along the Bering Sea, in the vicinity of Cape York, Alaska from Longitude 167° to Tin City, Alaska. It includes the portion of the shoreline area of T-9645 southeast of Tin City, all the shoreline area of T-9646, and a shoreline area lying between these two sheets for which no map manuscript number has been assigned. (T-9653) See Layout Sketch p. 5.

Two identified horizontal control stations were available to control the orientation of the templets. KID, 1950, a recoverable topographic station, is located at the southeast limits of the radial plot and triangulation station TIN CITY, 1944 is located at the northwest limit of the radial plot.

To supplement this control an attempt was made to identify, by office inspection, triangulation station YORK, 1950 which is located about midway between the two other stations.

A stereoscopic study of the photographs indicated three probable places which might be selected as applying to the location described for the station. All were pricked on the office photographs and radials through these three points were drawn on the templets using a different color ink for each of the points selected.

During the orientation of the templets for the radial plot it appeared that the mid point of the three selected would hold best. This fact is not believed to be a positive indication that station YORK has been correctly identified in this office. The radial plot was quite flexible in the vicinity of this station and it was possible to make various orientations of the templets, in which the station was not held to by from 10 to 50 meters, and yet obtain satisfactory intersections of radials to photogrammetric points. The point selected for YORK was held to in this tentative radial plot because it is believed that it probably determines the correct azimuth of the shoreline between stations KID and YORK. A positive identification of station YORK is needed in order to be absolutely sure of the accuracy of the shoreline between stations TIN CITY and YORK.

There was insufficient information in the description of LOST RIVER, 1944 to make a satisfactory office identification of the station.

For these reasons it is believed that only a mean high water line should be compiled from the results of this radial plot and that the portion of this mean high water line falling between Longitude 167° and Longitude 167° 50' should be considered of sub-normal accuracy.

-2-

It is stated in the descriptions for Peaks "E", "EA", "EAE", and "FA" that triangulation observations were made on these peaks. No geographic positions for these stations were furnished this office. They were identified by office inspection and their radially intersected locations are shown on map manuscript No. T-9645. If these stations have been correctly identified and geographic positions are available they may be used to verify the accuracy of this radial plot for the area of T-9645.

Methods used in this photogrammetric plot were similar to those described for the photogrammetric plot for T-9639 to T-9645 incl., which is included in the Descriptive Report for T-9639.

Approved:

*Charles W. Clark*  
Charles W. Clark  
Officer-in-Charge

Respectfully submitted:

*J. Edward Deal Jr.*  
J. Edward Deal, Jr.  
Cartographer



92

PHOTOGRAMMETRIC PLOT REPORT (FINAL)  
Map Manuscripts No. T-9645, 9646 and 9653  
Project Ph-65(50)

A final radial plot was successfully concluded in the area of questionable accuracy on these quadrangles in the vicinity of Cape York, Alaska.

In addition to the triangulation stations KID, 1950 and TIN CITY, 1944 which are at the extremes of the subject area, station LOST RIVER, 1944, PEAK E, 1950, and AMS stations 27-024 B and 27-025 X were held rigidly in the radial plot. Hydro Station FID, 1950 as scaled from H-7838 also held rigidly. Triangulation station YORK, 1950 sub. pt. was not held in favor of KID, 1950 and the other control in the area. AMS Stations 67-034 Z and 67-042 A could not be properly identified from descriptions available and Station 67-057 Y was improperly identified and was not held in favor of the more identifiable KID near by.

Reference was made of the three possibilities for sub. pts. on Station YORK, 1950 in the tentative radial plot. The station was abandoned completely when it became evident stations KID and LOST RIVER would hold when the AMS Stations 27-024 B and 27-025 X were on.

Triangulation observations were not complete on Peaks EA, AD, and FA and they were cut in from the descriptions, and geographic positions are submitted on Form 524 in Photogrammetry files.

Since the subject area was not considered of the required accuracy, the final radial plot was authorized and is now successfully concluded, but the confliction with H-7838 cannot be resolved. However, it is pointed out that in the area where the soundings disagree and conflict with the shoreline in what appears to be a jump in a N/S direction, the horizontal control is the strongest for the control of the radial line plot, namely one Hydro Station KID, 1950, two 3rd order AMS Stations, and triangulation Station LOST RIVER, 1944 and a tie with KID, 1950 to the West on T-9647.

Therefore, it is concluded that the hydro survey in this particular area must be of questionable accuracy in view of the foregoing discussion and that the radial plot be accepted as correct. \*

Respectfully submitted

*Roscoe J. French*

Roscoe J. French

Approved:

E. C. Lunde  
Date: May 20, 1952

\* See Item 64 of the Review Report on page 13.

COMPILATION REPORT  
ADDENDA  
T-9646

31. Delineation:

A complete new compilation was detailed in the area of the final radial line plot, by graphic methods. No field inspection was available to aid in the delineation of shoreline and planimetry and all features shown are the compilers' interpretation only. The planimetry shown is more complete along shore and back to the bluff line than in the interior where only the streams and large braided rivers are shown.

32. Control:

See notes on Final Plot Report attached.

33. Supplemental Data:

None.

34. Contours and Drainage:

The drainage pattern has been detailed to the limits of photo coverage available. No contours.

35. Shoreline and alongshore details:

Although field inspection was not available and since there is but 2 feet of tide, no particular difficulty was encountered in showing the MHWL. ~~The shoreline was shown by a line drawn up by the shore along the bluff line. Attempts have been made to show the line features with the~~

36. Offshore details:

None.

37. Landmarks and Aids:

None.

38. Control for future surveys:

Form 524 shows the position of Hydro station MID, 1950 which was scaled from H-7830 and held in the plot.

39. Junctions:

Satisfactory junction was made with T-9647 and T-9648 to the East and T-9652 to the West.

-2-

40. Horizontal Accuracy:

Since a more accurate radial plot was realized for the area with the addition of AFS control, the shoreline and planimetry are considered adequate, and the confliction with H-7028 should be resolved in favor of T-9646.

41 thru 47, not applicable.

48. Geographic Name List:

A list of geographic names has been approved by Mr. Heck of the Nautical Chart Branch and is attached to this report.

# GEOGRAPHIC NAMES

Survey No.

T#9646

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	
Alaska									1
Seward Peninsula								USGB	2
Cape York									3
Lost River									4
King River									5
Bering Sea								USGB	6
Rand River				(with Lost River)					7
Kanagux River									8
YORK MTS.									9
									10
									11
									12
									13
									14
									15
									16
									17
									18
									19
									20
									21
									22
									23
									24
									25
									26
									27

Names underlined in  
red are approved  
7-12-51  
L. Heck

REVIEW REPORT T-9646  
Planimetric Map  
June 24, 1952

62. Comparison with Registered Topographic Surveys

T-9646 is the first large scale survey of this area and together with the other planimetric maps in this project should serve as a base for any new construction of nautical charts in the area of the SEWARD PENINSULA.

63. Comparison with Maps of Other Agencies

Reconnaissance Map of SEWARD PENINSULA,  
USGS, 1:500,000, 1918 Reprint 1935

Map of SEWARD PENINSULA, Lomen Commercial  
Company, 1:500,000, no date

USAF Pilotage Chart (76 D) NOME, 1:500,000  
August 1949

NOME DISTRICT, Alaska Road Commission,  
1:500,000, 1923 corrected to 1943

TELLER, ALASKA, USGS, 1:250,000, Advance  
PROOF 1951

A continuous coastal trail should extend the length of T-9646 from east to west according to the latter three maps.

Steep bluffs that descend at precipitous angles directly into the water        in at least two areas - one at 167° 13' through 167° 17' and the second at 167° 28' through 167° 30' - would seem to preclude the existence of a coastal trail along these stretches of shore.

There is no field inspection to verify the existence or the lack of such coastal trail on T-9646. The trails shown have been delineated after photographic examination and interpretation.

The first two of the above listed maps indicated that at one time a railroad (narrow gauge), telephone line and summer trail made turns northward up the LOST RIVER then NW along the RAND RIVER.

Drainage, lakes and other features are shown in greater detail than is possible at the scale of the above surveys.

There are no field notes to verify the use of the area west of the mouth of LOST RIVER as an airstrip as shown on the third and last of the above listed maps.

64. Comparison with Contemporary Hydrographic Surveys.-

H-7838	1:20,000	1950
--------	----------	------

Discrepancies\* between the inshore soundings of the above hydrographic survey (unreviewed at the date of the writing of this report), and the MHW line of this photogrammetric survey were noticed and reported R. H. Carstens of the Nautical Chart Branch on June 20, 1952 by this reviewer.

During the review of the above hydrographic survey these discrepancies\* were to be resolved so that the two surveys will be in agreement. \*-Resolved on H-7838 - See Review Nov. 1952 - RCU.

65. Comparison with Nautical Chart.-

Charts 9380	1:400,000	August 1951
9302	1:1,534,076	December 1950
9400	1:1,587,870	November 1950

The geographic position of CAPE YORK on T-9646 is more nearly at 65° 24' latitude and 167° 24' longitude rather than at 65° 25' latitude and 167° 30' longitude as found on Chart 9380.

A general change in direction of the shoreline - which determines the new position of CAPE YORK - occurs at the mouth of the KING RIVER on T-9646.\* Although the KING RIVER is not labelled on Chart 9380, this feature seems to be properly positioned longitudinally.

These two comments above apply to the U.S.G.S. TELLER, Alaska map mentioned in Item 63 above.

66. Miscellaneous.-

(a) FIELD INFORMATION - from this area northwestward to and around CAPE PRINCE OF WALES, shoreline inspection and establishment and identification of horizontal control was accomplished and originally included in Ph-46(49). See Season Report for Ph-46(49) dated 1 March 1950 by Marvin T. Paulson.

(b) FIELD EDIT - none for surveys in this project.

\*(Also see description of triangulation station YORK, 1950)

(c) POLITICAL BOUNDARIES - the Territory of Alaska is divided into four judicial divisions and these are then further subdivided into districts. All of project Ph-65(50) is within the SECOND JUDICIAL DIVISION, and with the exception of T-9654 (NOME DISTRICT), all of the surveys are within the PORT CLARENCE DISTRICT.

(d) SECURITY INFORMATION - Geographic positions of stations in this area are "CONFIDENTIAL" and have been removed from this report. All other material of this survey has the classification "RESTRICTED".

(e) Upon the relaying of the second photogrammetric radial plot with more and adequate control, further compilation inland was completed and the previous shore-line survey of this area was superseded by a planimetric map.

67. Adequacy of Results.-Although no opportunity was available, since there was no field edit, to make a horizontal accuracy test of the completed map, this survey conforms to project instructions and bureau standards.

Reviewed by:

L. Martin Gazik  
L. Martin Gazik

APPROVED:

S. V. Gifford 11/25/53  
Chief, Review Section  
Div. of Photogrammetry

J. E. Edmundson  
Chief, Nautical Chart Branch  
Division of Charts <sup>CDL</sup>

D. S. Reading  
Chief, Div. of Photogrammetry

Carl O. Hedstrom  
Chief, Div. of Coastal Surveys