5577 5578
5579

Diag. Cht. Nos. 9103 and 9104.

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Planimetric

Field No. Ph-41(49) Office No. T-5577 to T-5579 Incl.

LOCALITY

State Alaska

General locality Kuskokwim Bay

Locality An area along the east shoreline of Kuskokwim Bay from Eek River to A point about 4 miles south of Warehouse ~~Creek~~.

1949-50

CHIEF OF PARTY

C.LeFever, Chief of Field Party
A.N.Stewart, Chief of Field Party
~~C.W.Clark, Portland Photo. Office.~~

LIBRARY & ARCHIVES

DATE July 17, 1958

B-1870-1 (1)

5577 5578 5579

DATA RECORD

T -5577 to T-5579 Incl.

Project No. (II): Ph-41(49)North Quadrangle Name (IV):

Field Office (II): Bethel, Alaska
Platinum, Alaska
Photogrammetric Office (III): Portland, Oregon

Chief of Party: Curtis LeFever
A. Newton Stewart
Officer-in-Charge: Charles W. Clark

Instructions dated (II) (III): 3 March 1949 (Stewart)
5 April 1949 (LeFever)
26 October 1950 (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): 9-25-51

Date reported to Nautical Chart Branch (IV):

Applied to Chart No.

Date:

Date registered (IV): 3/5/58

Publication Scale (IV):

Publication date (IV):

Geographic Datum (III): N.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

Reference Station (III): See paragraph 12 of Office Instructions.

Lat.:

Long.:

Adjusted
Unadjusted ✓

Plane Coordinates (IV):

State:

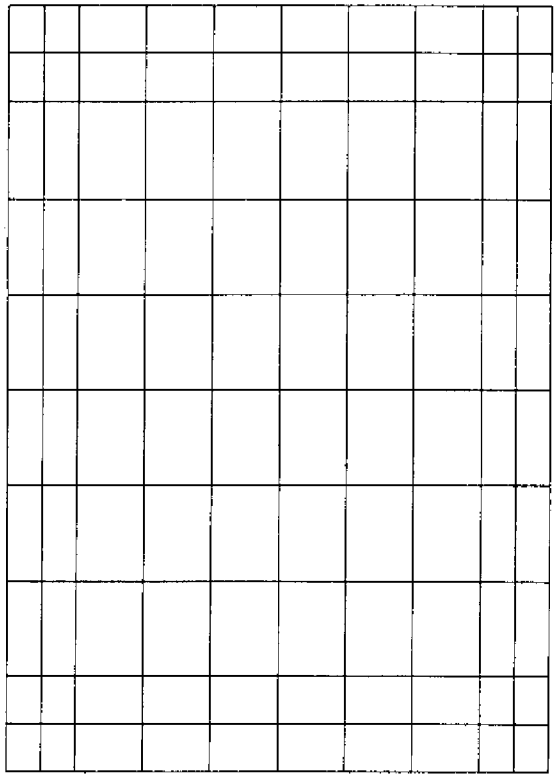
Zone:

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)
(II) (III)

DATA RECORD

Field Inspection by (II): C.H. Bishop, E.T. Ogilby, F.A. Martin, and C.A. Ennis (T-5577 and T-5578)
A. Newton Stewart, Chief of Party (T-5579)
Date: Season 1949

Planetable contouring by (II): Date:

Completion Surveys by (II): Date:

Mean High Water Location (III) (State date and method of location): Located in 1949 by field inspection on field photographs taken in 1945.

Projection and Grids ruled by (IV): Date:

Projection and Grids checked by (IV): Date:

Control plotted by (III): M.B. Elrod Date: Nov. 15, 1950

Control checked by (III): H. Laube Date: Nov. 15, 1950

Radial Plot or Stereoscopic Control extension by (III): H. Laube and C. Wiebe Date: Dec. 18, 1950

Stereoscopic Instrument compilation (III):
Planimetry Date:
Contours Date:

Manuscript delineated by (III):

		Date:
M.B. Elrod	T-5577	May 3, 1951
H.L. Laube	T-5578	Aug. 3, 1951
C.C. Wiebe	T-5579	June 11, 1951

Photogrammetric Office Review by (III):

		Date:
F.H. Elrod	T-5577	July 10, 1951
Ree H. Barron	T-5578	Aug. 9, 1951
Ree H. Barron	T-5579	Aug. 10, 1951

Elevations on Manuscript checked by (II) (III): Ree H. Barron Date: Aug. 10, 1951

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

PHOTOGRAPHS (III)

Number	Date	Time	Scale	4.4	Stage of Tide
28274 and 28275	8/8/50	11:31	1:20,000	~~13.9~~ ft.	above M.L.L.W.
28369 to 28375 incl.	"	14:05	"	~~9.7~~ ft.	" / "
28565 to 28569 incl.	"	Unknown	"	1.65	Unknown

Field Photos T-5577
14711 1945
14712 "
22937 1948
22938 "
22988B "
Kodak 620, 1949
pp. 2, 9, 10, 18, 57

Field Photos T-5578
14708 1945
14709 "
14713 "
22943 1948
22985 "
Kodak 620, 1949
pp. 3, 8-12, 19, 42-74

Field Photos T-5579
14706 1945
14707 "
22945 1948
22946 "
Kodak 620, 1949
p. 20

Tide (III)

Reference Station: Matarani, Peru
Subordinate Station: Apokat, Alaska, time diff = +2:40
Subordinate Station:

Ratio of Ranges	Mean Range	Diurnal ~~Spring~~ Range
	2.1	
4.1 H	9.4	12.0
1.7 L		

Washington Office Review by (IV): Date:

Final Drafting by (IV): Date:

Drafting verified for reproduction by (IV): Date:

Proof Edit by (IV): Date:

Land Area (Sq. Statute Miles) (III): 197
Shoreline (More than 200 meters to opposite shore) (III): 103
Shoreline (Less than 200 meters to opposite shore) (III): 96
Control Leveling - Miles (II):
Number of Triangulation Stations searched for (II): 10 Recovered: 10 Identified: 10
Number of BMs searched for (II): Recovered: Identified:
Number of Recoverable Photo Stations established (III): 6
Number of Temporary Photo Hydro Stations established (III): 14

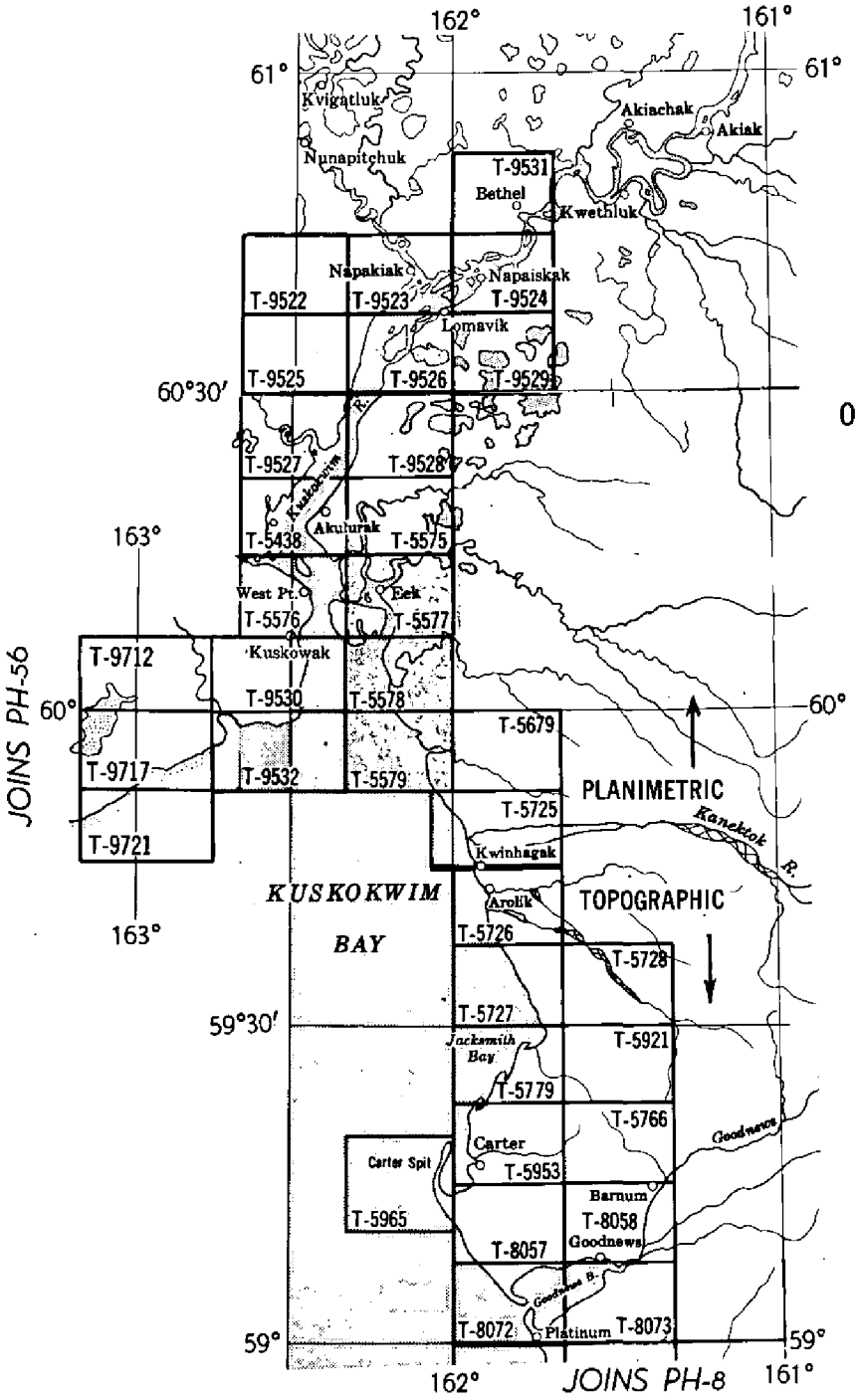
Remarks:

Tidal data:
Aug 8, 1950
Matarani High @ 4:32 = 2.5 ft Low @ 12:24 = 0.9 ft
Apokat " 7:12 = 8.25 ft. " 15:04 = 1.53 ft

M-2618-12(4)

PLANIMETRIC AND TOPOGRAPHIC MAPPING PROJECT PH-41

ALASKA-BERING SEA, Kuskokwim Bay to Goodnews Bay



OFFICIAL MILEAGE FOR COST ACCOUNTS

PLANIMETRIC Sheet No's.	Sq. St. Miles	TOPOGRAPHIC Sheet No's.	Sq. St. Miles
T-5438	55	T-5726	80
T-5575	54	T-5727	40
T-5576	65	T-5728	104
T-5577	80	T-5779	45
T-5578	45	T-5921	104
T-5579	35	T-5953	90
T-5679	108	T-5965	15
T-5725	104	T-5766	104
T-9522	18	T-8057	104
T-9523	65	T-8058	104
T-9524	76	T-8072	20
T-9525	65	T-8073	90
T-9526	65	TOTALS	900
T-9527	54		
T-9528	45		
T-9529	82		
T-9530	88		
T-9531	100		
T-9532	18		
T-9712	80		
T-9717	91		
T-9721	6		
TOTALS	1399		

PLANIMETRIC MAPS: Maps T-5438, T-5575 to T-5579, T-5725, T-9522 to T-9532, T-9712, T-9717 and T-9721.
TOPOGRAPHIC MAPS: Maps T-5726 to T-5728, T-5766, T-5779, T-5953, T-5965, T-8057, T-8058, T-8072 and T-8073

Compiled at 1:20,000 scale, from 1:20,000 scale nine-lens photographs taken August 1950 and 1:27,000 scale single-lens photographs taken August 1948. (Refer to Air-photo Index B-52-53 and E-1-2).

For field work done on 1945 photography (See Air-Photo Index E
For field work done on Tri-Met photography (See Tri-Met Index).

FIELD INSPECTION REPORT
Map Manuscripts T-5577 to T-5579 Incl.
Project Ph-41(49) North

Refer to:

PROJECT REPORT
KUSKOKWIM BAY AND RIVER
Project Ph-41(49) North June-July 1949
Curtis LeFever, Chief of Party

PROJECT REPORT
AERIAL PHOTOGRAPH CONTROL AND INSPECTION
KUSKOKWIM BAY, ALASKA
Project Ph-41(49) May to July 1949
A. Newton Stewart, Chief of Party

Summary to Accompany T-5577-9

Project Ph-41(49) consists of 22 planimetric and 12 topographic surveys. The planimetric surveys cover the east and the west sides of Kuskokwim River from Kwinhagak to Bethel. The topographic surveys extend from Goodnews Bay to Kwinhagak.

The field work for the project was executed in the summer of 1949 under A. Newton Stewart in cooperation with the geodetic party in project G-949 under Curtis LeFever.

After the maps for the project have been reviewed, smooth-drafted, and reproduced, a Project Completion Report will be written. It will include a brief summary of the project, a listing of the various records and reports, and a set of the project instructions.

A ~~cloth-backed~~ CRONAR copy of each map and the descriptive reports will be registered and filed in the Bureau Archives.

PHOTOGRAMMETRIC PLOT REPORT
Map Manuscripts T-5577 through T-5579, T-5679 and T-5725
Project Ph-41(49) North

21: AREA COVERED:

This photogrammetric plot covers an area about 8 miles wide along the east shoreline of Kuskokwim Bay, Alaska from Kwinhagak to Eek Island. It comprises map manuscripts Nos. T-5577 to T-5579 incl., T-5679 and T-5725.

22: METHOD:

The radial plot was run by the usual hand templet method.

Photographs taken in 1945, 1948, and 1950 covered the area. The 1950 photographs provided adequate coverage and were used for the radial plot.

Five map manuscripts of vinylite material, each ruled with a polyconic projection and a Universal Transverse Mecatbr grid system of 2500 meter squares were used. The five map manuscripts were joined together with cellulose tape and the templets were oriented directly on the combined sheets.

Master calibration templet No. 27380 was used for paper distortion corrections and for the correction of transforming errors.

Templets of the photographs were made on sheets of .005" clear acetate.

The radial plot was run without any unusual difficulties. All identified horizontal control stations were held to except the substations for KOVAK, 1949 and EEK POINT, 1949. In these cases a direct identification of the stations, by use of the hand held camera photographs, was held. See side heading 23: "Adequacy of Control" for additional facts.

The intersections of radials to photogrammetric points were excellent and it is believed that the results are well within the limits of accuracy required for the project.

The photogrammetric points and photograph centers were transferred to the map manuscripts by turning the combined radial plot, with templets attached, face down on the radial plot table and then drawing circles of the proper size at the point of their locations determined by the radial plot.

There was an adequate number of horizontal control stations identified for use in controlling this radial plot except for the area in T-5679 and T-5725 lying east of the flight line for photographs Nos. 28570 to 28575. In this area there is a possibility that the planimetric detail is of sub-standard location.

23: ADEQUACY OF CONTROL:

The 1949 field parties made near vertical photographs, with a hand held camera, of each identified horizontal control station and of the photogrammetric stations to be located by radial plot. These photographs were very useful in identifying the stations and sub stations on the 1950 office photographs. In most instances the station stand or other marking could be clearly seen and these were pricked on the 9-lens office photographs. These direct identifications were given more weight than a sub station if there was the slightest doubt about the sub station identification.

For junction purposes the radial plot was extended to include stations ENHIAK to the north, HELMICK PT., WEST PT., and POPOK to the west, and AROLIK to the south.

24: SUPPLEMENTAL DATA:

There were no supplemental data furnished for the area of this radial plot.

25: PHOTOGRAPHY:

The 9-lens photography taken in 1950 was adequate.

26: REMARKS:

Forms M-2388-12, Control Station Identification, are omitted in accordance with the office instructions.

A sketch is included showing the locations of photograph centers, horizontal control stations and topographic stations.

Approved:

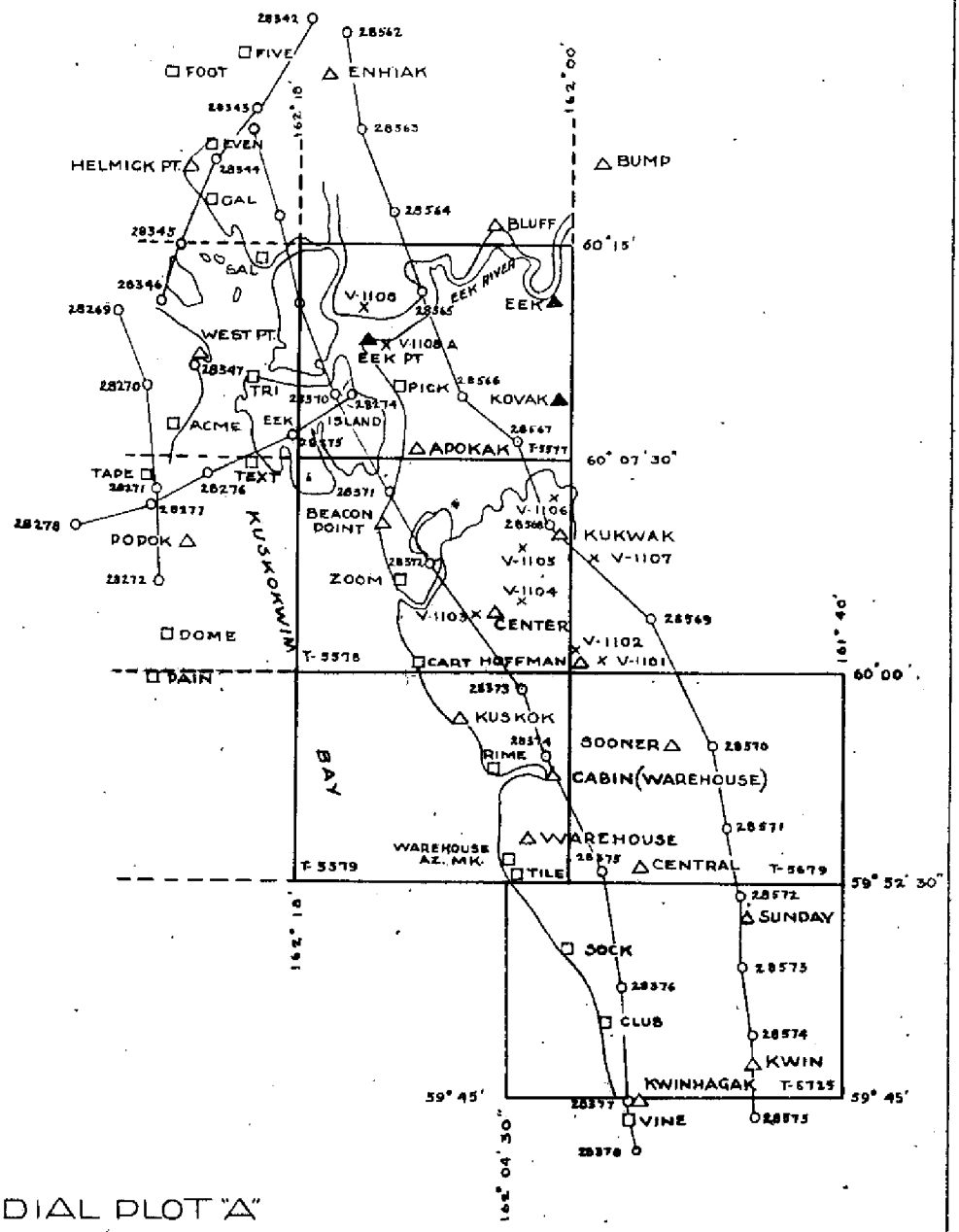
Charles W. Clark

Charles W. Clark
Officer-in-Charge

Respectfully submitted:

J. Edward Deal Jr.

J. Edward Deal, Jr.
Cartographer



RADIAL PLOT "A"
PH-41 (49) NORTH
KUSKOKWIN BAY, ALASKA

△ HORIZONTAL CONTROL
▲ HORIZONTAL CONTROL DISCUSSED IN DESCRIPTIVE REPORT
□ TOPOGRAPHIC STATIONS

COMPILATION REPORT
Map Manuscripts Nos. T-5577 to T-5579 Incl.
Project Ph-41(49) North

31: DELINEATION:

Graphic methods were used for the compilation of these map manuscripts.

Field inspection delineation and notes were entered on the trimetrogen photographs and the 1948 nine lens photographs. It consisted for the most part of spot locations of the mean high water line and photo interpretation of shoreline features.

Planimetric details have been shown to the extent of photograph coverage.

32: CONTROL:

Refer to side headings 22 and 23 of the Photogrammetric Plot Report which is included in this descriptive report.

33: SUPPLEMENTAL DATA:

There were none furnished for the area of these map manuscripts.

34: CONTOURS AND DRAINAGE:

Contours are not applicable.

In general the drainage has been delineated by stereoscopic examination of the photographs.

35: SHORELINE AND ALONGSHORE DETAILS:

The mean high-water line was indicated on the field photographs at a sufficient number of places to enable the compiler to adequately delineate this feature throughout the area.

All of the alongshore details indicated by field inspection or visible by office examination of the photographs have been detailed.

The limits of mud flat areas have been shown as they appeared on photographs taken when the predicted tide indicated a water level of about 9.0 ft. above M.L.L.W. The mean range in this area is 9.7 ft. above M.L.L.W.

36: OFFSHORE DETAILS:

There were no offshore details indicated by field inspection and none were observed by office examination of the photographs.

37: LANDMARKS AND AIDS:

There are none in the area of these three map manuscripts.

38: CONTROL FOR FUTURE SURVEYS:

Forms 524 are being submitted for the following recoverable topographic stations:

In T-5577

PICK, 1949

In T-5578

CART, 1949 ZOOM, 1949

In T-5579

RIME, 1949 TILE, 1949 WAREHOUSE AZ. MK., 1948

These stations along with the radially plotted photo-hydro stations are listed under side heading 49: "Notes to the Hydrographer".

The photo hydro stations were selected and described by the field party by office examination of the field photographs. The number given for each of these stations was assigned at the Photogrammetric Office.

39: JUNCTIONS:

Complete and satisfactory junctions have been made with adjoining map manuscripts.

40: HORIZONTAL AND VERTICAL ACCURACY:

Vertical accuracy is not applicable.

There are no areas within the areas of these 3 map manuscripts believed to be of sub-normal accuracy.

41: VERTICAL CONTROL:

There were only sufficient field data to compute no-check elevations for the identified vertical control stations.

Stations and elevations are shown on the map manuscripts as follows:

In T-5577

V-1108	Elev. 7 ft.
V-1108A	Elev. 4 ft.

In T-5578

V-1101	Elev. 3 ft.
V-1102	Computed elev.-8.9 m. rejected [E. of limit of T-5578]
V-1103	Elev. 4 ft. } See Review Report regarding accuracy.
V-1104	Elev. 17 ft. }
V-1105	Elev. 32 ft.
V-1106	Elev. 5 ft.
V-1107	Elev. 1 ft.

Computations for the above are being submitted with this descriptive report.

It is noted that the horizontal directions taken by the triangulation party on the above stations do not in all cases exactly verify the radially plotted position of the vertical control stations. The directions do indicate, in each case, that the observations were made on the same pond or lake surface as that on which each picture point was identified.

46: COMPARISON WITH EXISTING MAPS:

None were available to the photogrammetric office for comparison purposes.

47: COMPARISON WITH NAUTICAL CHARTS:

A visual comparison was made with Nautical Chart No. 9103, Sept. 1916, (2nd edition) last printed 10/30/50, Scale 1:200,000.

A visual comparison was made with Nautical Chart No. 9104, Oct. 1918 (3rd edition) last printed 12/27/48, Scale 1:100,000.

The planimetric details common to the map manuscripts and charts are in general disagreement.

Items to be applied to nautical charts immediately:

None

Items to be carried forward:

None

Approved:

Charles W. Clark

Charles W. Clark
Officer-in- Charge

Respectfully submitted:

J. Edward Deal Jr.

J. Edward Deal, Jr.
Cartographer

48: GEOGRAPHIC NAME LIST:

Final geographic names were furnished this office on copies of the following maps:

Aeronautical Chart: - Bethel (1196) Alaska
U.S.G.S. Alaska Reconnaissance Topographic Series Map, Bethel, Alaska
U.S.G.S. Alaska Map 18: - Goodnews District Alaska
Nautical Chart (Kuskokwim Bay) No. 9103

T-5577

Apokak Creek - (From description of triangulation station APOKAK, 1949)
Eek
Eek Island
Eek Point
Eek [redacted] Summer Village
Eek River
Eenayarak River
Apokak Creek

For title: Kuskokwim River

Names approved 5-26-54
L. Heck
(per LTS)

48: GEOGRAPHIC NAME LIST:

Final geographic names were furnished this office on copies of the following maps:

Aeronautical Chart: - Bethel (1196) Alaska
U.S.G.S. Alaska Reconnaissance Topographic Series Map; Bethel, Alaska
U.S.G.S. Alaska Map 18: - Goodnews District Alaska
Nautical Chart (Kuskokwim Bay) No. 9103

T-5578

Apokak Creek (From description of triangulation station APOKAK, 1949)
Beacon Point
Eek Channel
Eek Island
Eek River
Kuskokwak Channel
Kuskokwak Creek
Kuskokwim River
Apokak Creek

Names approved 5-26-54
L. Heck
(per LTS)

48: GEOGRAPHIC NAME LIST:

Final geographic names were furnished this office on copies of the following maps:

Aeronautical Chart: - Bethel (1196) Alaska
U.S.G.S. Alaska Reconnaissance Topographic Series Map; Bethel, Alaska
U.S.G.S. Alaska Map 18: - Goodnews District Alaska
Nautical Chart (Kuskokwim Bay) No. 9103

T-5579

Eek Channel
Kuskokwim Bay
~~Kuskokwim~~ Channel Kuskokwak (correct on map)
Warehouse Bluff
Warehouse Channel
Warehouse Creek

For the title: Kuskokwim River

Names approved 5-26-54
L. Heck
(per LTS)

49: NOTES FOR THE HYDROGRAPHER:

See side heading "Hydrographic Stations" on page #9 of PROJECT REPORT for Project Ph-41(49) North KUSKOKWIM BAY AND RIVER June - July 1949, Curtis LeFever, Chief of Party.

Refer to side heading 38: "Control for Future Surveys" of this descriptive report.

T-5577

			Field Photos
110	-	Center of westerly of two small ponds	22 938
111	-	S.W. tip of indentation is S.W. side of large pond	22 937
112	-	North tip of marsh	22 938
113	-	S.E. tip of bank on north side of small slough	"
114	-	N.E. tip of bank at mouth of ditch	"

Recoverable topographic station:

PICK, 1949

49: NOTES FOR THE HYDROGRAPHER:

See side heading "Hydrographic Stations" on page #9 of PROJECT REPORT for Project Ph-41(49) North KUSKOKWIM BAY AND RIVER June-July 1949, Curtis LeFever, Chief of Party.

Refer to side heading 38: "Control for Future Surveys" of this descriptive report.

T-5578

104 - NoW. corner of square pond
105 - North tip of small pond
106 - North tip of long narrow lake
107 - North tip of pond
108 - North tip of indentation in east shore of pond
109 - West tip of large pond
115 - South tip of bank at fork in slough

Recoverable topographic stations:

CART, 1949 ZOOM, 1949

49: NOTES FOR THE HYDROGRAPHER:

See side heading "Hydrographic Stations" on page #9 of PROJECT REPORT for Project Ph-41(49) North KUSKOKWIM BAY AND RIVER June-July 1949, Curtis LeFever, Chief of Party.

Refer to side heading 38: "Control for Future Surveys" of this descriptive report.

T-5579

102 - East tip of short slough where it abruptly comes to an end.

103 - East tip of bank on west side of turn in small slough

Recoverable topographic stations:

RIME, 1949 TILE, 1949 WAREHOUSE AZ. MK., 1948

Form T-2

PHOTOGRAMMETRIC OFFICE REVIEW

T-5577 thru 5579 Incl.

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 alongshore 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. Ree H. Brown — Reviewer

J. Edward Deal Jr. — Supervisor, Review Section or Unit

41. Remarks (see attached sheet)

FIELD COMPLETION ADDITIONS AND CORRECTIONS TO THE MANUSCRIPT

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

____ Compiler

____ Supervisor

43. Remarks:

M-2623-12

Review Report
Planimetric Maps T-5577-9
25 May 1954

61. General.-: The terrain in the area covered by these three surveys is predominantly low, and is very wet in the stream valleys. These low, wet areas are delineated by the marsh symbol.

South of Warehouse Creek (T-5579) the regional elevation is somewhat greater so that drier tundra "islands" or margins of wide valleys display a low, soft-shouldered bluff, and ponds are surrounded by tracts which cover at times of more abundant water. The drier tundra islands and benches are differentiated from the much wetter tundra by means of the bluff symbol; and the inundation areas around ponds are delineated by the flood symbol. By these means a three-step elevation is suggested, though the wetness of the intermediate zone must be inferred.

Vertical control stations V-1003 and V-1004 in the vicinity of triangulation station Center on T-5578 were labeled "Use with caution". The field inspection photograph (14713) on which these points were pricked was not available during review so that no comparison could be made for verification purposes. The pricking card for V-1003 indicates that a point on the shoreline 80 ± ft. northeast of the position on the map manuscript is the correct one, but, because the elevation is that of the pond's water surface, the exact location is not of primary importance. The location was not changed during review.

62. Comparison with Registered Surveys.- No earlier topographic surveys were made for this area.

63. Comparison with Maps of Other Agencies.-

USGS Baird Inlet (Recon.) 1:250,000, 1951
USGS Kuskokwim Bay (Recon.) 1:250,000, 1951

That portion of the quadrangles included in T-5577-9 was taken from a USAF base map and USC&GS Chart 9103. Surveys T-5577-9 supersedes the planimetry on the quadrangles except for the trail for which no information was furnished by the 1949 field inspection.

64. Comparison with Contemporary Hydrographic Surveys.- No hydrographic surveys have been made since 1914-15.

65. Comparison with Nautical Charts.-

9103 1:200,000 at 59° 20', Sept. 1916, rev. Oct. 1950
9104 1:100,000, Oct. 1918, rev. Mar. 1952

Except for soundings, T-5577-79 supersedes the charts in this part of Kuskokwim Bay.

The tripod charted on the point just south of Kuskokwak Creek (T-5578) is probably destroyed. The structure was built over temporary triangulation station Kwak, 1914, at the time the station was established. In 1949 field inspection included delineation of the MHWL at that point. Had the tripod been standing, it would have been a noteworthy feature and the inspector would have mentioned it.

Accuracy.-These three surveys comply with project instructions and meet the National Standards of Accuracy.

Reviewed by:

Lena T. Stevens

Lena T. Stevens

APPROVED

L. C. Lande
Chief, Review Branch
Div. of Photogrammetry

Max B. Ricketts
Chief, Nautical Chart Branch
Div. of Charts

H. W. Swanson
Chief, Div. of Photogrammetry

Chief, Div. of Coastal Surveys

8 July 1958

PMJ