

7980

RESTRICTED
SECURITY INFORMATION
CONFIDENTIAL

Diag. Cht. No. 9400

320

Form 504

U. S. COAST AND GEODETIC SURVEY
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey **HYDROGRAPHIC**

Field No. **ARE-2252** Office No. **H-7980**

LOCALITY

State **ALASKA**

General locality **ARCTIC COAST**

Locality **HUMPHREY BAY**

TO
NUVAGAPAK POINT

19/ 52 ✓

CHIEF OF PARTY

MAX G. RICKETTS

LIBRARY & ARCHIVES

DATE **JAN 5 1953**

B-1870-1 (1)

DECLASSIFIED BY NOAA
PURSUANT TO DOC SYSTEMATIC REVIEW
GUIDELINES AS DESCRIBED IN SECTION
3.3(a), EXECUTIVE ORDER 12356.

7980

CONFIDENTIAL

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-7980

Field No. AM-2252

State ALASKA

General locality NORTH ARCTIC COAST

Locality HUSPHEEY BAY TO NUVAAGAPAK POINT

Scale 1:20,000 Date of survey 25 July to 25 August 1952

Instructions dated 1 February 1952

Vessel Arctic Party - East Unit

Chief of party Max G. Ricketts

Surveyed by Dwight G. Rushford

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

Fathograms scaled by C.W.S.

Fathograms checked by R.J.V.

Protracted by D.G.R.

Soundings penciled by F.I.P.

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

REMARKS:

Handwritten initials

70° 30'

70° 00'

69° 30'

145° 00'

144° 00'

143° 00'

142° 00'

141° 00'

PROGRESS SKETCH

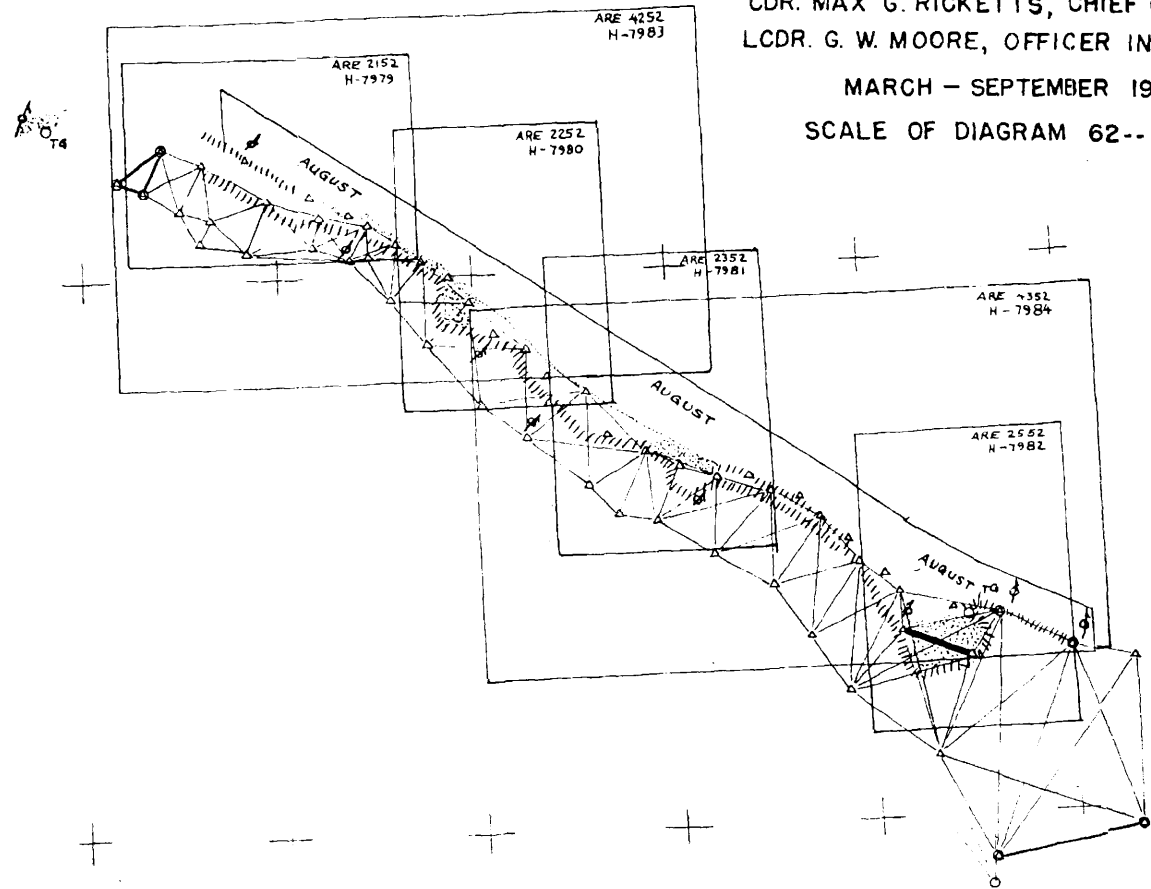
PROJECT CS-320

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° 00'

69° 30'

DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SURVEY H-7980 (FIELD NO. ARE-2252)
HUMPHREY BAY, ALASKA
PROJECT CS-320 -- 1952
SCALE 1:20,000

Max G. Ricketts Chief, Arctic Field Party
G. W. Moore Officer in Charge, East Unit
D. G. Rushford Officer in Charge, Field Work

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 is in an area on the North Arctic Coast about 40 miles east of Barter Island. It includes Humphrey Bay, Angnun Lagoon and the northwest half of Nuvagapak Lagoon, that is all the water area inside the barrier reef between Longitudes $142^{\circ} 15.5'W$, and $142^{\circ} 24.7'W$.^{35.0'} Also included are three areas of about one-half square mile each off the entrance to each of the above lagoons. Shoreline between $142^{\circ} 19.0'W$ and $142^{\circ} 33.7'W$ was located. Progress Sketch Showing Sheet Layout is attached to this report.

There are no prior surveys. See attached sheet layout for adjoining contemporary surveys.

Hydrography was started on 25 July 1952 and completed on ²⁵~~23~~ August 1952.

C: VESSELS AND EQUIPMENT

Launch Number 2, a converted 35-foot Navy rearming boat equipped with an 808J type portable depth recorder numbered 101s, was used to make this survey. The depth recorder was installed on the starboard side of the launch. The launch has a draft of 3 feet.

The turning radius of launch number 2 is between 7 and 10 meters. Hydrography on this sheet was accomplished at speeds varying from 1000 to 1900 RPM. The speed at 1900 RPM was approximately $7\frac{1}{2}$ 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 $70^{\circ} 08.2N$, Longitude $143^{\circ} 35.3W$. Time and range factors were not applied to the tidal data in reducing the soundings.

There were no current stations observed 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 penciled 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. Originally the shoreline was taken from uncontrolled photographs. The final shoreline, as inked upon the smooth sheet, was determined by the hydrographer by walking the beach and locating the MHW line by sextant fixes except in one small area (so indicated by the symbols) where the shoreline was located by three point fixes and estimated distances from the launch.

The shoreline, as inked upon the smooth sheet, was plotted from the original field notes by the hydrographer who did the work.

F: CONTROL STATIONS

The above mentioned shoreline is now shown on T-11040 & T-11041 (1947-52)

The basic control was established by the 1952 triangulation of Max G. Ricketts. In addition the following stations were located by sextant fixes taken at the stations: Alp, Dew, Moo and Wag.

G: SHORELINE AND TOPOGRAPHY

The shoreline was fitted on the boat sheet as well as possible in the area before the photo inspection had been done. During the course of the season it was found that the area had changed since pictures ⁽¹⁹⁴⁷⁾ had been taken so the hydrographer located as much shoreline as possible by walking the beach and taking sextant fixes. This shoreline is delineated on the smooth sheet. *The revised shoreline is now shown on T-11040 & T-11041 (1947-52)*

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

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% crosslines and all crossings are satisfactory.

L: COMPARISON WITH PRIOR SURVEYS

There are no previous surveys in this area.

M: COMPARISON WITH CHARTS

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 shoals across the entrance to Humphrey Bay; between 6 and 7 feet can be carried between them. There are shoals across the entrance to Angnun Lagoon and a depth of about 9 feet can be carried thru there. There are shoals across the entrance to Nuvagapak Lagoon and a depth of 5 1/2 feet can be carried thru these shoals into the lagoon.

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, previously submitted.

| | |
|--------------------------|-------------------------------|
| LIVE - log and sod house | Latitude 69° 59' 679 meters |
| | Longitude 142° 33' 442 meters |
| BOLD - log and sod house | Latitude 69° 55' 1678 meters |
| | Longitude 142° 22' 635 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 - ^{filed with H-7983} forwarded to Washington 19 November 1952.
2. Form 567, Landmarks for Charts, 1952 - forwarded to Washington 7 November 1952.
3. Coast Pilot Notes, 1952 - forwarded to Washington 3 October 1952.
4. Geographic Names Report, 1952 - forwarded to Washington 12 November 1952. on file. 254-L.H.
5. List of Geographic Positions, 1952 - forwarded to Washington 12 July 1952.

Respectfully submitted

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

APPROVED & FORWARDED:

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

LIST OF SIGNALS

HYDROGRAPHIC SURVEY H-7980
FIELD NO. ARE-2252

| <u>SIGNAL</u> | <u>SOURCE</u> |
|---------------|--|
| Alp | Volume II, H-7980 |
| ANGNUN | ANGNUN 1952 |
| BEAUFORT | BEAUFORT 1952 |
| BOLD | BOLD 1952 |
| BOOT | BOOT 1952 |
| Dew | Volume II, H-7980 |
| HEALTH | HEALTH 1952 |
| HUMPHREY | HUMPHREY 1952 |
| LIVE | LIVE 1952 |
| Maw | 1952 Intersection Triangulation |
| Moo | Volume II, H-7980 |
| Nix | 1952 Triangulation |
| Obo | " " |
| Ohm | " " |
| Pap | " " |
| Pep | " " |
| Quo | " " |
| Rat | " " |
| Rit | " " |
| Sec | " " |
| Tar | " " |
| Toe | " " |
| TUBU | TUBU 1952 |
| Wag | Volume II, H-7980 |
| Yes | 1952 Triangulation |

ENCLOSURE 2

STATISTICS

HYDROGRAPHIC SURVEY H-7980
FIELD NO. ARE-2252

| LAUNCH NO. 2 | DATE 1952 | VOL. NO. | DAY LETTER | NO. OF POSITIONS | STATUTE MILES SDG. | HAND LEAD |
|-----------------|--------------|-------------|---------------|---------------------|-----------------------|--------------|
| 2 | 7/25 | 1 | a | 62 | 9.9 | 1 |
| 2 | 7/30 | 1 | b | 93 | 22.8 | 0 |
| 2 | 7/31 | 1 | c | 77 | 14.6 | 1 |
| 2 | 8/1 | 2 | d | 48 | 8.7 | 0 |
| 2 | 8/2 | 2 | e | 92 | 17.3 | 1 |
| 2 | 8/4 | 2 | f | 130 | 24.8 | 0 |
| 2 | 8/5 | 3 | g | 159 | 38.1 | 0 |
| 2 | 8/7 | 3 | h | 28 | 6.3 | 0 |
| 2 | 8/8 | 3 | j | 58 | 11.8 | 0 |
| 2 | 8/14 | 3 | k | 3 | 0 | 0 |
| 2 | 8/15 | 4 | l | 13 | 0 | 3 |
| 2 | 8/16 | 4 | m | 28 | 0 | 0 |
| 2 | 8/23 | 4 | n | 1 | 0 | 0 |
| 2 | 8/25 | 4 | p | 4 | 0 | 1 |

TOTALS FOR LAUNCH NO. 2 AND THE SHEET:

Number of Positions 796
Statute miles of Sounding Line 154.3
Number of Hand Lead Soundings 7
Square Statute Miles of Sounding 12.0

ENCLOSURE 3

TIDAL NOTE

HYDROGRAPHIC SURVEY H-7980

FIELD NO. ARE-2252

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

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

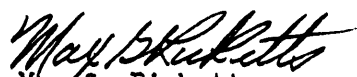
Time and height corrections were found negligible in this area and were not applied.

ENCLOSURE 4

APPROVAL SHEET

HYDROGRAPHIC SURVEY H-7980
FIELD NO. ARE-2252

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~DIVISION OF COASTAL SURVEYS~~

12 January 1953

Division of Charts: R. H. Carstens

Plane of reference approved in 4
volumes of sounding records for

HYDROGRAPHIC SHEET 7980

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.

GEOGRAPHIC NAMES

Survey No. H-7980

| Name on Survey | | | | | | | | | | |
|---------------------------|--------------|------------------------|--------------------------|------------------------|---------------|--------------------|--------------------|------------------|-----|----|
| | On Chart No. | On previous survey No. | On U. S. quadrangle Maps | From local information | On local Maps | P. O. Guide or Map | Rand McNally Atlas | U. S. Light List | | |
| | A | B | C | D | E | F | G | H | K | |
| <u>Alaska</u> ✓ | | | | | | | | | | 1 |
| <u>Arctic Coast</u> | | | | | | | | | | 2 |
| <u>Beaufort Sea</u> | | | | | | | | | BGN | 3 |
| <u>Nuvagapak Point</u> | | | ✓ | | | | | | | 4 |
| <u>Nuvagapak Entrance</u> | | | ✓ | | | | | | | 5 |
| <u>Nuvagapak Lagoon</u> | | | ✓ | | | | | | | 6 |
| <u>Angnun Point</u> | | | ✓ | | | | | | | 7 |
| <u>Angnun Entrance</u> | | | ✓ | | | | | | | 8 |
| <u>Angnun Lagoon</u> | | | ✓ | | | | | | | 9 |
| <u>Humphrey Point</u> | | | ✓ | | | | | | | 10 |
| <u>Humphrey Bay</u> | | | ✓ | | | | | | | 11 |
| | | | | | | | | | | 12 |
| | | | | | | | | | | 13 |
| | | | | | | | | | | 14 |
| <u>Barter Island</u> | | | | | | | | | BGN | 15 |
| | | | | | | | | | | 16 |
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Names underlined in red are approved.
-12-53
L. HECK

(tide station)

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. *H-7980*

Records accompanying survey:

Boat sheets *1*....; sounding vols. *4*....; wire drag vols.;
 bomb vols.; graphic recorder rolls *5 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 | | <i>796</i> | |
| Number of positions checked | | <i>21</i> | |
| Number of positions revised | | <i>3</i> | |
| Number of soundings revised (refers to depth only) | | <i>160</i> | |
| Number of soundings erroneously spaced | | — | |
| Number of signals erroneously plotted or transferred | | — | |
| Topographic details | Time | <i>20 hr.</i> | |
| Junctions | Time | <i>12 hr.</i> | |
| Verification of soundings from graphic record | Time | <i>40 hr.</i> | |
| | | <i>R. E. Elkins 40 hrs.</i> | |
| | | <i>J. T. Gallahan 92 hrs.</i> | |
| Verification by..... | Total time | <i>132 hrs.</i> | Date <i>4-9-53</i> <i>8-28-53</i> |
| Reviewed by..... | Time | <i>16 hrs.</i> | Date <i>9-11-53</i> |

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H- 7980

FIELD NO. ARE-2252

Alaska - Arctic Coast, Humphrey Bay to Nuvagapak Point

Project No. CS-320

Surveyed - July and August 1952

Scale 1:20,000

Soundings:

Control:

808 Fathometer

Sextant fixes on
shore signals

Chief of Party - M. G. Ricketts

Surveyed by - D. G. Rushford

Protracted by - D. G. Rushford

Soundings plotted by - F. X. Popper

Verified and inked by - J. T. Gallahan, R. E. Elkins

Reviewed by - R. E. Elkins 11 Sept. 1953

Inspected by - R. H. Carstens

1. Shoreline and signals

The origin of the shoreline and signals is given in the Descriptive Report.

2. Sounding Line Crossings

Depths of crossings are in good agreement.

3. Bottom Configuration and Depth Curves

This is a survey of three smooth-bottom lagoons and their entrances. The barrier islands and shoals at the entrances, protect the lagoons from ice gouging.

The usual depth curves are adequately delineated except for the low-water curve. In accordance with Project Instructions, curves in shoal flat areas less than 6-ft. in depth were not completely developed.

4. Junctions with Contemporary Surveys

Adequate junctions were effected with H-7983 (1952) on the northeast and with H-7981 (1952) on the southeast. The survey extends to shoal depths on all other sides.

5. Comparison with Prior Surveys

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

6. Comparison with Arctic Coast Chart 22 (Print date 5-18-53)
Arctic Coast Chart 23 (Print date 5-18-53)

A. Hydrography

The charted hydrography originates with the present survey before verification. Only minor changes in present depths were made during verification. Several low-water spits, one for example is in lat. $69^{\circ}53.5'$, long. $142^{\circ}18.5'$ have not been charted.

B. Aids to Navigation

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

7. Condition of Survey

a. The sounding records are complete; the Descriptive Report covers all matters of importance, 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 adequately complies with the Project Instructions.

9. Additional Field Work

This is a good basic survey and no additional field work is required.



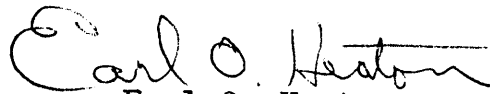
H. R. Edmonston
Chief, Nautical Chart Branch



H. Arnold Karo
Chief, Division of Charts



G. R. Fish
Chief, Section of Hydrography



Earl O. Heaton
Chief, Division of Coastal Surveys

Chart 9403

396

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