7981

[redacted]

Diag. Cht. No. 9400

CS-320

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. ARE-2352 *Office No.* H-7981

LOCALITY

State ALASKA

General locality ARCTIC COAST

Locality NUVAGAPAK LAGOON

19~~4~~52

CHIEF OF PARTY

M. G. Ricketts

LIBRARY & ARCHIVES

DATE JANUARY 5, 1953

B-1870-1 (1)

7981

[redacted]

Form 537
(Ed. June 1946)

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

REGISTER No. H-7961

Field No. AHE-2352

State ALASKA

General locality ~~NORTH ARCTIC COAST~~

Locality ~~BEAUFORT LAGOON~~ NUVAGAPAK LAGOON

Scale 1:20,000 Date of survey 6 - 25 August 1952

Instructions dated 1 February 1952

Vessel Arctic Party - East Unit

Chief of party Max S. Ricketts

Surveyed by D.G.R. & H.L.R.

Soundings taken by fathometer, ~~graphic recorder and hand lead wire~~

Fathograms scaled by G.W.S.

Fathograms checked by R.J.W.

Protracted by D.G.R.

Soundings penciled by L.W.R.

Soundings in ~~fathoms~~ feet at ~~MLW~~ MLLW and are based on a velocity of sound of 800 fm/sec.

REMARKS:

U. S. GOVERNMENT PRINTING OFFICE 693019

PROGRESS SKETCH

PROJECT CS-320

COMBINED OPERATIONS, ARCTIC COAST

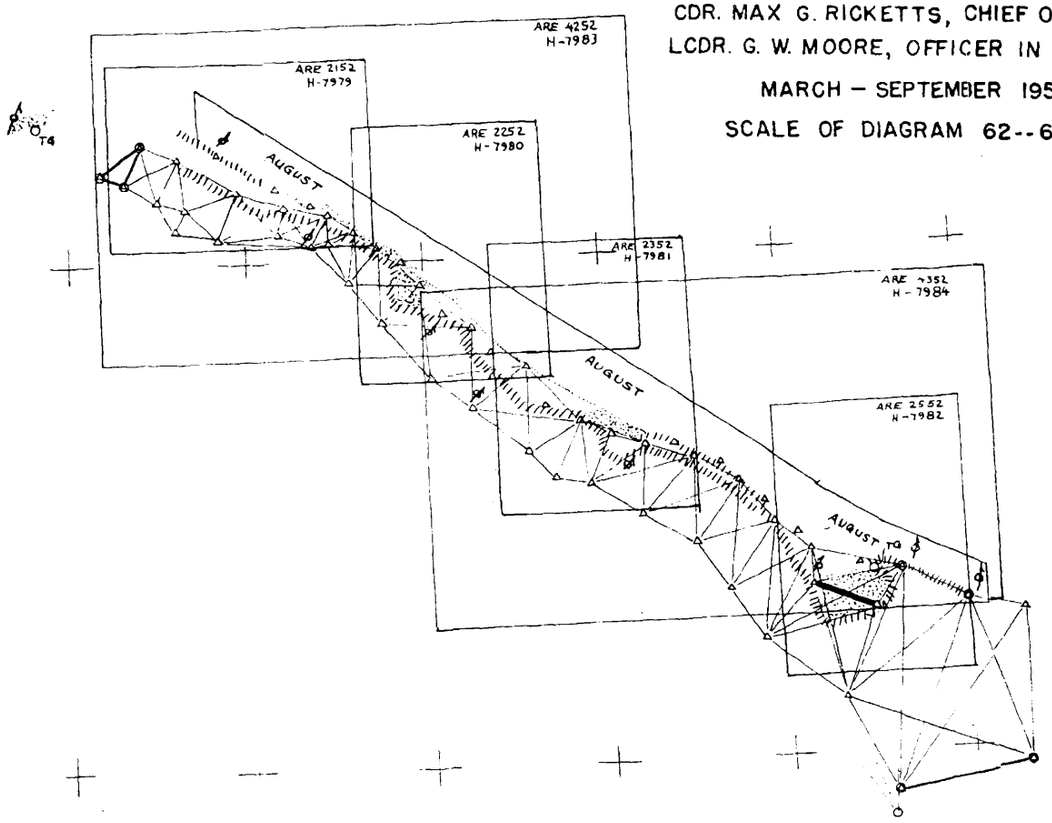
BARTER ISLAND, ALASKA

CDR. MAX G. RICKETTS, CHIEF OF PARTY

LCDR. G. W. MOORE, OFFICER IN CHARGE

MARCH – SEPTEMBER 1952

SCALE OF DIAGRAM 62--63



70°30'

70°00'

69°30'

145°00'

144°00'

143°00'

142°00'

141°00'

DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SURVEY H-7981 (FIELD NO. ARE-2352)
~~NORTH~~ ARCTIC COAST OF ALASKA
~~BEAUFORT LAGOON~~
NUVAGAPAK LAGOON
PROJECT CS-320 SCALE 1:20,000

Max G. Ricketts ..... Chief, Arctic Field Party
Glenn W. Moore ..... Officer in Charge, East Unit
D.G. Rushford and H.L. Runge ..... Hydrographers

A: PROJECT

Authority for this survey is contained in supplemental instructions for Project CS-320, dated 1 February 1952.

B: SURVEY LIMITS AND DATES

This survey covers the area on the North Arctic Coast about 43 miles east of Barter Island which includes the southeast half of Nuvagapak Lagoon, and the shoreline between Longitudes 141° 54W and 142° 15¼W. There are no prior surveys in this area.

See attached layout of sheets for adjoining contemporary surveys.

The field work was accomplished between the 6th and 25th of August 1952.

C: VESSELS AND EQUIPMENT

Two converted 35-foot Navy rearming boats were used to execute this survey. Launch No. 2 was equipped with portable depth recorder 101s, the transmitter and receiver of which were mounted outboard in a fish. Launch No. 13 was similarly equipped and used fathometer number 121s. Launch No. 13 participated in the survey only to the extent of about 13 fixes for the location of shoreline. (These 13 fixes and estimated distances are an inshore line on H-7984). *see paragraph "G"*

The turning radius of Launch No. 2 is between 7 and 10 meters. Hydrography on this sheet was executed at speeds varying from 1000 to 1900 RPMs. Speed at 1900 was approximately 7.5 knots.

The launch based at Humphrey Bay camp during this survey.

D: TIDE AND CURRENT STATIONS

Tide reducers for this sheet were taken from the data obtained at the portable automatic tide gage on Barter Island - Latitude 70° 08.2'N, Longitude 143° 35.3'W. Time and range factors were not applied to the tidal data in reducing the soundings.

There were no current stations on this sheet.

E: SMOOTH SHEET

The Washington Office constructed the smooth sheet projection. Control was plotted and checked, positions were protracted, and soundings were pencilled by personnel of the Arctic Field Party.

This sheet was originally intended to be a boat sheet but it was not used during the field season so the decision was then made to use it as a smooth sheet.

F: CONTROL STATIONS

(triangulation and topographic stations)

The basic control was established by the 1952 triangulation of Max G. Ricketts. In addition station Doe (an orange colored skiff which was anchored and had a white banner for a target) was located by a sextant fix taken at the station.

G: SHORELINE AND TOPOGRAPHY

The shoreline was originally applied to boat sheets from uncontrolled photographs. It was subsequently determined that the shoreline had changed considerably since 1947 when the photographs were taken. The shoreline delineated in a solid black inked line on the smooth sheet was located by sextant fixes taken on the MHW line. The shoreline delineated in a broken red inked line was plotted from estimated distances to shore from the inshore hydro line from sheet H-7984. That portion of the shoreline shown in red was done by one hydrographer and the shoreline shown in black ink was done by the hydrographer who did all the hydrography on the sheet and who plotted the smooth sheet. A portion of the shoreline as determined by estimated distances overlapped the shoreline determined by fixes at the MHW line. It was found that it was necessary to multiply all estimated distances by two to make them check with the shoreline determined by taking fixes on the MHW line.

see below

The low water line was not delineated because there is not enough range in tide to allow its determination.

The shoreline on the smooth sheet originates with the present survey and photogrammetric compilations T-11041, T-11042 (1947-52).

The shoreline in red at Siku Point was determined by sextant fixes on the MHW line in 1952, and is subsequent to the shoreline on T-11043 delineated from 1947 photographs.

The shoreline determined by estimation in surveying H-7984, appears erratic and is not shown on the smooth sheet.

H: SOUNDINGS

Soundings were obtained by the use of an 808J type portable depth recorder equipped with a calibrated velocity reed of 800 fathoms per second. Refer to "Special Report, Fathometer Corrections, 1952". *filed with H-7983*

I: CONTROL OF HYDROGRAPHY

Control of hydrography was entirely by sextant fixes.

J: ADEQUACY OF SURVEY

This survey is considered adequate.

Junctions are satisfactory and depth curves can be adequately drawn at said junctions.

K: CROSSLINES

The survey is verified by about 8 to 10% crosslines and all crossings are satisfactory.

L: COMPARISON WITH PRIOR SURVEYS

There are no prior surveys in this area.

M: COMPARISON WITH CHART

The existing chart in this area, USC&GS Chart No. 9403, is on too small a scale for an adequate comparison. *See review*

N: DANGERS AND SHOALS

There are no shoals or dangers to navigation on this sheet.

O: COAST PILOT

Refer to Coast Pilot Report, Arctic Party 1952.

P: AIDS TO NAVIGATION

There are no aids to navigation in the area covered by this sheet.

Q: LANDMARKS FOR CHARTS

Refer to Form 567, Landmarks for Charts, Arctic Party, 1952

TRI- tripod made from driftwood logs - Latitude 69° 48' 1157 meters
Longitude 141° 51' 102 meters

R: GEOGRAPHIC NAMES

Refer to "Geographic Names Report, Arctic Field Party, 1952", previously submitted.

T: ATTACHMENTS

1. List of Signals
2. Statistics
3. Tidal Note
4. Approval Sheet
5. Progress Sketch showing sheet layout

Z: TABULATION OF APPLICABLE DATA

The following applicable reports have been forwarded under separate cover:

1. Fathometer Report, 1952 - to Washington 19 November 1952. *filed with H-7983*
2. Form 567, Landmarks for Charts, 1952 - to Washington 7 November 1952.
3. Coast Pilot Notes, 1952 - to Washington 3 October 1952.
4. Geographic Names Report, 1952 - to Washington 12 November 1952.
5. List of Geographic Positions, 1952 - to Washington 12 July 1952.

Respectfully submitted,

Francis X. Popper

Francis X. Popper
Lt.Comdr., USC&GS

APPROVED AND FORWARDED:

Max G. Ricketts

Max G. Ricketts
Commander, USC&GS
Chief, Arctic Field Party

ATTACHMENT 1

LIST OF SIGNALS

HYDROGRAPHIC SURVEY H-7981
FIELD NO. ARE-2352

SIGNAL	SOURCE
BEAUFORT	BEAUFORT 1952
DELTA	DELTA 1952
Doe	Volume I H-7981
EASY	EASY 1952
EGASAK	EGASAK 1952
FLAT	FLAT 1952
Sec	1952 Triangulation
SIKU	SIKU 1952
TRI	TRI 1952
Urn	1952 Triangulation
Vet	1952 Triangulation
War	1952 Triangulation

ATTACHMENT 2

STATISTICS

HYDROGRAPHIC SURVEY H-7981
FIELD NO. ARE-2352

LAUNCH NO.	DATE 1952	VOL. NO.	DAY LETTER	NO. OF POSITIONS	STATUTE MILES SDG.	HAND LEAD
2	8/6	1	a	122	31.0	0
2	8/7	1	b	84	21.8	0
2	8/8	1&2	c	96	23.1	0
2	8/17	3	d	4	- - -	-
2	8/25	3	e	15	- - -	-

TOTALS FOR LAUNCH NO. 2 AND THE SHEET:

Number of Positions	321
Statute Miles of Sounding Line	75.9
Number of Head Lead Soundings	0
Square Statute Miles of Sounding	6.0

ATTACHMENT 3

TIDAL NOTE

HYDROGRAPHIC SURVEY H-7981
FIELD NO. ARE-2352

Tidal data for this survey was taken from the portable automatic tide gage located at Barter Island, Latitude 70° 08.2 N and Longitude 143° 35.3 W.

Mean lower low water on the Barter gage was 2.9' above the zero of the tide staff.

Time and height corrections were found negligible in this area and were not applied.

ATTACHMENT 4

APPROVAL SHEET

HYDROGRAPHIC SURVEY H-7981
FIELD NO. ARE-2352

The sheet and records have been examined and are approved. The survey is considered adequate for the area.

Max G. Ricketts
Commander, USC&GS
Chief, Arctic Field Party

RHC

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Rev. Apr. 1950

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~[illegible]~~ 12 January 1953

Division of Charts: R. H. Carstens

Plane of reference approved in 3 volumes of sounding records for

HYDROGRAPHIC SHEET 7981

Locality Arctic Coast, Alaska

Chief of Party: M. G. Ricketts in 1952
Plane of reference is mean lower low water, reading
2.9 ft. on tide staff at Barter Island
54.5 ft. below B. M. 1 (1948)

Height of mean high water above plane of reference is 0.6 foot.

Condition of records satisfactory except as noted below:

E. C. McKay
Section of Tides

Chief, Division of Tides and Currents.

U. S. GOVERNMENT PRINTING OFFICE 877933

GEOGRAPHIC NAMES

Survey No. H-7981

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
Arctic Coast										2
Beaufort Lagoon		(to be used only as general name on small-scale charts; for large-scale charts and maps, its various sections are separately named)								3
Beaufort Sea										4
Icy Reef										5
Siku Point										6
Siku Entrance										7
Siku Lagoon										8
Egaksrak Entrance										9
Egaksrak Lagoon										10
Nuragapak Lagoon										11
										12
										13
					Names underlined in red are approved 1-12-53 L. Heck					14
										15
										16
Barter Island		(tide station)							BI/Y	17
										18
										19
										20
										21
										22
										23
										24
										25
										26
										27

M 234

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-7981...

Records accompanying survey:

Boat sheets ...1.; sounding vols. ..3...; wire drag vols. .....;

bomb vols. .....; graphic recorder rolls 1 Env.;

special reports, etc. .1 Smooth Sheet; 1 Descriptive Report;.....

.....

The following statistics will be submitted with the cartographer's report on the sheet:

Number of positions on sheet		321
Number of positions checked		25
Number of positions revised		0
Number of soundings revised (refers to depth only)		0
Number of soundings erroneously spaced		0
Number of signals erroneously plotted or transferred		0
Topographic details	Time	12
Junctions	Time	5
Verification of soundings from graphic record	Time	5

Verification by J. J. Gallahan ...Total time .52.. Date 15 Oct 53

Reviewed by R. E. Elkins ..... Time 10 hr. Date 6 Nov 1953

M-2232-1

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-7981 FIELD NO. ARE-2352

Alaska, Arctic Coast, Nuvagapak Lagoon

Project No. CS-320

Surveyed - August 1952 Scale 1:20,000

Soundings: Control:

808 Fathometer Sextant fixes on shore signals

Chief of Party - Max G. Ricketts
Surveyed by - D.G. Rushford, H.L. Runge
Protracted by - D.G. Rushford
Soundings plotted by - D.G. Rushford
Verified and inked by - J.T. Gallahan
Reviewed by - R.E. Elkins 11-6-53
Inspected by - R.H. Carstens

1. Shoreline and Signals

The origin of the signals is given in the Descriptive Report. The shoreline is from unreviewed photogrammetric compilations T-11041, T-11042 (1947-52) and the present survey.

2. Sounding Line Crossings

Depths at crossings are in good agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves are adequately delineated except for the low-water curve. In accordance with Project Instructions, curves in shoal areas were not completely developed.

The bottom is smooth.

4. Junctions with Contemporary Surveys

An adequate junction was effected with H-7980 on the northwest. The lagoon area to the southeast is shoal and is not surveyed. The present survey extends to the shoreline on the other sides.

5. Comparison with Prior Surveys

There are no prior surveys in the area by this Bureau.

6. Comparison with Arctic Coast Chart 23 (Print date 5-25-53)

A. Hydrography.

The charted hydrography is from the present survey. No important changes affecting charted soundings were made on the smooth sheet during verification.

B. Aids to Navigation

There are no charted aids within the area of the present survey.

7. Condition of Survey

a. The sounding records are complete; The Descriptive Report covers all matters of importance pertaining to this survey, except that no list of corrections applied to the soundings is included.

b. The smooth plotting was well done.

8. Compliance with Project Instructions

This survey complies with the Project Instructions.

9. Additional Field Work

This is a good basic survey and no additional field work is required. As a matter of record it is noted that the lagoon area extending 18 miles to the southeastward to Demarcation Bay was not developed; however, the area is probably shoal and controlling depths into the lagoon are less than 4 feet.

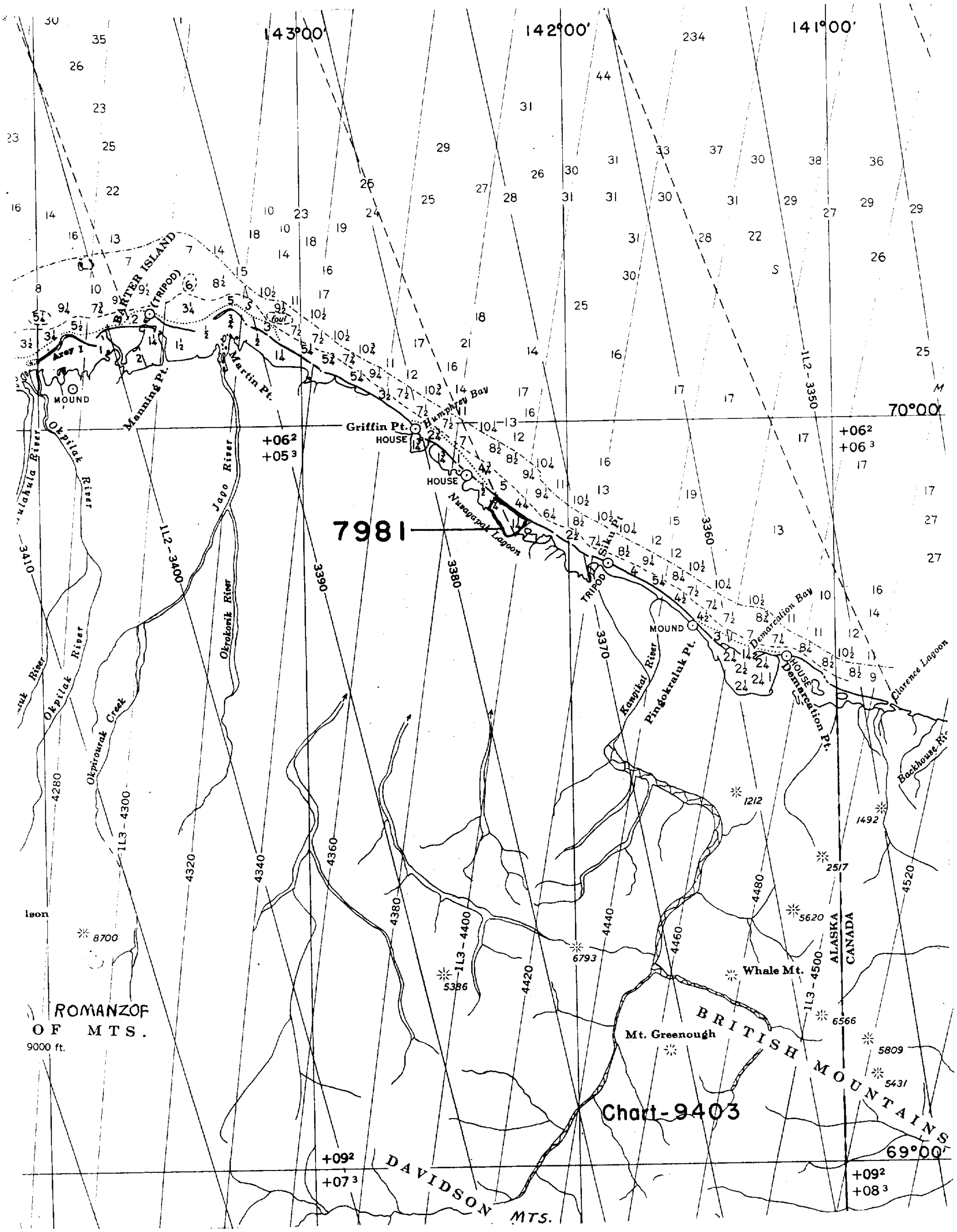
Examined and approved

H.R. Edmonston
Chief, Nautical Chart Branch

H. Arnold Karo
Chief, Division of Charts

G.R. Fish
Chief, Section of Hydrography

Earl O. Heaton
Chief, Division of Coastal Surveys



143°00'
142°00'
141°00'
70°00'
69°00'
BARTER ISLAND
(TRIPOD)
Arey I
MOUND
Manning Pt.
Martin Pt.
Griffin Pt.
HOUSE
Humphrey Bay
foul
Nuvagapak Lagoon
7981
Siku Pt.
TRIPOD
MOUND
Demarcation Bay
HOUSE
Demarcation Pt.
Clarence Lagoon
Backhouse R.
Okpilak River
Jago River
Okrokonik River
Okpirourak Creek
Kongakut River
Pingokraluk Pt.
+06²
+05³
+06²
+06³
+09²
+07³
+09²
+08³
1L2-3400
3390
3380
3370
3360
1L2-3350
3410
4280
1L3-4300
4320
4340
4360
4380
1L3-4400
4420
4440
4460
4480
1L3-4500
4520
8700
5386
6793
1212
1492
2517
5620
6566
5809
5431
Whale Mt.
Mt. Greenough
ALASKA
CANADA
ROMANZOF
OF MTS.
9000 ft.
BRITISH MOUNTAINS
DAVIDSON MTS.
Chart-9403

NAUTICAL CHARTS BRANCH

SURVEY NO. H-7981

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
4-2-53	9403	[signature]	Before ~~After~~ Verification and Review
5-4-53	No 23	Chas. R. Wittmann	Before ~~After~~ Verification and Review
11-1-54	9477	[signature]	~~Before~~ After Verification and Review
apr '55	9403	[signature]	~~Before~~ After Verification and Review New ed 9477
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review

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.