

9237

Diag. Cht. No. 8802

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey TOPOGRAPHIC

Field No. Ph-8(46) Office No. T-9237

LOCALITY

State ALASKA

General locality BRISTOL BAY AREA

Locality TOGLAK BAY, EAST SHORE

194 7-48

CHIEF OF PARTY

C. W. Clark, Portland Office

A. N. Stewart, Chief of Party

LIBRARY & ARCHIVES

DATE Sept 8-1953

2329

DATA RECORD

T - 9237

Project No. (II): Ph-8(46)

Quadrangle Name (IV): ROCKY POINT

Field Office (II): Bristol Bay, Alaska

Chief of Party: A. Newton Stewart

Photogrammetric Office (III): Portland, Oregon
Washington, D.C.Officer-in-Charge: Charles W. Clark
Louis, J. Reed, Chief,
Stereomap Section
Copy filed in Division of
Photogrammetry (IV)

Instructions dated (II) (III):

II = 25 Apr 47 and 21 Apr 48
III = 19 Mar 48 and 4 Feb 49

Office Files

Method of Compilation (III): Reading Plotter

Manuscript Scale (III): 1:20,000

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

Scale Factor (III): 1:1

Date received in Washington Office (IV): **OV 2 1951** Date reported to Nautical Chart Branch (IV):

Applied to Chart No.

Date:

Date registered (IV): 3-11-53

Publication Scale (IV):

Publication date (IV):

Geographic Datum (III): NA 1927

Vertical Datum (III):

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 waterThe difference between Unadjusted Datum
and N.A. 1927 Datum is lat. plus/minus 10 m.
and Long. ~~plus~~ minus 7 m.

Reference Station (III):

Lat.:

Long.:

Adjusted ☒

Unadjusted

Plane Coordinates (IV):

State:

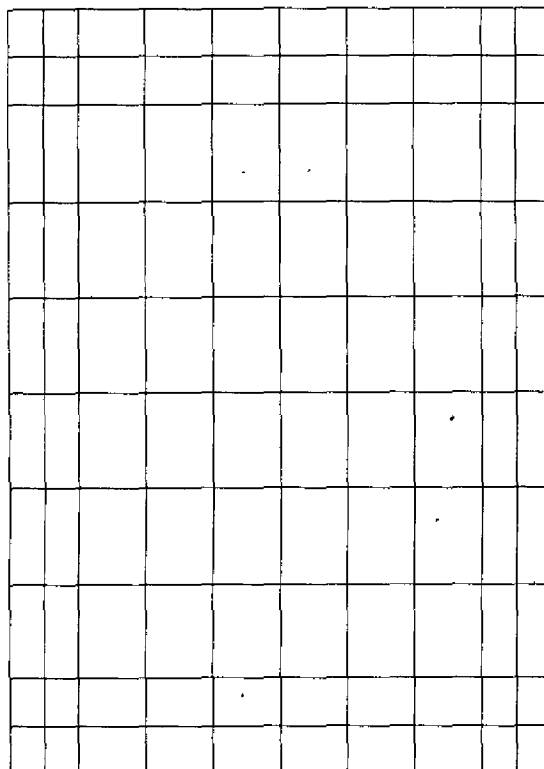
Zone:

Y=

X=

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

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



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

100% by Clarence E. Misfeldt on
 the Reading Plotter, model A,
 with Robert L. Sugden assisting
 as student operator.

DATA RECORD

Field Inspection by (II): A. Newton Stewart

Date: 1947-48

Planetable contouring by (II): None

Date: —

Completion Surveys by (II): None

Date: —

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

MHWL is dated 1947 since it was photo-identified during that year. It has been compiled on the Reading Plotter using this field identification as a guide.

Projection and Grids ruled by (IV): Theodore L. Janson on the Reading Ruling Machine

Date: 18 Oct 50

Projection and Grids checked by (IV): Harland R. Cravat

Date: 20 Oct 50

Control plotted by (III): C.C. Wiebe

Date: 28 Dec 50

Control checked by (III): H.B. Elrod

Date: 28 Dec 50

Radial Plot ~~on Stereoscopic~~ James L. Harris & Roy A. Davidson
Control extension by (III): ~~extension~~

Date: 4 Jun 51

delineation by: Planimetry
Stereoscopic Instrument ~~extension~~ (III): and
Contours

Date:
Clarence E. Misfeldt 2 Oct 51
Date:

compiled
Manuscript ~~extension~~ by (III):

Henri Lucas

Date: 25 Oct 51

Photogrammetric Office Review by (III): Louis J. Reed

Date: 30 Oct 51

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

Louis J. Reed

Date: 30 Oct 51

Camera (kind or source) (III): USC&GS camera model B, $f = 8.25$ inches

Number	Date	Time	Scale	Stage of Tide
28622 thru 28626				
and	13 Aug 50	clock stopped	20,000	unknown
28675 thru 28678				

Tide (III)

Reference Station: Nushagak Bay
 Subordinate Station: * Black Rock, Waleus Islands
 Subordinate Station:

Ratio of Ranges	Mean Range	Spring Range
	15'	20'
	6'	10'

Washington Office Review by (IV): *G.B. Willey*

Date: *11 June 1952*

Final Drafting by (IV): *M. Day*

Date: *10-52*

Drafting verified for reproduction by (IV): *L. Vander*

Date: *10-7-52*

Proof Edit by (IV): *L. Vander*

Date: *11-19-52*

Land Area (Sq. Statute Miles) (III): *76 sq mi*

Shoreline (More than 200 meters to opposite shore) (III): *28 miles*

Shoreline (Less than 200 meters to opposite shore) (III): *9 miles*

Control Leveling - Miles (II): *none*

Number of Triangulation Stations searched for (II):

Recovered:

Identified: *One*

Number of BMs searched for (II):

Recovered:

Identified:

Number of Recoverable Photo Stations established (III): *Five*

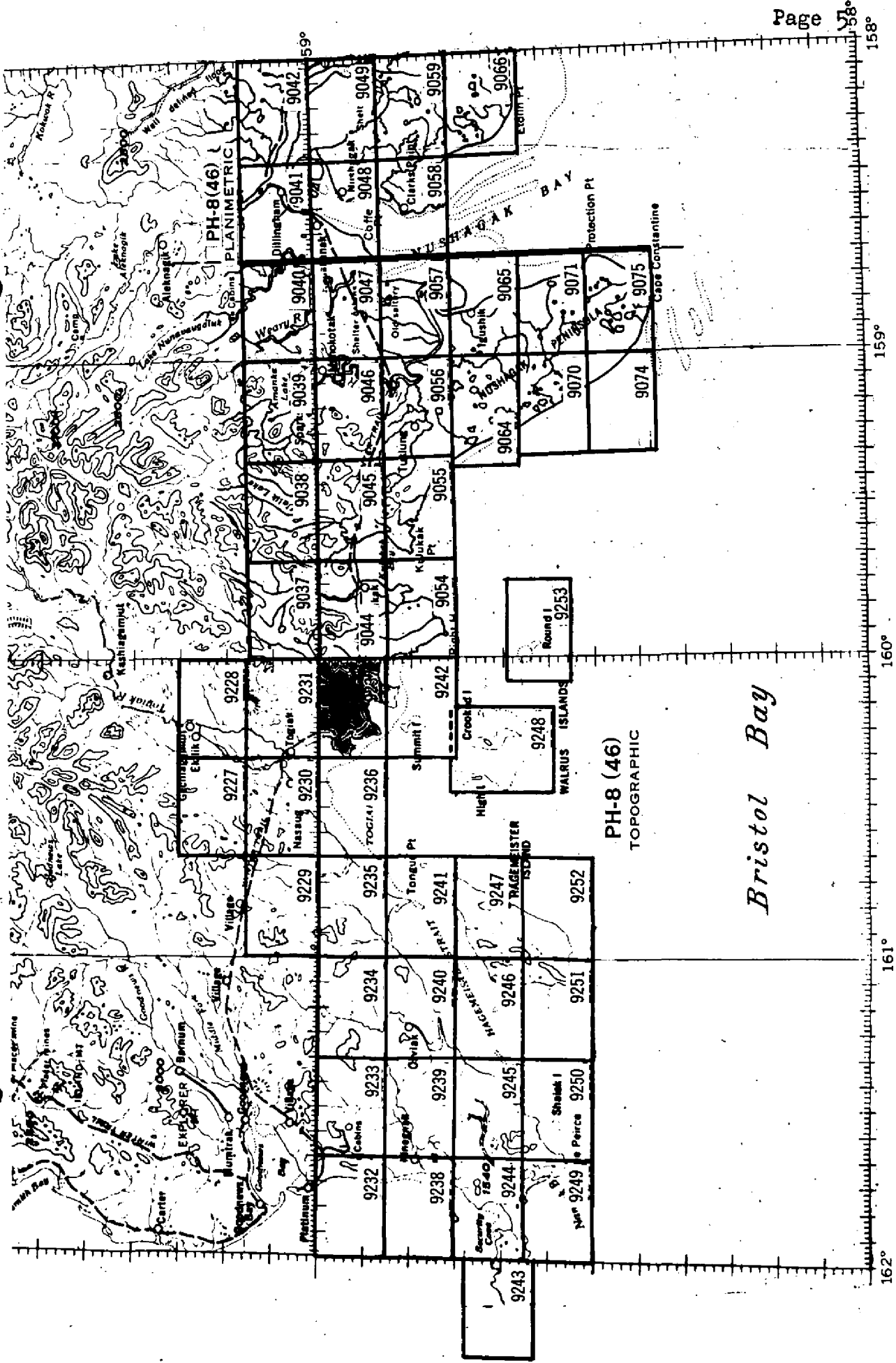
Number of Temporary Photo Hydro Stations established (III): *Fifteen*

Remarks:

* from 1951 predictions

TOPOGRAPHIC MAPPING PROJECT PH-8 (46)

ALASKA, Vicinity of Bristol Bay



Summary to Accompany T-9237

Ph-8(46) is a topographic map project consisting of 45 maps extending from Nushagak Peninsula to Cape Newenham and north to Goodnews Bay, including the off-shore islands, along the northern shore of Bristol Bay, Alaska. Ph-8(46)A consists of 23 planimetric maps covering the area from Egegik Bay to Nushagak Bay including Kvichak Bay, Alaska. Ph-8(46)B consists of 2 shoreline surveys. The hydrography has not been completed in the area of the topographic maps.

T-9237 covers the Vicinity of Rocky Point, Togiak Bay, off Bristol Bay, Alaska, extending from Latitude $58^{\circ}-52'-30''$ to $59^{\circ}-00'$ and from Longitude $160^{\circ}-00'$ to $160^{\circ}-20'$, at a scale of 1:20,000. Planimetry and contours were delineated on the Reading Plotter using photographs taken in 1950. The field inspection, consisting of the identification of control, selection of topographic and hydrographic station sites, establishment of vertical control and partial shoreline inspection, was accomplished in 1947.

A cloth-backed lithographic print of this map at the compilation scale and the descriptive report will be registered in the Bureau Archives. These maps will not be published. The vinylite manuscript and a copy of the Descriptive Report will be filed in the Division of Photogrammetry.

FIELD INSPECTION REPORT

2-20:

See two separate reports entitled:

PROJECT REPORT

AERIAL PHOTOGRAPH CONTROL AND INSPECTION

BRISTOL BAY, ALASKA

Project Ph-8(46) May to Jul 1948

A. Newton Stewart, Chief of Party

Library, No. 172

PROJECT REPORT

AERIAL PHOTOGRAPH CONTROL AND INSPECTION

BRISTOL BAY, ALASKA

Project Ph-8(46) May to Sep 1947

A. Newton Stewart, Chief of Party

Library, No. 138

*Reports filed in the Division of
Photogrammetry general files.*

Louis J. Reed, Chief
Stereoscopic Mapping Section
Photogrammetric Engineer

PHOTOGRAMMETRIC PLOT REPORT

Radial Plot "G" E

Project Ph-8(46)E

21: AREA COVERED:

This radial plot includes an area along the north shore of Bristol Bay between Togiak Bay and Nushagak Peninsula. It comprises map manuscripts numbers T-9037, T-9038, T-9044, T-9045, T-9054, T-9055, part of T-9228, part of T-9231, T-9237, and T-9242.

Refer to the Photogrammetric Plot Report for Radial Plot "F", Project Ph-8(46)E, which is included in the descriptive report for map manuscript T-9227 (1947 and 1948) for additional facts for the areas of T-9228 and T-9231.

22: METHOD:

The radial plot was run from nine-lens metal-mounted photographs by the methods recommended for radial plots to be contoured by the Reading Plotting Instrument. Ten Map Manuscripts of vinylite material, each ruled with a polyconic projection and a World Aeronautical Chart Grid of 2500 meter squares, were used.

At the east border of map manuscript numbers T-9038, T-9045, and T-9055, where these map manuscripts overlap and junction with map manuscripts T-9039, T-9046, and T-9056, are photogrammetric points previously located during the running of Radial Plot #2, Project Ph-8(46)E. These points were transferred to the map manuscripts in the Washington Office and are shown with 1.5 mm circles in red ink.

On map manuscripts numbers T-9228 and T-9231 are photogrammetric points previously located during the running of Radial Plot "F", Project Ph-8(46)E, in which the westernmost one-third of these map manuscripts had been included. These are shown with 3.0 mm circles in blue ink.

For the most part the area was covered by metal-mounted photographs taken in 1950. These were supplemented by metal-mounted photographs taken in 1946, 1947, and 1948.

Mr. Wm. D. Harris of the Washington Office was assigned to the Portland Office during part of January and February 1951 to instruct and train the personnel of this office in methods, developed in the Washington Office, when using the stereoscope and also in the use of various magnifying, pricking, and drawing instrument devices.

The photographs in an uncontrolled area in the north section of the radial plot were used for this training program. The photographs taken in 1950 in this area had been previously used in an uncontrolled test radial plot run in the Washington Office. They contained transferred conjugate centers and pass points in areas of low elevation, selected in the Washington Office.

The training program included the selection and transfer, by use of the prismatic stereoscope, of additional pass points for the area, the transfer of photogrammetric points from photographs taken in different years, which were used in a previous adjoining radial plot, and the transfer of identified peaks selected in the field for use as vertical control stations.

Upon completion of the training program, one employee was assigned the transferring of each respective identified horizontal control station, vertical control station, recoverable topographic station, and temporary photo-hydro station from its field print to an office photograph on which it most clearly appeared, one other employee was then assigned the selection of all pass points throughout the radial plot, the transferring of these ~~these~~ points and conjugate centers, and other photogrammetric points to all office photographs.

The methods used were in accordance with those advocated by Mr. Harris during the training program and were strictly adhered to for all phases of the work on the photographs.

Sheets of 36"x 36"x.005" clear vinylite were used for the templets.

The fiducial lines for the correction of paper distortion and transforming errors were carefully traced from the proper master calibration templet to sufficient vinylite sheets to furnish a templet for each photograph in the plot by scribing the lines with a very sharp knife. These cuts were filled with black wax pencil, the surplus was then removed, leaving lines of a very fine weight.

The radials were drawn on the templets with Craftint #111 Red Plastic Ink for radials through points having an elevation of less than 500 feet, and with Craftint #150 LH Black Ink for radials through points believed to have an elevation over 500 feet. Every effort was made to keep these lines to a minimum weight and yet remain legible.

The radials were not scribed with a knife because it might be desired to make minor corrections after the templets had been drawn.

Since vinylite material was used for the map manuscripts, separate sheets of base grids were not used.

All horizontal control stations and their substitute stations were plotted and checked on the map manuscripts.

The ten map manuscripts were joined together with cellulose tape and the templets were oriented directly on these joined map manuscripts.

In general paragraphs 7 to 17 incl. of side heading 22: "Method" of the Photogrammetric Plot Report for map manuscripts T-9238, T-9239, T-9243 to T-9245 incl., T-9249, and T-9250 which is included in the Descriptive Report for T-9238 (1948) are applicable.

The general impression left on the personnel of this office, after completion of the training program with Mr. Harris, is that a perfect radial plot should result from using the equipment, materials, and methods advocated. To the disappointment of everyone in the Portland Office this condition was not attained, although it is believed that the personnel made a most sincere effort to obtain this end. Mr. Harris left this office before any actual orientation of the templets was attempted and therefore had no opportunity to observe the difficulties which were encountered or to offer any advice or suggestions during the actual running of the radial plot. In any event, those who pricked the points on the photographs, with the use of the prismatic stereoscope, are confident that they have accomplished the operation as accurately as possible to do so with the photographs furnished.

In numerous instances there was no doubt of the accuracy of pricking certain points but a perfect intersection of radials for these points was not obtained. Also, where there are ten or more radials to a point, it is practically impossible to determine if a perfect intersection of radials has been obtained due to the thickness of the accumulated lines at the hub of the intersection.

For this plot it is believed that the geographic locations of the points shown on the map manuscripts are as accurate as it is possible to obtain in this radial plot from the available data but each radial to each point does not pass directly through its respective location (drilled hole) on the map manuscript.

The main causes for this condition are believed due to the facts outlined under side headings 23: "Adequacy of Control" and 25: "Photographs".

It is the opinion of those people in this office who are concerned with radial plot work that the following suggested methods and improvements of material and data would greatly contribute toward the attainment of a more perfect radial plot:

- (a) A circle of from 31 to 33 inches in diameter should be drawn on each photograph. No point should be pricked outside the area of this circle and no radial should be drawn through any point falling outside the area of this circle unless absolutely needed to control the orientation of the photograph. It is believed that the present end lap and side lap currently furnished for photographs will supply sufficient accurate rectification and pass points if the areas outside the suggested circle area are excluded. Poor intersections seem to be the result of radials drawn through points in the corners of photographs.
- (b) It is believed that where points fall on two or more sets of photographs taken in different years, especially where the stereoscopic model is poor, due to any one of various causes, that a picture point should be selected for a pass point which is an actual ground object, identifiable on all photographs, rather than one selected and transferred by use of the floating circles.
- (c) A more positive identification of horizontal and vertical control points in the field, including recoverable topographic stations and temporary photo-hydro stations, is believed necessary. It is understood that improvements can be expected along this line in future work.
- (d) A marked difference has been noted in scale, coloring and changes in planimetric detail between sets of photographs taken in different years. Also the use of different types of photograph paper when printing two different groups of photographs causes color differences which make it difficult to transfer points by use of the stereoscope. When these conditions exist, it is not believed possible to obtain a perfect radial plot.
- (e) Undetected errors of scale and azimuth are believed likely to occur in areas of radial plots which are extended beyond the limits of identified control stations, regardless of how perfect the intersections of radials appear or how accurately the work

seems to have been done. Specific cases of this condition have been noted in this office when revision radial plots were run in the areas of T-9358 in Project Ph-29(47), T-9375 in Project Ph-28(47), T-9645 in Project Ph-65(50), an area in the Columbia River in Project Ph-50(49), and in Radial Plot #2 of Project Ph-8(46)7. (For facts regarding this last instance refer to side heading 26: "Junctions" of this report.) It is suggested that any areas radially plotted outside the limits of identified horizontal control should be considered of sub-standard accuracy.

- (f) The development of a suggested device for drilling the locations of photogrammetric points is also believed necessary in order to show an accurate location of points on the map manuscripts.

23: ADEQUACY OF CONTROL:

The number of horizontal control stations available for controlling this radial plot were not considered adequate because the northeast half of the radial plot area is uncontrolled. This area included all of T-9228, T-9037, T-9038, the north half of T-9044, and the east half of T-9231. This uncontrolled area has been indicated on a sketch which is included with this report.

Upon investigation of the horizontal observations to certain vertical control stations, from which the Washington Office indicated that geographic positions might be computed, it was found that there was sufficient data to compute only the position of PEAK #1 (Dry Bay Azimuth Mark).

As suggested by Mr. Harris: An office evaluation of the identification of horizontal control stations was made and the only station believed to be positively identified was KULUKAK AZIMUTH MARK, 1948. One other station, namely OWENS, 1948, was assumed to be correctly identified because it appeared by office inspection of the 1950 photographs that the stand at the station could be seen. Both of these stations were held to rigidly. All other stations were considered doubtfully identified because they were either subject to assumptions made in the office when correcting erroneous field identifications, or the station was identified only by office inspection, or the sub stations selected for the station could not with surety be transferred to the 1950 office photographs. It is believed that the best results were obtained when the templates were oriented by holding rigidly to the two positive, identified stations and as described below for the other thirteen stations which are believed to be doubtfully identified.

In reading this section remember that these stations were identified in 1945 mostly by untrained geodetic personnel. In 1947 and 1950 work is doubtless much better.

SUMMIT, 1948

This station is not believed to be correctly pricked on field photograph #18089. By consultation with Comdr. A.N. Stewart and Mr. William Husemeyer a new identification was made. The point selected could not be held to by about 0.5 mm.

SUMMIT AZIMUTH MARK

The station was identified by office examination in the same manner as described above for SUMMIT, 1948. The point selected was held about tangent to the plotted point for most radials.

AMYLO

The two sub stations selected for this station were believed doubtful because of the difficulty in transferring from the field print to the 1950 office photographs and also between office photographs. Sub station #1 held fairly well in the radial plot. Sub station #2 was not held to by about 0.5 mm.

RIGHT HAND

The identifications were difficult to transfer to the 1950 photographs. Sub station "A" could not be held. The direct pricking of the station and of R.M.#2 were held to fairly well.

DRY BAY

Although the direct pricking of the station was difficult to transfer to the office photographs, it was held to fairly well. Sub station #3 was pricked but could not be held to. The other sub stations were indefinite and were not transferred to the office photographs.

DRY BAY AZIMUTH MARK

PEAK #1 which was identified as a vertical control station is believed to be the azimuth mark for station DRY BAY. It would have been necessary to disregard the direct pricking of DRY BAY if the field identification of this station was held to the computed position of DRY BAY AZIMUTH MARK. An intersection was obtained approximately 0.5 mm northwest.

KULUKAK

The direct pricking of the station on field print #18079 is believed to be in error. Sufficient data was available to compute another point indicated on the pricking card but an office identification of this point was very indefinite. Comdr. A.N. Stewart selected a point which he believed to be the location of the station but this point could not be held. The station was disregarded for use in the radial plot, although after completion of the plot, it is now probably possible to select a point which would appear to be the highest point of the rounded top and which would hold to the station position.

TOGIKAK

The direct pricking of the station was difficult to transfer to the office photograph but the station was held to during the running of the plot. Possible error of as much as 0.5 mm in identification.

UALIK

There was doubt about the accuracy of a positive identification of the center of a large white spot on the field photograph, which was indicated to be a direct pricking of the station. This point was transferred to the office photograph and held to. Possible error of as much as 0.5 mm in identification.

PEAK "S"

This was pricked by office inspection of the photographs and was held about tangent to the field computation position.

PEAK "O", 1947

PEAK "U", 1948

Same as vertical control station identified as PEAK "5". Held fairly well to the field computation position.

PEAK "C"

Same as vertical control station identified as PEAK 17. The point identified held to the field computation position.

CONE PEAK

Pricked by office inspection of the photographs and was held to during running of the radial plot. A vertical control station, PEAK #56, which was at first thought to be the same as CONE PEAK, is apparently on the same top about 150 meters north of CONE PEAK.

Refer to letter included in this report relative to PEAK "R".

24: SUPPLEMENTAL DATA:

There was no supplemental data furnished for the area.

25: PHOTOGRAPHY:

The coverage and overlap of the photographs were adequate. The definition on the 1950 photographs was excellent.

Difficulties encountered which are believed to be due to certain poor qualities of the photographs are:

A considerable difference in color tone between two groups of photographs caused poor stereoscopic models which resulted in an uncertain transfer of points between photographs.

Poor definition on most of the 1946, 1947, and 1948 photographs.

Considerable scale difference between the 1950 photographs and those taken in the other three years which contributed to poor stereoscopic models, especially in the extreme limits of the outer wings, causing an uncertain transfer of points.

At first, tilted photographs caused trouble in laying the plot, especially in obtaining intersections on elevated points. A preliminary radial plot was run and the results of this plot were used to examine all photographs for signs of tilt.

The tilt was computed for 12 photographs as follows:

18069---0°-52'	28634---2°-29'
18071---1°-07'	28659---0°-45'
28622---1°-51'	28662---1°-29'
28623---1°-09'	28663---0°-56'
28624---1°-18'	28666---3°-04'
28626---1°-49'	28667---1°-28'

From the above it can be seen that the tilted photographs existed for the most part in certain photographs falling in each of two flights. It was evident that a slight tilt in a photograph affected the radials in areas of high elevation, especially in the corners of the tilted photographs.

After the tilt was computed for the photographs, a new templet was made, corrected for tilt, using the mid point when drawing radials. These corrected templates could be oriented more satisfactorily in the radial plot.

It appears that the methods available to this office for the correction of a tilted photograph are not a complete solution to the problem, and therefore many radials in this radial plot are affected by undetected tilt which is one of the principle reasons for not attaining a perfect radial plot.

26: JUNCTIONS:

The ten map manuscripts in this radial plot are the remaining sheets of a total of 59 map manuscripts included in a large area along Bristol Bay from Kvichak Bay to Cape Newenham which had been assigned to the Portland Office for radial plotting. The work first started at the east end, or Kvichak Bay area, and proceeded westerly, by a series of radial plots, to the eastern limits of this radial plot or otherwise the west limits of radial plot #2. (Longitude 159° 20'). It had been originally intended to continue the radial plots westward but owing to priority demands the work was transferred to the vicinity of Cape Newenham and proceeded eastward by two radial plot areas to longitude 160° 20', or the western limits of this radial plot. Because of this method of grouping sheets in a series of radial plots, the eastern and western junctions of this radial plot area under discussion or of radial plot #2 were not tied into control stations and should be considered weak.

At the East Junction:

In order to furnish vertical control locations in the area of the previous Radial Plot #B, the plot was extended about 7 miles west of station EMIGNA and about 15 miles north of station COPE, creating an uncontrolled area of approximately 105 sq. miles. Points established at that time were transferred to the west margin of T-9038, T-9045, and T-9055 by the Washington Office and their locations are indicated by small circles with red ink.

In this Radial Plot "E" a junction could not be made with these points previously located in Radial Plot #B except at the southeast limits near station COPE and it may be necessary to revise the previous radial plot. The results of Radial Plot "E" are shown with 3.0 mm circles in blue ink.

At the West Junction:

For the same reasons as stated above an uncontrolled area of approximately 60 sq. miles developed within the limits of T-9228 and T-9231 in the previous Radial Plot "B".

In this case it was possible to make a good junction at longitude 160° 20', or the west limits of Radial Plot "E". The points formerly located in Radial Plot "B" are shown with 3.0 mm circles in blue ink. The new locations as established in Radial Plot "E", which are believed to be more accurate, are shown with 3.0 mm circles in red ink.

27: VERTICAL CONTROL:

The suggested general order for computations of vertical control as listed Comdr. A. Newton Stewart in his field reports, "May to September 1947" and "May to July 1948", Project Ph-8(46)B, was followed closely. In cases where the computed elevations were to be used in computations of other vertical control points, the weighted elevation was computed and used.

A check elevation computation was obtained in all cases with the following listed exceptions. Detailed reasons for each no check elevation are given in the following paragraphs.

PEAK "R"

For information concerning PEAK "R", reference is

made to the letter to the Director, dated 5 June 1951, a copy of which is included in this report.

PEAK #111

PEAK #111 could not be properly identified on office photographs because of clouded areas and therefore was not cut in by the radial plot.

PEAKS #14, 15, 19, 64, 66, 74, 95, and 96; also water surface spot elevations V-1011, V-1012, V-1013, V-1014, V-1084, V-1085, and V-1086:

For this list of points only one observation data for each was available for elevation computations.

PEAK #62

PEAK #62 was observed from station V-101 and topographic station JACK 1947. When the discrepancy between the computed elevations was investigated by plotting the horizontal angles from the instrument stations, it was indicated a wrong observation was made at JACK and that computation was rejected.

PEAK #63

PEAK #63 was observed from station V-101 and topographic station JACK 1947. When the discrepancy in the computed elevations obtained was investigated by plotting the horizontal angles at the instrument stations, it was indicated a wrong peak was observed at V-101, and that computation was rejected.

PEAK #110

PEAK #110 was computed from observations from stations V-102 and V-103. Because of the difference in elevations obtained, the horizontal angles from the stations were plotted and found to miss the radially plotted peak by approximately 18° from V-102 while a good pointing was indicated from V-103. The computation of elevation from V-102 was therefore rejected.

JACK 1947

The elevation at topographic station JACK 1947 was determined from observations at JACK to PEAK #56 and #57 and from field party hand level data from estimated mean high water at JACK. The computed elevation for JACK from PEAK #57 was investigated because of the large difference with the other two elevations obtained. When the horizontal angle from JACK to PEAK #57 was plotted, it indicated a wrong peak was observed.

KULUKAK POINT HIGHEST POINT

The elevation for KULUKAK POINT HIGHEST POINT could not be conclusively determined from available data. The computations from PIKE and PIKE AZ. MK. are not in agreement and it is believed the correct elevation can be determined upon examination and evaluation when observed in the Reading stereoscopic plotter.

In cases where difficulty was encountered in obtaining a check elevation, the records were examined for possible errors and the horizontal angles at the instrument station were plotted in an effort to discover the reasons for discrepancies. Explanations are included on the Forms 29D in each case.

All Forms 29D, containing all the information and data for each computation, are bound together and indexed as to map manuscript number and page number. A tabulation of all computed elevations, showing no check elevations, mean elevations, and weighted mean elevations is also included. This cahier is being submitted under separate cover titled, "Computation and Tabulation of Vertical Control in the Area of Radial Plot 'G', Project Ph-8(46)¹, Including Map Manuscripts #T-9031, T-9038, T-9044, T-9045, T-9054, T-9228, T-9231, T-9237, and T-9242".

When pricking vertical control points on office photographs, a thorough examination was first made under the stereoscope of the field identification in conjunction with the field data concerned. If errors were suspected after the analysis of available data, field personnel were consulted and an agreement reached before pricking was done.

The points were then pricked and transferred to all other office photographs on which it could be identified, by the floating dot or floating circle method.

Approved:

Charles W. Clark
Charles W. Clark
Chief of Party

Respectfully submitted:

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

Portland Photogrammetric Office
c/o Swan Island Postal Station
Portland 18, Oregon

5 June 1951

To: The Director
U.S. Coast and Geodetic Survey
Washington 25, D.C.

Subject: Error in triangulation data

The geographic position and elevation of Peak R, Bristol Bay to Kuskokwim Bay, Alaska furnished this office are apparently in error.

This is a no check position observed from Kulalak and Dry Bay. The elevation is listed as a check elevation. The listed position and elevation of Peak R are:

Latitude	58° 53' 52.45"
Longitude	159° 46' 58.83"
Elevation	420 meters 1378 feet

There is no peak at the above geographic position.

The direction from Dry Bay plots very close to the radial plot position of Peak 52 which is about 2060 meters northwest of the above geographic position. The direction from Kulalak was apparently observed on a peak southwest of the above position.

Vertical angles on Peak 52 were observed by a photogrammetric party from Pike and Pike Azimuth Mark. The vertical angle at Dry Bay on Peak R was computed from the data available. This vertical angle was then used with a scaled distance to Peak 52 and the elevation was computed for Peak 52 which agreed with the elevation computed from Pike and Pike Azimuth Mark. The computed elevation of Peak 52 is 434 meters.

Charles W. Clark
Lt. Comdr., USCG Survey
Officer-in-Charge

CWC/EF

COMPILATION REPORT

31. Delineation:

All contours and cultural feature have been delineated simultaneously on the Reading Plotter, model "A". Photo coverage was complete, but field inspection of the shoreline was not adequate according to present standards. All the land area within the limits of this quad has been mapped.

32. Control:

Horizontal control was not as adequate as desired ~~but~~ but a plot has been obtained which is considered to meet accuracy standards. The situation is discussed in the Radial Plot Report which begins on page 8 of this report.

Sufficient vertical control was furnished for contouring purposes in the area of this quad; it consisted of sea-level at the shoreline, and elevations on peaks and water surfaces back inland from the coast.

33. Supplemental Data:

a. Plotting Instrument Photos (metal-mounted):

28622 thru 28626, and 28675 thru 28678.

b. Field Inspection Photos:

18082, 18083, 18084, 18085, 18086, 18108, and 28677.

c. Graphic Control Surveys: None.

d. Hydrographic Surveys: None!

e. Computation Reference:

The Portland Photogrammetric Office compiled and Bound all their vertical control computations into one 70-page volume, entitled: COMPUTATION & TABULATION OF VERTICAL CONTROL IN THE AREA OF RADIAL PLOT "E", Project Ph-8B, including T-9038, T-9044, T-9045, T-9054, T-9055, T-9228, T-9231, T-9237, and T-9242.

34. Contours and Drainage:

The quality of the photographs used on the plotting instrument was satisfactory for contouring purposes, and no areas of questionable contours remain.

35. Shoreline and Alongshore Details:

Instrument photos were exposed at a lower tide than the field inspection photos and for this reason the compiler was able to map a good many details that were under water to the field inspector. Foul areas are instrument located.

36. Offshore Details:

Included in side-heading 35 above.

37. Landmarks and Aids:

None recommended by the field party in the area of this quadrangle.

38. Control for Futura Surveys:

a. Photo-hydro Stations:

A total of 15 such signals were selected by the field man and have been located on the map by the radial plot where they are named and are in correct symbol. The fifteen are numbered, 118, 119, 120, 121, 122, 123, 124, 109, 110, 111, 114, 159, 160, 162, and 169.

b. Photo-topo Stations:

Five have been positioned by the radial plot, AMOS, DOME, DUCE, LAKE, and RASP, all 1947. They are shown on the manuscript in proper symbol and name. All five were field selected, marked, and photo-ident'd.
Form 524 filed in Div. Photogrammetry general files.

39. Junctions:

T-9236 exists to the west but only a water edge exists between it and this quad. The other three edges have land matches and all three are in agreement, T-9231 to the north, T-9044 to the east, and T-9242 to the south.

40. Horizontal and Vertical Accuracy:

Standard. In addition the 25ft contour (and probably the 75ft contour) is considered to meet the standards for a 25ft contour interval. See Item 66 in the Review Report

46. Comparison with existing maps:

None exist.

47. Comparison with Nautical Charts:

None exist.

48. Geographic Name List:

See separate numbered page, following.

49. Notes for the Hydrographer:

See two separate unnumbered pages, following.

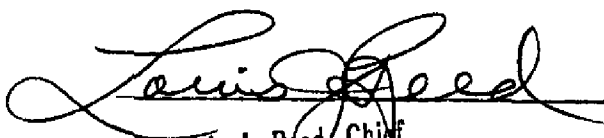
50. Compilation Office Review:

See T-2 form, numbered page, following.

Submitted by:


Orvis N. Dalbey,
Cartographer-Photogrammetric

Approved and Forwarded By:


Louis J. Reed, Chief
Stereoscopic Mapping Section
Photogrammetric Engineer

T-9237.

Geographic Names.

- Alaska
- Bristol Bay
- Togiak Bay
- Rocky Point
- Ungalikthluk River*
- Ungalikthluk* (1949 names report states that it is a permanent village)
- Nunavachak Lake*

Names underlined in red are approved. 3-26-52

*these are the latest spellings received from Commander Stewart.

<u>Signal No.</u>	<u>Photo No.</u>	<u>Description</u>
118 .	18084	Whitewashed highest boulder. Has yellow fungus growth on top. Six ft. below top of bluff.
119 .	18084	Whitewash rock face at toe of grass.
120 .	18084	Whitewash face of boulder at toe of grass point.
121 .	18084	Large jutting boulder 30 ft. off point of grass. 7 ft. sq. on top and 7 ft. high. Top level with toe of grass, 4 ft. below top of bluff and 6 ft. above MHW. MHW at outer base of rock.
122 .	18084	Whitewash boulder as per sketch on field photo.
123 .	18084	A cubical rock probably about 7 ft. each side at about low water line. Estimated awash at MHHW. This rock was not visited, was soon from the south. It would appear to be a good signal at lower stages of tide.
124 .	18084	Whitewash highest boulder at outer edge of rock and grass shelf 10 ft. below top of bluff. Selected in field but could not be identified on photo with equipment available. Sketch on field photo.
169 .	18083	The station is the extreme point of a ledge canted at an angle of about 30°.

b. Photo-Topo Stations *see item 38A*

<u>Name</u>	<u>Photo No.</u>	<u>Name</u>	<u>Photo No.</u>
AMOS 1947 .	18084	• LAKE 1947	18091
DOMÉ 1947 .	18085	• RASP 1947	18085
DUCE 1947 .	18084		

PHOTOGRAMMETRIC OFFICE REVIEW

T. 9237

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

CONTROL STATIONS

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

ALONGSHORE AREAS

(Nautical Chart Data)

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

PHYSICAL FEATURES

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

CULTURAL FEATURES

27. Roads ☒ 28. Buildings ☒ 29. Railroads ☒ 30. Other cultural features ☒

BOUNDARIES

31. Boundary lines ☒ 32. Public land lines ☒

MISCELLANEOUS

33. Geographic names ☒ 34. Junctions ☒ 35. Legibility of the manuscript ☒ 36. Discrepancy overlay ☒ 37. Descriptive Report ☒ 38. Field inspection photographs ☒ 39. Forms ☒ 40. ☒

41. Remarks (see attached sheet)

Louis J. Reed
 Supervisor, Review Section or Unit
 Louis J. Reed, Chief
 Stereoscopic Mapping Section
 Photogrammetric Engineer

FIELD COMPLETION ADDITIONS AND CORRECTIONS TO THE MANUSCRIPT

42. Additions and corrections furnished by the field completion survey have been applied to the manuscript. The manuscript is now complete except as noted under item 43.

Compiler

Supervisor

43. Remarks:

M-2623-12

HORIZONTAL DATUM ADJUSTMENT

Bristol Bay, Alaska

The subject maps were radial plotted on unadjusted (Field) datum which was subsequently adjusted to the North American 1927 datum by the Division of Geodesy. The datum correction has been computed for each sheet, and stamped into the Descriptive Report on page 1, and on the manuscripts and registered cloth-backed copies near the title block. However, as the title block of each clothback sheet contains the note, "1927 North American Datum", it was necessary to stamp the word, "(Unadjusted)" beside this datum note in the title block of each sheet.

See the special report, Horizontal Control Datum, Ph-8(46), Ph-8A(46), and Ph-8B(46), filed with the Completion Report for the project for details and lists of the maps, reports, and registration copies marked with this adjustment. The following is a list of the maps in the projects:

Ph-8(46), TOPOGRAPHIC

T-9038 thru T-9040
9044 " 9047
9054 " 9057
9064, -9065, -9070
9071, -9074, -9075
9227 thru 9253

Ph-8A(46), PLANIMETRIC

T-9041 thru T-9043
9048 " 9053
9058 " 9063
9066 " 9069
9072, -9073
9076, -9078

Ph-8B(46), SHORELINE

T-8873 (E&W) and T-8874