9690 THRU 9695

9690 THRU 9695

9302 Diag. Cht. No.

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

# DESCRIPTIVE REPORT

Type of Survey Topographic

Field No. Ph-56 Office No. T-9690 thru T-9695

LOCALITY

State Alaska

General locality Bering Sea

Locality Hazen Bay to Angyoyaravak Bay

194

CHIEF OF PARTY

M.J.Tonkel, Chief of Field Party

E.H.Kirsch, Baltimore Photo. Office

~~L.W.Swanson, Div. of Photo. Wash.,D.C.~~

LIBRARY & ARCHIVES

DATE November 10, 1959

8-1870-1 (1)

# DATA RECORD

T

T-9690 Aprothluk River
T-9691 Manokinak River
T-9692 (Partial)
T-9693 Opagyarak River
T-9694 Hazen Bay
T-9695 (Partial

Project No. (II): 24090 (PH-56)

Quadrangle Name (IV):

Field Office (II): Portland, Oregon

Chief of Party: M. U. Tonkel

Photogrammetric Office (III): Baltimore, Md.
Washington, D.C.

Officer-in-Charge: E. H. Kirsch
L.W. Swanson

Instructions dated (II) (III):
8 Sept 1949 14 Dec 1951
2 April 1951 21 Dec 1951
21 May 1951

Copy filed in Division of *Photogrammetry (IV)*

Method of Compilation (III): Reading Nine-lens Plotters

Manuscript Scale (III): 1:20,000

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

Scale Factor (III): —

Date received in Washington Office (IV):

Date reported to Nautical Chart Branch (IV):

Applied to Chart No.

Date:

Date registered (IV): 10/17/58

Publication Scale (IV):

Publication date (IV):

Geographic Datum (III): N. A. 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 water

Reference Station (III):

Lat.:

Long.:

Adjusted
Unadjusted

Plane Coordinates (IV): UTM

State:

Zone:

Y=

X=

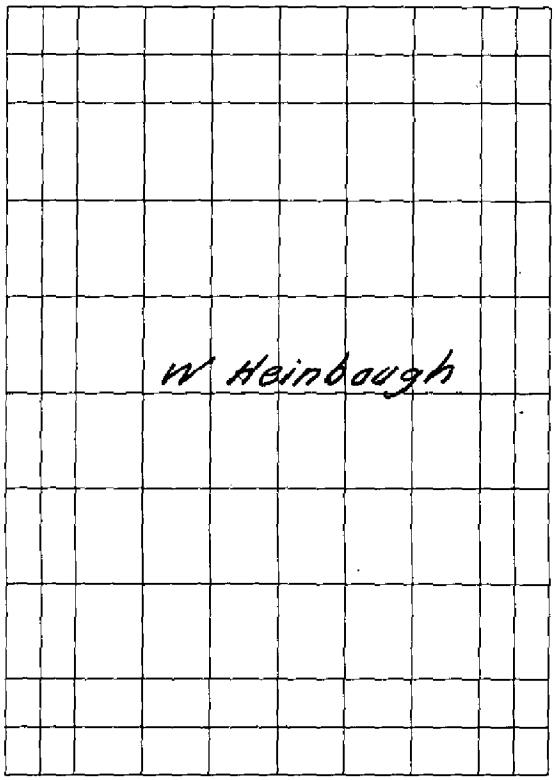
Roman numerals indicate whether the item is to be entered by (II) Field Party, (III) Photogrammetric Office, or (IV) Washington Office.

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



M-2618-12(4)

T-9690 thru T-9695




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

# DATA RECORD

Field Inspection by (II): V. E. Serena — Date: May-Sept 1951

Planetable contouring by (II): None — Date:

Completion Surveys by (II): None — Date:

Mean High Water Location (III) (State date and method of location): From nine-lens photos and field inspection 1951

Projection and Grids ruled by (IV): A. Riley — Date: Feb. 1955

Projection and Grids checked by (IV): A. Riley — Date: Feb. 1955

Control plotted by (III): J. L. Schleupner — Date: April 1955

Control checked by (III): J. Steinberg — Date: April 1955

Radial Plot or Stereoscopic Control extension by (III): E. L. Williams — Date: Sept 1955

L. A. Senasak — Dec. 1955

Stereoscopic Instrument compilation (III): Planimetry W. Heinbaugh — Date: Nov. 1956

Contours — Date:

Manuscript delineated by (III): W. Heinbaugh, J. B. McDonald — Date: Nov. 1956

Photogrammetric Office Review by (III): L. Levin — Date: Dec. 1956

Elevations on Manuscript checked by (II) (III): L. Levin — Date: Dec. 1956



M-2618-12(4)

Camera (kind or source) (III): Reading Nine Lens Camera "B"

PHOTOGRAPHS (III)

| Number | Date | Time | Scale | Stage of Tide |
|---|---|---|---|---|
| 28507 - 513 | 8/13/50 | 11:20* | 1:20;000 | ** |
| 28514 | 8/14/50 | 11:30* | | |
| 28840 - 847 | 8/14/50 | 12:10* | | |
| 29032 - 038 | 8/14/50 | 17:00* | | |
| 38082 - 088 | 7/19/52 | 9:05 | | |
| 38100 - 107 | 7/19/52 | 9:30 | | |

* Times are approximate.

Tide (III)

Diurnal

| Ratio of Ranges | Mean Range | Spring Range |
|---|---|---|
| | | 8.5' |
| | | |
| | | |

Reference Station: Kodiak
Subordinate Station: **
Subordinate Station:

Washington Office Review by (IV): T-9690 Harrington T-9691 Dempsey Date: 5-19-58 5-9-58

Final Drafting by (IV): JOHN H. FRAZIER (T-9692) T-9693 Daugherty T-9694 Chehlik T-9695 Taylor Date: 6/20/58 5-20-58 5-4-58

Drafting verified for reproduction by (IV): Wm O. Hellmin Date: 8-1-58 8-28-58

Proof Edit by (IV): Date:

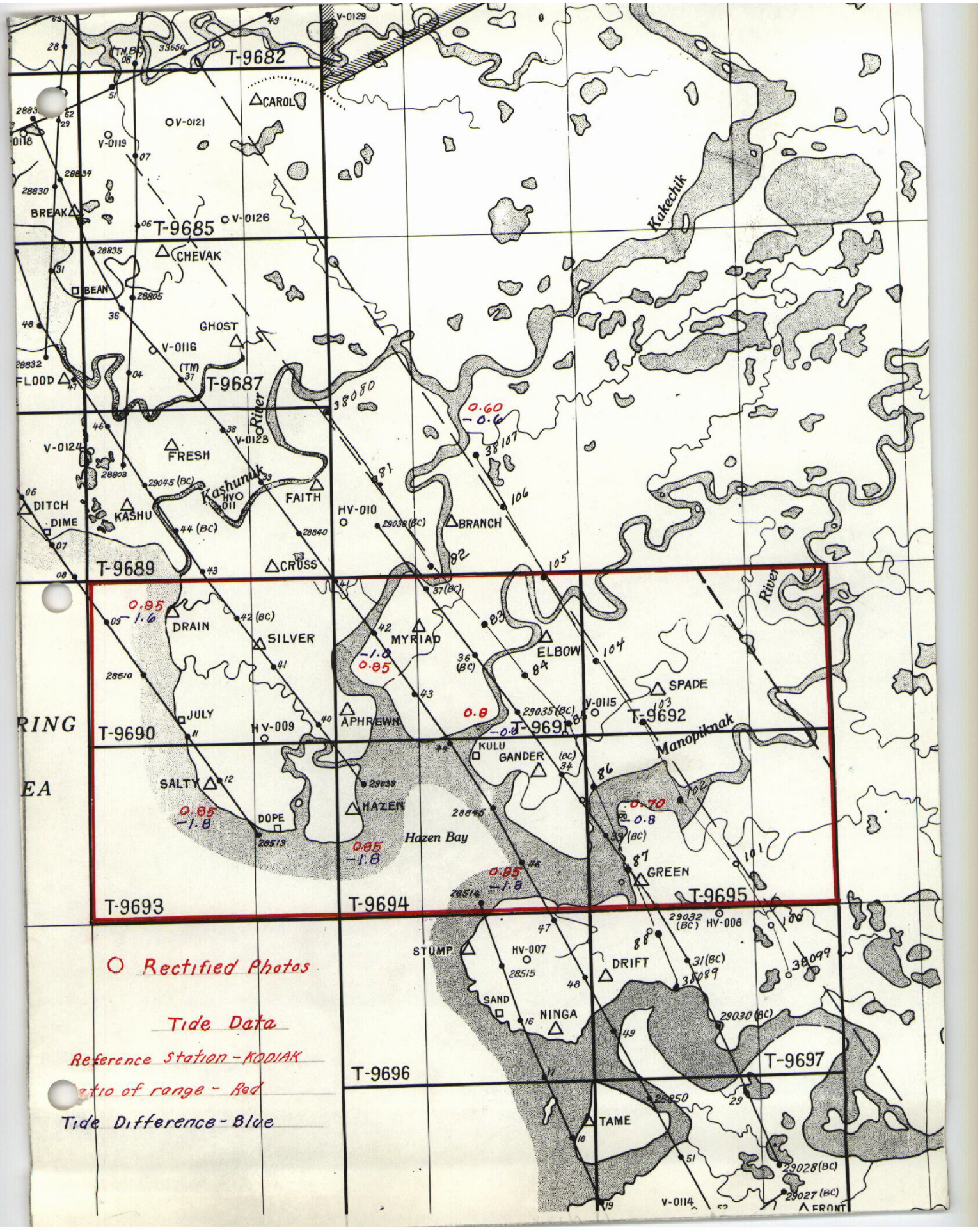
Land Area (Sq. Statute Miles) (III):
Shoreline (More than 200 meters to opposite shore) (III):
Shoreline (Less than 200 meters to opposite shore) (III):
Control Leveling - Miles (II):
Number of Triangulation Stations searched for (II): Recovered: Identified:
Number of BMs searched for (II): Recovered: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

Remarks:

** See index and tide curves on following pages.



M-2618-12(4)


T-9682
T-9685
T-9687
T-9689
T-9690
T-9691
T-9692
T-9693
T-9694
T-9695
T-9696
T-9697
CAROL
CHEVAK
BEAN
GHOST
FLOOD
FRESH
FAITH
DITCH
DIME
KASHU
CROSS
BRANCH
DRAIN
SILVER
MYRIAD
ELBOW
SPADE
JULY
APHREWN
KULU
GANDER
SALTY
DOPE
HAZEN
Hazen Bay
GREEN
STUMP
DRIFT
SAND
NINGA
TAME
FRONT
Kakechik
Kashunuk River
Manopiknak River
V-0129
V-0121
V-0119
V-0126
V-0116
V-0124
V-0123
V-0115
V-0114
HV-010
HV-009
HV-007
HV-008
0.60 −0.6
0.85 −1.6
0.85 −1.8
0.8
0.70 −0.8
Rectified Photos
Tide Data
Reference Station - KODIAK
Ratio of range - Red
Tide Difference - Blue

Station: Kodiak, Alaska 1950

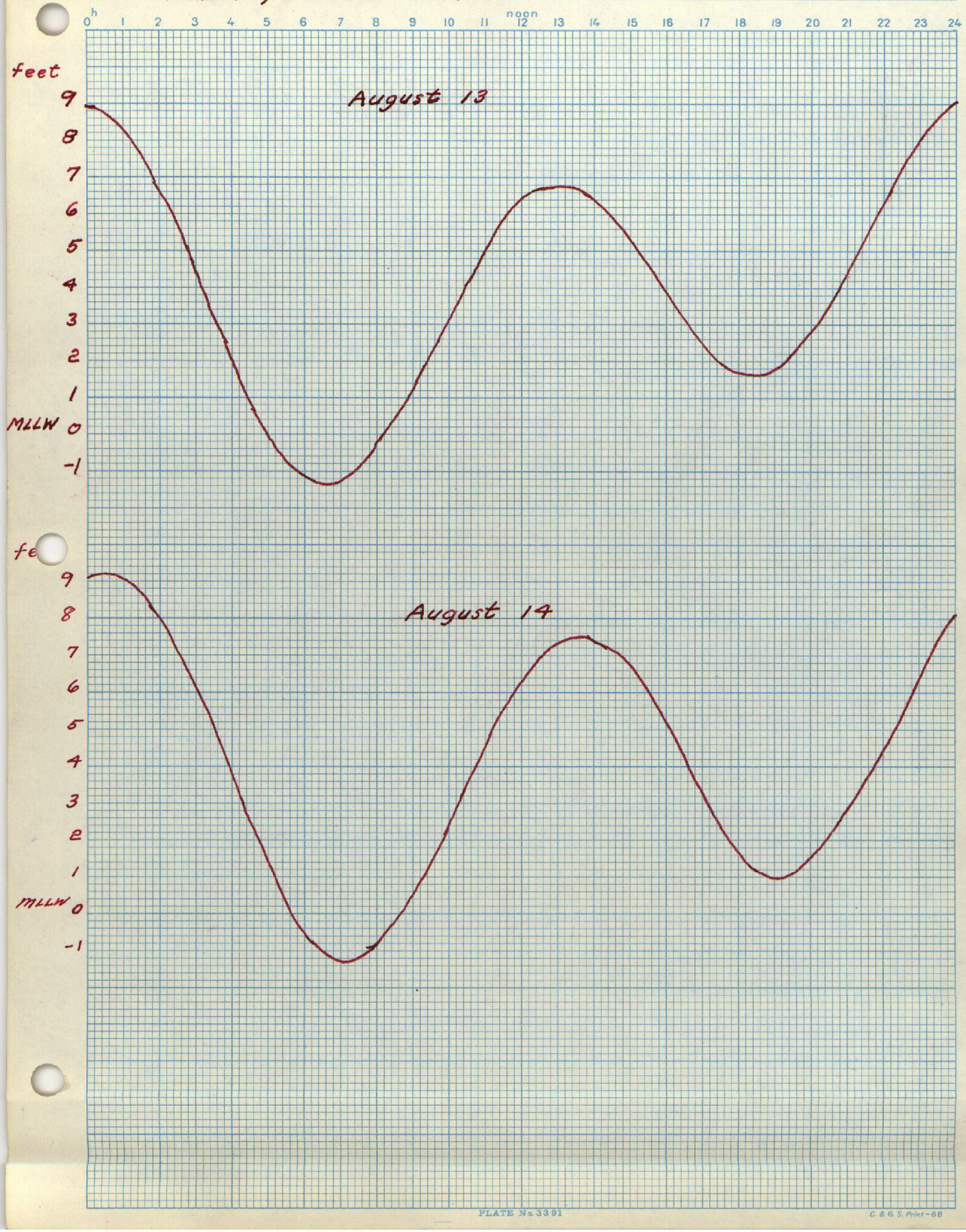



PLATE No. 3391

C. & G. S. Print-68

Station: Kodiak Alaska July 19, 1952

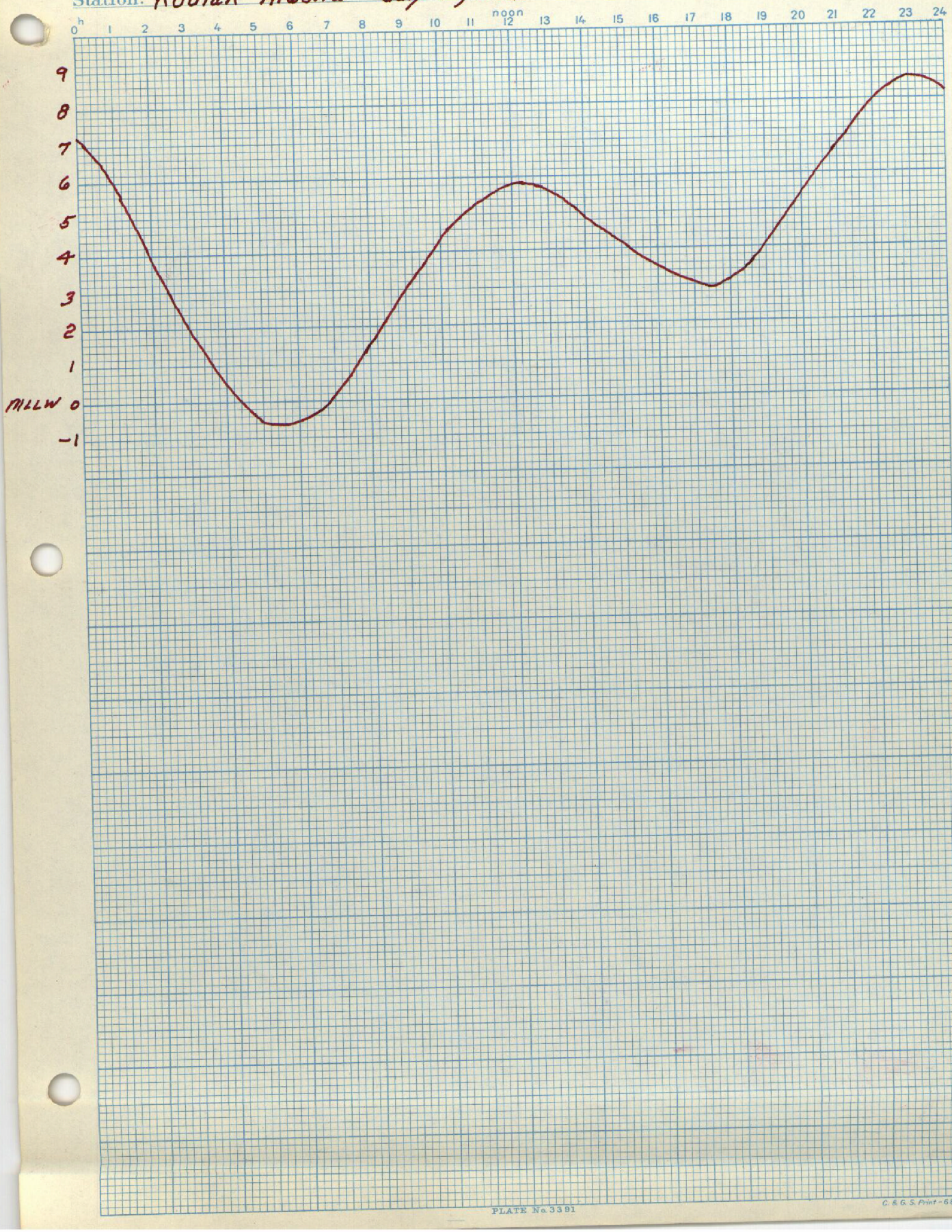



PLATE No. 3391

C. & G. S. Print - 68

FIELD INSPECTION REPORT

T 9690 thru T 9695

The field inspection report for the entire project is included in the report for T 9679

PHOTOGRAMMMETRIC PLOT REPORT
Project 6056
Surveys T-9691, T-9692 & T-9694 thru T-9697 (T-9690 is included with descriptive report for T-9686 thru 9689)

21. AREA COVERED

This radial plot covers the area of Surveys T-9691, T-9692 and T-9694 thru T-9697. These surveys cover the area between Kekechik River and Ningaluk River in Hazen Bay on the west coast of Alaska. The surveys will be compiled with the Reading Plotter.

22. METHOD - RADIAL PLOT

Map manuscripts:
Vinylite sheets with polyconic projections in black and Universal Traverse Mercator grids in red, at a scale of 1:20,000, were furnished by the Washington Office.

All control stations and substitute stations were plotted using the beam compass and meter bar.

A sketch showing the layout of these surveys and the distribution of photograph centers and control is attached to this report.

Photographs:
All photographs used were nine-lens metal mounted photographs at a scale of 1:20,000. Thirty-eight (38) photographs were used in the plot - numbered as follows:

28514 thru 28519
28843 thru 28852
38083 thru 38092
38096 thru 38107

Templets:
Vinylite templets were made from all photographs using a master templet to adjust for errors due to chamber displacements. Radial lines were scratched on the templets and scratches were filled in with china marking pencils. Red pencil was used for all shoreline (Rectification) pass points and black pencil was used for all other radial lines.

Closure and Adjustment to Control:

This radial plot was laid directly on the map manuscripts beginning with photograph 38083 and continuing southeasterly to photograph 38092. Then the flight starting with photograph 38107 was laid extending it southeasterly to photograph 38096. These two flights were continuous and adequately controlled; and, offered a good base for adding the two flights 28843 thru 28852 and 28514 thru 28519 to the west.

The flights laid for this plot resulted in a rigid plot. No difficulty was encountered in extending from the previous plot for surveys T-9686 thru T-9690 and T-9693 to the north and east of this plot to control station INLET, 1951; SLUMP, 1951; and FRONT, 1951 at the southern end of this plot.

22. METHOD - RADIAL PLOT (cont'dO

Closure and Adjustment to Control: (cont'd)

An effort was made to extend this plot to the southerly end of the flights laid as listed under sub-paragraph headed "PHOTOGRAPHS", and to effect a tie between these north-south flights and flight 28522 thru 28528 which is an east-west flight. However, control station GRASS, 1951 and PATCH, 1951 could not be held. This difficulty could not be resolved without the addition of more map manuscripts and flights of photographs for which the plot table was not large enough. For this reason, the plot was stopped at control stations which could be held with certainty. The pass points and photograph centers were pricked off only to the southern limits of surveys T-9696 and T-9697. It is felt that the positions of these pass points are all within the standards of accuracy and that the difficulty in the area around GRASS, 1951 and PATCH, 1951 will be resolved to the next plot.

Transfer of Points:

The position of all centers, pass points and control stations were pricked on the top templets and circled with a 3 mm circle. They were then established on the remaining templets and map manuscripts by drilling down through them with a small (.01 inch) jewlers drill. All points were circled on each remaining templet as it was removed, and finally on the map manuscripts.

23. ADEQUACY OF CONTROL

The horizontal control was adequate for a satisfactory radial plot in the area covered by this report. All control stations were held.

24. SUPPLEMENTAL CONTROL

None

25. PHOTOGRAPHY

The definition of the photographs was good, and the coverage was adequate for the area of this report.

Though several tilted photographs were used in this plot, no tilt determination was necessary because the degree of tilt was not enough to affect the plot.

One of the fiducial marks was missing in chamber 4 and one in chamber 8 on all the 1952 photographs.

Some conjugate centers were pricked in the Washington Office before the photographs were received in this office. It was noted that many of the circles were not round as if made by a faulty pen. Those circles on conjugate centers in line of flight were corrected.

26. VERTICAL CONTROL

No field identified V-points in this area were pricked in the office because there are sufficient shoreline pass points for rectification, and V-points are all in marsh.

The elevation of STUMP, 1951 is 4.8 meters (16 feet). In a stereoscopic study of the area, this elevation appears to be too high.* * See compilation report T-9696

27. RECOVERABLE TOPOGRAPHIC STATIONS

The positions of all recoverable topographic stations which were identified were established in the radial plot. Those identified by a substitute point were plotted with a steel protractor and meter bar before the map manuscripts were disassembled.

Respectfully submitted
14 December 1955

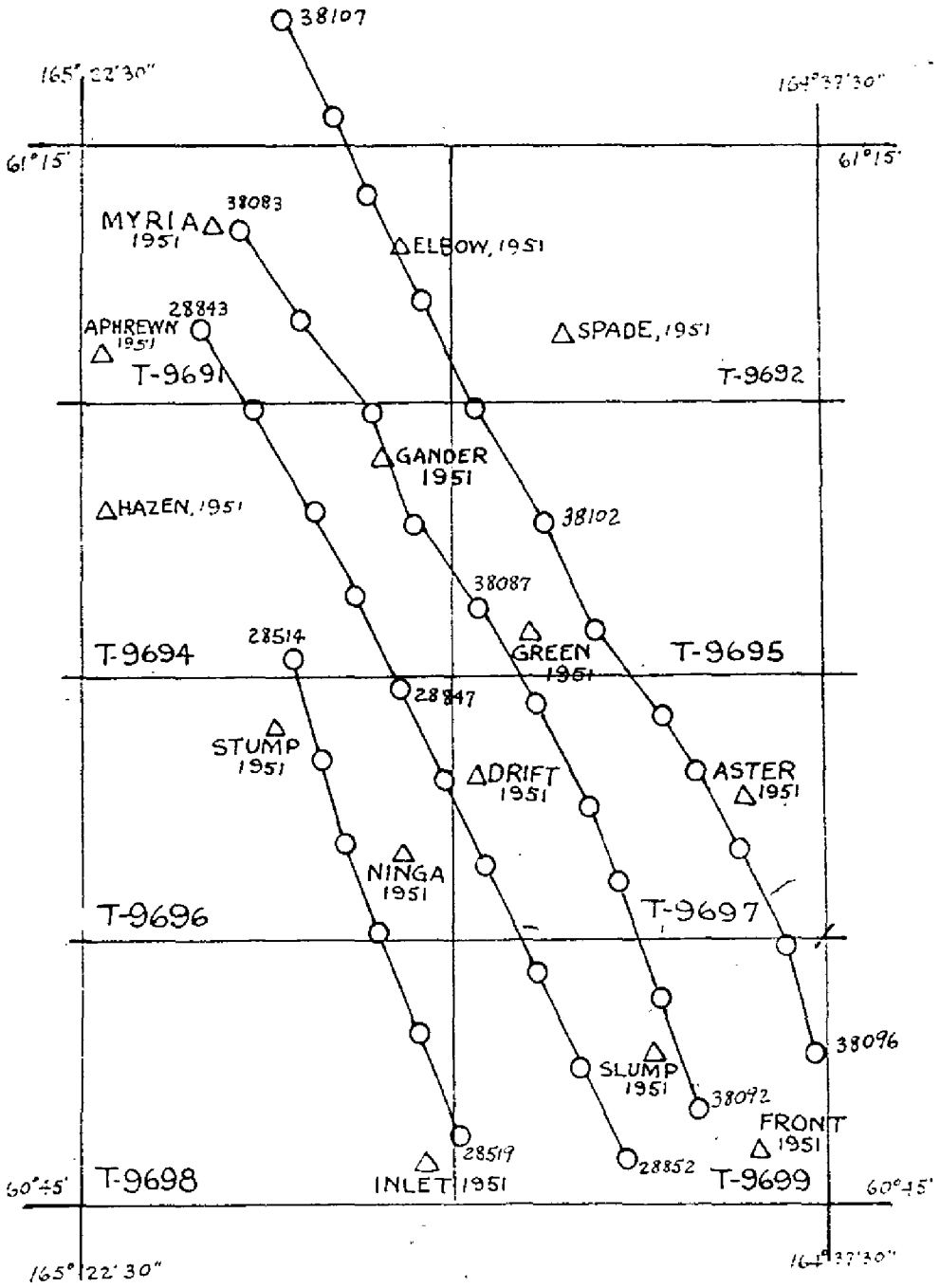
Leroy A. Senasack

Leroy A. Senasack
Carto. Photo. Aid

Approved and forwarded

E. H. Kirsch

E. H. Kirsch
Comdr. U.S.C.& G.S.
Officer in charge
Baltimore District Office




# LAYOUT SKETCH

## PROJECT 6056

SURVEYS T-9691, T-9692 & T-9694 thru T-9697

O Nine lens office photographs

△ Control stations identified

FORM 164 (4-23-54) RESTRICTED

U.S. DEPARTMENT OF COMMERCE COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT CONTROL RECORD

MAP T-9691 PROJECT NO. Ph-56 SCALE OF MAP 1:20,000 SCALE FACTOR

| STATION | SOURCE OF INFORMATION (INDEX) | DATUM | LATITUDE OR $y$-COORDINATE / LONGITUDE OR $x$-COORDINATE | DISTANCE FROM GRID IN FEET. OR PROJECTION LINE IN METERS FORWARD | (BACK) | DATUM CORRECTION | N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD | (BACK) | FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD | (BACK) |
|---|---|---|---|---|---|---|---|---|---|---|
| MYRIAD, 1951 | IV pg.382 | NA 1927 | 61 13 16.528 | | | | 511.6 | (1345.7) | | |
| | | | 165 14 27.883 | | | | 416.2 | ( 479.4) | | |
| Sub. Pt. A MYRIAD, 1951 | | " | 61 13 | | | | 471.1 | (1386.2) | | |
| | | | 165 14 | | | | 427.5 | ( 468.1) | | |
| Sub. Pt. B MYRIAD, 1951 | | " | 61 13 | | | | 460.7 | (1396.6) | | |
| | | | 165 14 | | | | 415.7 | ( 479.9) | | |
| ELBOW, 1951 | IV pg. 382 | " | 61 12 37.783 | | | | 1169.5 | ( 687.8) | | |
| | | | 165 03 51.001 | | | | 761.5 | ( 134.4) | | |
| Sub. Pt. A ELBOW, 1951 | | " | 61 12 | | | | 1233.1 | ( 624.2) | | |
| | | | 165 03 | | | | 697.9 | ( 198.0) | | |
| Sub. Pt. B ELBOW, 1951 | | " | 61 12 | | | | 1223.2 | ( 634.1) | | |
| | | | 165 03 | | | | 679.5 | ( 216.4) | | |
| APHREWN, 1951 | IV pg. 383 | " | 61 09 34.335 | | | | 1062.8 | ( 794.4) | | |
| | | | 165 21 54.683 | | | | 817.8 | ( 79.5) | | |
| Sub. Pt. A APHREWN, 1951 | | " | 61 09 | | | | 1111.8 | ( 745.4) | | |
| | | | 165 21 | | | | 806.0 | ( 91.3) | | |
| Sub. Pt. B APHREWN, 1951 | | " | 61 09 | | | | 964.0 | ( 893.2) | | |
| | | | 165 21 | | | | 789.7 | ( 107.6) | | |
| | | | | | | | | | | |
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| | | | | | | | | | | |
| | | | | | | | | | | |

1 FT. = .3048006 METER

COMPUTED BY: C. O. DeMarr DATE 9/13/54 CHECKED BY: A. Queen DATE 4/18/55

COMM-DC-57843

FORM 164
(4-23-54)

RESTRICTED

U.S. DEPARTMENT OF COMMERCE
DESCRIPTIVE REPORT

COAST AND GEODETIC SURVEY
CONTROL RECORD

MAP T-9692 PROJECT NO. Ph-56 SCALE OF MAP 1:20,000 SCALE FACTOR

| STATION | SOURCE OF INFORMATION (INDEX) | DATUM | LATITUDE OR $y$-COORDINATE / LONGITUDE OR $x$-COORDINATE | DISTANCE FROM GRID IN FEET. OR PROJECTION LINE IN METERS FORWARD | (BACK) | DATUM CORRECTION | N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD | (BACK) | FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD | (BACK) |
|---|---|---|---|---|---|---|---|---|---|---|
| SPADE, 1951 | IV pg.382 | N.A. 1927 | 61 09 28.247 | | | | 874.4 | ( 982.8) | | |
| | | | 164 54 44.813 | | | | 670.2 | ( 227.1) | | |
| Sub. Pt. A SPADE, 1951 | | | 61 09 | | | | 864.0 | ( 993.2) | | |
| | | | 164 54 | | | | 689.5 | ( 207.8) | | |
| Sub. Pt. B SPADE, 1951 | | | 61 09 | | | | 896.1 | ( 961.1) | | |
| | | | 164 54 | | | | 648.6 | ( 248.7) | | |

1 FT. = .3048006 METER

COMPUTED BY: C. C. DeMarr DATE 9/13/54

CHECKED BY: A. Queen DATE 4/18/55

COMM-DC-57843

FORM 164
(4-23-54)

RESTRICTED

U.S. DEPARTMENT OF COMMERCE COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT CONTROL RECORD

MAP T-9694 PROJECT NO. Ph-56 SCALE OF MAP 1:20,000 SCALE FACTOR

| STATION | SOURCE OF INFORMATION (INDEX) | DATUM | LATITUDE OR $y$-COORDINATE / LONGITUDE OR $x$-COORDINATE | DISTANCE FROM GRID IN FEET, OR PROJECTION LINE IN METERS FORWARD (BACK) | DATUM CORRECTION | N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD (BACK) | FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD (BACK) |
|---|---|---|---|---|---|---|---|
| GANDER, 1951 | IV pg.382 | NA 1927 | 61 06 43.275 | | | 1339.5 ( 517.7) | |
| | | | 165 05 11.567 | | | 173.3 ( 725.4) | |
| Sub. Pt. A GANDER, 1951 | | " | 61 06 | | | 1320.2 ( 537.0) | |
| | | | 165 05 | | | 118.4 ( 780.3) | |
| Sub. Pt. B GANDER, 1951 | | " | 61 06 | | | 1320.6 ( 536.6) | |
| | | | 165 05 | | | 106.0 ( 792.7) | |
| HAZEN, 1951 | IV pg. 382 | " | 61 05 01.541 | | | 47.7 (1809.5) | |
| | | | 165 21 09.100 | | | 136.4 ( 736.1) | |
| Sub. Pt. A HAZEN, 1951 | | | 61 05 | | | 146.4 (1710.8) | |
| | | | 165 21 | | | 162.3 ( 737.2) | |
| Sub. Pt. B HAZEN, 1951 | | | 61 05 | | | 123.8 (1733.4) | |
| | | | 165 21 | | | 216.3 ( 683.2) | |

1 FT. = .3048006 METER

COMPUTED BY: C. O. DeMarr DATE 9/13/54 CHECKED BY: A. Queen DATE 4/15/55

COMM-DC-57843

FORM 164
(4-23-54)

RESTRICTED

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
DESCRIPTIVE REPORT
CONTROL RECORD

MAP T- 9695 PROJECT NO. Ph-56 SCALE OF MAP 1:20,000 SCALE FACTOR

| STATION | SOURCE OF INFORMATION (INDEX) | DATUM | LATITUDE OR $y$-COORDINATE LONGITUDE OR $x$-COORDINATE | DISTANCE FROM GRID IN FEET, OR PROJECTION LINE IN METERS FORWARD (BACK) | DATUM CORRECTION | N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD (BACK) | FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD (BACK) |
|---|---|---|---|---|---|---|---|
| GREEN, 1951 | IV Pg.381 | N.A. 1927 | 61 01 56.359 | | | 1744.5 ( 112.7) | |
| | | | 164 57 01.504 | | | 22.6 ( 878.3) | |
| Sub. Pt. A GREEN, 1951 | | | 61 01 | | | 1761.4 ( 95.8) | |
| | | | 164 57 | | | 32.0 ( 868.9) | |
| Sub. Pt. B GREEN, 1951 | | | 61 01 | | | 1772.3 ( 84.9) | |
| | | | 164 57 | | | 13.1 ( 887.8) | |

1 FT. = .3048006 METER

COMPUTED BY: C. O. DeMarr DATE 9/13/54

CHECKED BY: A. Queen DATE 4/15/55

COMM-DC-57843

31. Delineation

The manuscripts were delineated graphically and on the Reading Nine-lens plotters. The MHWL on the coastline and major streams was delineated on the Reading Plotters, all other hydrographic features were delineated directly onto the manuscript from rectified photos using the radial plot pass points for orientation. The eastern halves of T-9692 and T-9695 were not compiled because of the lack of photography.

32. Control

See radial plot for report on horizontal control. The vertical control was adequate. There were sufficient tide water streams to orient the stereo models without the use of the elevations furnished by the field party.

33. Supplemental Data - None

34. Contours and Drainage

The entire area of the manuscripts is below the elevation of the lowest supplemental contour. [redacted].

35. & 36. Shoreline Alongshore & Offshore Details

The field inspection of the shoreline was adequate. The approximate L.W.L., which was not field inspected, was in most areas delineated from the 29,000 series photos which were taken near the time of low tide. No low water photography was available for the outer coast shoreline from Long. 165°05' to Lat. 61°09'.

37. Landmarks and Aids: None

38. Control for Future Survey

Forms 524 were submitted for the following topographic stations whose positions were obtained photogrammetrically:

July, 1951 T-9690; Dope T-9693; Kulu, 1951, Oral, 1951 - T-9694

39. Junction:

Junctions were made with all contemporary surveys shown on the index.

40. Horizontal and Vertical Accuracy

The horizontal positions of all detail points are within the accuracy requirements. Due to the plethora of tide water streams the spot elevations are well within the accuracy requirements.

46. Comparison with Existing Maps

The area of these manuscripts is covered by the following 1:250,000 scale USGS maps: HOOPER BAY 1951 and MARSHALL, 1951.

47. Comparison with Nautical Charts

The largest scale Nautical Chart of the area is No. 9302.

Items to be applied to Nautical Charts Immediately- none.

Items to be carried forward - none.

Submitted by:

Louis Levin
Supervisory Cartographer

Approved by:

K. N. Maki,
Cartographic Engineer

Geographic Names

Survey No. T-9690

ALASKA

APROTHLUK RIVER

APHREWN RIVER

BERING SEA

OPAGYARAK RIVER

TUTAKOKE RIVER

Names approved

Heck

Geographic Names

Survey No. T-9691

ALASKA

APHREWN RIVER

ANERKOCHIK RIVER

HAZEN BAY

MANOKINAK RIVER

TUNGALUK SLOUGH

Names approved:

Geographic Names

Survey No. T-9692

MANOKINAK RIVER

ANERKOCHIK RIVER

Names approved:

GEOGRAPHIC NAMES

Survey No. T-9693

ALASKA

BERING SEA

APROTHLUK RIVER

OPAGYARAK RIVER

Names approved by:

L. Heck

Geographic Names

Survey No. 9694

HAZEN BAY

APHREWN RIVER

APROTHLUK RIVER

MANOKINAK RIVER

ANERKOCHIK RIVER

NASKONAT PENINSULA

Names approved:

Geographic Names

Survey No. T-9695

AZUN RIVER

HAZEN BAY

NAROKACHIK RIVER

KEALAVIK RIVER

Names approved

Notes to Hydrographer

T-9690 thru T-9695

The following topographic stations were established in the field and their positions determined photogrammetrically:

T-9690 - July, 1951
T-9691 - none
T-9692 - none
T-9693 - Dope 1951
T-9694 - Kulu, 1951; Oral, 1951
T-9695 - none

No photo hydro stations were established.

Review Report
of Topographic Maps T-9690 thru T-9695
February 1957

62. Comparison with Registered Topographic Surveys

There are no registered topographic surveys of this area.

63. Comparison with Maps of other Agencies

See Item 46.

64. Comparison with Contemporary Hydrographic Surveys

There are no contemporary hydrographic surveys of this area.

65. Comparison with Nautical Charts

9302 1:1,534,076 1952 corr. to 12-24-56

This is the only Nautical Chart covering all topographic surveys of this project.

66. Adequacy of Results and Future Surveys

Shoreline inspection appears adequate. Lack of inshore inspection may have resulted in minor errors in office interpretation. Other than these, no deficiencies in accuracy and adequacy were indicated.

Reviewed by:

Josef J. Streifler

Josef J. Streifler

APPROVED BY

L C Lande
Chief, Review & Drafting Sec.
Photogrammetry Div.

Max Blackett
Chief, Nautical Chart Br.
Charts Division

L W Swanson
Chief, Photogrammetry Division
4 Nov. '59

Chief, Coastal Surveys

Summary to Accompany Topographic Maps T-9690 thru T-9695

The six (6) sheets of this combined report of project Ph-24090 (6056) are in the Hazen Bay area, Bering Sea. See accompanying project index.

The subject manuscripts were compiled graphically - direct from rectified photographs for extensive marsh areas - and on the Reading Nine Lens Plotters for balance of details.

Maximum ground elevation will be indicated on all final registration copies - the entire area being lower than the 25 feet supplemental contour.

There are no previous topographic surveys - nor contemporary hydrographic surveys of the subject area.

The Army Map Service will publish the four (4) westerly manuscripts as standard topographic quadrangles at the scale of 1:50,000 (see accompanying project index).

A "Cronar" film positive at manuscript scale and the descriptive report, as well as a cloth-backed print of the two AMS quadrangles in color after final printing, will be registered and filed in the Bureau Archives.

February 1957

Summary to Accompany Topographic Maps T-9690 thru T-9695

The six (6) sheets of this combined report of project Ph-24090 (6056) are in the Hazen Bay area, Bering Sea. See accompanying project index.

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Maximum ground elevation will be indicated on all final registration copies - the entire area being lower than the 25 feet supplemental contour.

There are no previous topographic surveys - nor contemporary hydrographic surveys of the subject area.

The Army Map Service will publish the four (4) westerly manuscripts as standard topographic quadrangles at the scale of 1:50,000 (see accompanying project index).

A "Cronar" film positive at manuscript scale and the descriptive report, as well as a cloth-backed print of the two AMS quadrangles in color after final printing, will be registered and filed in the Bureau Archives.

February 1957

GEOGRAPHIC NAMES

Survey No. T-9690

| Name on Survey | On Chart No. A | On previous survey No. B | On U. S. quadrangle Maps C | From local information D | On local Maps E | P. O. Guide or Map F | Rand McNally Atlas G | U. S. Light List H | K | |
|---|---|---|---|---|---|---|---|---|---|---|
| Alaska | | | | | | | | | | 1 |
| Aprothluk River | | | | | | | | | | 2 |
| ~~Apk~~ Apbrewn River | | | | | | | | | | 3 |
| Bering Sea | | | | | | | | | | 4 |
| Opagvanak River | | | | | | | | | | 5 |
| Tutakoke River | | | | | | | | | | 6 |
| | | | | Names approved | | | | | | 7 |
| | | | | | 11-29-66. L. Heck | | | | | 8 |
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M 234

GEOGRAPHIC NAMES

Survey No.

T-9691

| Name on Survey | A On Chart No. | B On previous survey No. | C On U. S. quadrangle Maps | D From local information | E On local Maps | F P. O. Guide or Map | G Rand McNally Atlas | H U. S. Light List | K | |
|---|---|---|---|---|---|---|---|---|---|---|
| ALASKA | | | | | | | | | | 1 |
| APHREWN RIVER | | | | | | | | | | 2 |
| ANERKOCHIK RIVER | | | | | | | | | | 3 |
| HAZEN BAY | | | | | | | | | | 4 |
| MANOKINAK RIVER | | | | | | | | | | 5 |
| TUNGALUK SLOUGH | | | | | | | | | | 6 |
| | | | | Names approved | | | | | | 7 |
| | | | | 11-30-56 L. Heck | | | | | | 8 |
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M 234

GEOGRAPHIC NAMES

Survey No.

T-9692

| Name on Survey | A On Chart No. | B On previous survey No. | C On U. S. quadrangle Maps | D From local information | E On local Maps | F P. O. Guide or Map | G Rand McNally Atlas | H U. S. Light List | K | |
|---|---|---|---|---|---|---|---|---|---|---|
| MANOKINAK RIVER | | | | | | | | | | 1 |
| ANERKOCHIK RIVER | | | | | | | | | | 2 |
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GEOGRAPHIC NAMES

Survey No.

T-9693

| Name on Survey | A On Chart No. | B On previous survey No. | C On U. S. quadrangle Maps | D From local information | E On local Maps | F P. O. Guide or Map | G Rand McNally Atlas | H U. S. Light List | K | |
|---|---|---|---|---|---|---|---|---|---|---|
| Alaska | | | | | | | | | | 1 |
| Bering Sea | | | | | | | | | | 2 |
| Aprothluk River | | | | | | | | | | 3 |
| Opagyarak River | | | | | | | | | | 4 |
| | | | | | | | | | | 5 |
| | | | | Names approved 11-30-56 L. Heck | | | | | | 6 |
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M 234

GEOGRAPHIC NAMES

Survey No.

9694

| Name on Survey | On Chart No. A | On previous survey No. B | On U. S. quadrangle Maps C | From local information D | On local Maps E | P. O. Guide or Map F | Rand McNally Atlas G | U. S. Light List H | K | |
|---|---|---|---|---|---|---|---|---|---|---|
| HAZEN BAY | | | | | | | | | | 1 |
| APHREWN RIVER | | | | | | | | | | 2 |
| APROTHLUK RIVER | | | | | | | | | | 3 |
| MANOKINAK RIVER | | | | | | | | | | 4 |
| ANERKOCHIK RIVER | | | | | | | | | | 5 |
| NASKONAT PENINSULA | | | | | | | | | | 6 |
| | | | | | | | | | | 7 |
| | | | | Names approved | | | | | | 8 |
| | | | | 11-30-56. L Heck | | | | | | 9 |
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M 234

GEOGRAPHIC NAMES

Survey No.

T-9695

| Name on Survey | A On Chart No. | B On previous survey No. | C On U. S. quadrangle Maps | D From local information | E On local Maps | F P. O. Guide or Map | G Rand McNally Atlas | H U. S. Light List | K | |
|---|---|---|---|---|---|---|---|---|---|---|
| AZUN RIVER | | | | | | | | | | 1 |
| HAZEN BAY | | | | | | | | | | 2 |
| NAROKACHIK RIVER | | | | | | | | | | 3 |
| KEALAVIK RIVER | | | | | | | | | | 4 |
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M 234

# TOPOGRAPHIC MAPPING PROJECT ~~6056~~ 24090

## ALASKA-BERING SEA, Scammon Bay to Kuskokwim Bay and Nunivak Island

OFFICIAL MILEAGE FOR COST ACCOUNTS

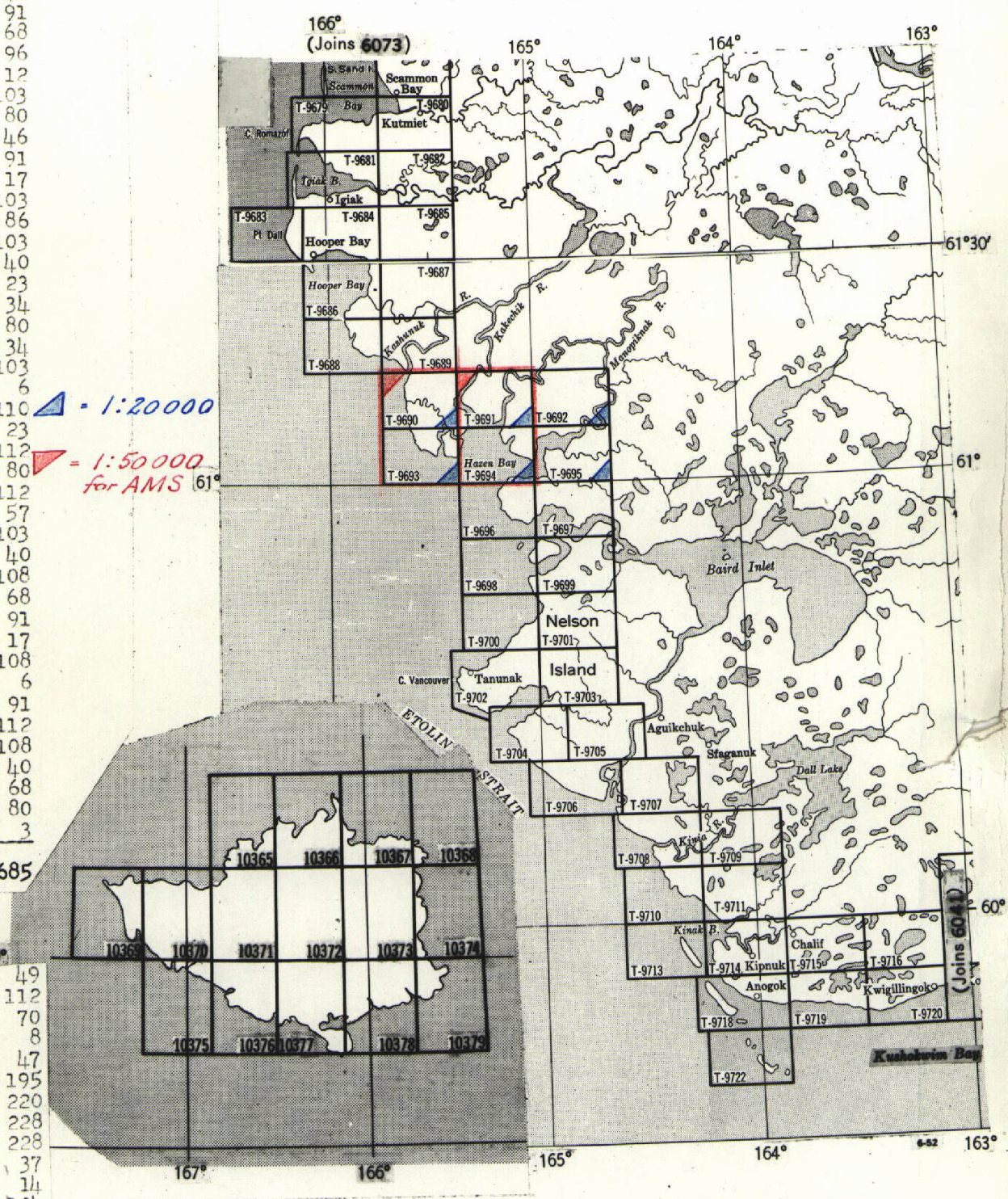
| Sheet No. | Area sq.miles |
|---|---|
| 9679 | 46 |
| 9680 | 91 |
| 9681 | 68 |
| 9682 | 96 |
| 9683 | 12 |
| 9684 | 103 |
| 9685 | 80 |
| 9686 | 46 |
| 9687 | 91 |
| 9688 | 17 |
| 9689 | 103 |
| 9690 | 86 |
| 9691 | 103 |
| 9692 | 40 |
| 9693 | 23 |
| 9694 | 34 |
| 9695 | 80 |
| 9696 | 34 |
| 9697 | 103 |
| 9698 | 6 |
| 9699 | 110 |
| 9700 | 23 |
| 9701 | 112 |
| 9702 | 80 |
| 9703 | 112 |
| 9704 | 57 |
| 9705 | 103 |
| 9706 | 40 |
| 9707 | 108 |
| 9708 | 68 |
| 9709 | 91 |
| 9710 | 17 |
| 9711 | 108 |
| 9713 | 6 |
| 9714 | 91 |
| 9715 | 112 |
| 9716 | 108 |
| 9718 | 40 |
| 9719 | 68 |
| 9720 | 80 |
| 9722 | 3 |
| Sub-total | 2,685 |

△ = 1:20000

▽ = 1:50000 for AMS

**Nunivak Island**

| | |
|---|---|
| 10365 | 49 |
| 10366 | 112 |
| 10367 | 70 |
| 10368 | 8 |
| 10369 | 47 |
| 10370 | 195 |
| 10371 | 220 |
| 10372 | 228 |
| 10373 | 228 |
| 10374 | 37 |
| 10375 | 14 |
| 10376 | 101 |
| 10377 | 158 |
| 10378 | 109 |
| 10379 | 35 |
| Sub-total | 1,614 |
| Sub-total | 2,685 |
| TOTAL | 4,299 |




Compiled 1:20,000 scale, from 1:20,000 scale nine-lens photographs taken August 1950 and June, 1951; additional nine-lens photography to be taken Season 1952.

(Refer to Air-Photo Indexes B-42, 50, 51, 52 and E-1).

# NAUTICAL CHARTS BRANCH

SURVEY NO. T-9690 thru T-9695

## Record of Application to Charts

| DATE | CHART | CARTOGRAPHER | REMARKS |
|---|---|---|---|
| | | | Before After Verification and Review |
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M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.