

7982

RESTRICTED
SECURITY INFORMATION

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-2552 Office No. H-7982

LOCALITY

State ALASKA
General locality ARCTIC COAST
Locality DEMARCATION BAY

194 52

CHIEF OF PARTY

MAX G. RICKETTS

LIBRARY & ARCHIVES

DATE FEB 2 1953

B-1870-1 (1)

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

7982

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SECURITY INFORMATION

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FEB 2 1953

Form 537
(Ed. June 1948)

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-7982

Field No. ARE-2552

State ALASKA

General locality NORTH ARCTIC COAST

Locality DEMARICATION BAY

Scale 1:20,000 Date of survey 30 July to 17 August 1952

Instructions dated 1 February 1952

Vessel Arctic Party - East Unit

Chief of party Max G. Ricketts

Surveyed by J.B. Watkins and C.W. Mooney

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

Fathograms scaled by J.W. Cooper

Fathograms checked by J.B. Watkins and C.W. Mooney

Protracted by J.B. Watkins

Soundings penciled by J.B. Watkins

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

REMARKS: _____

772

PROGRESS SKETCH

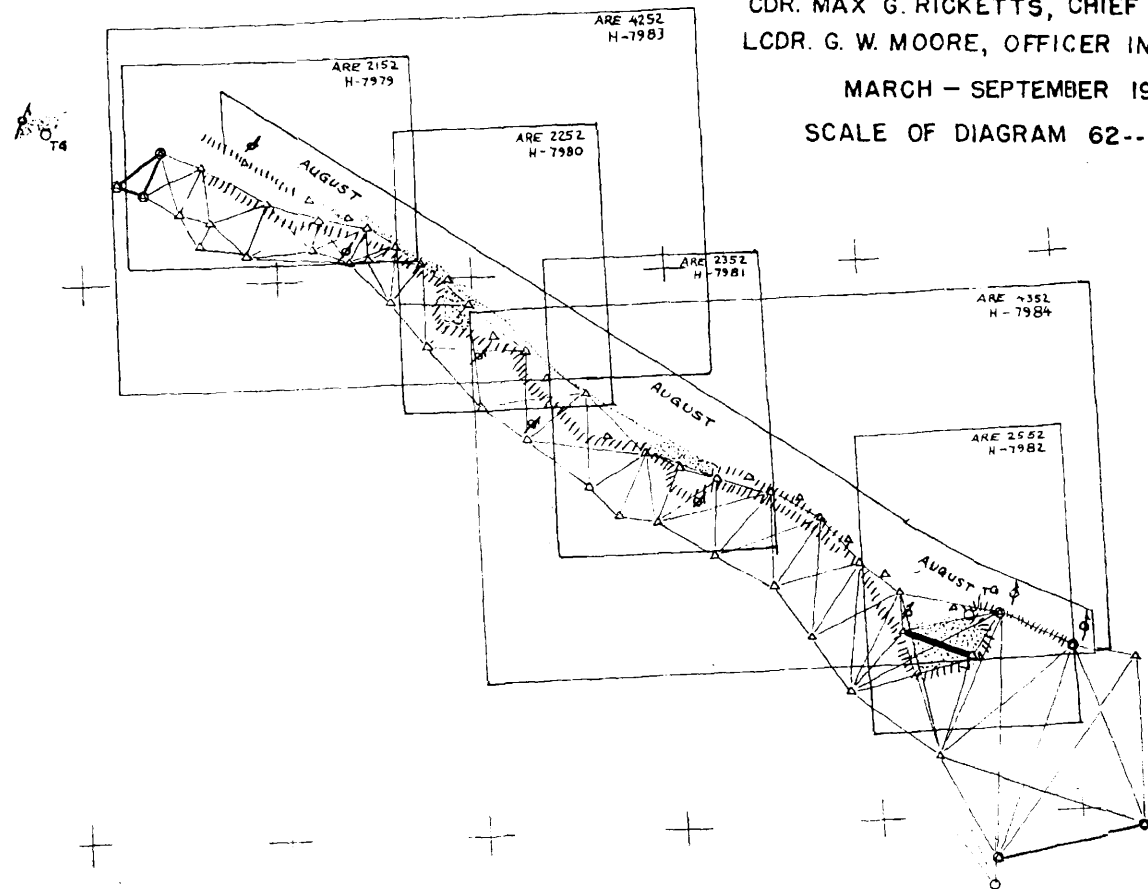
PROJECT CS-320

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



DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SURVEY H-7982 (FIELD NO. ARE-2552)
DEMARCATIION BAY, ALASKA
PROJECT CS-320 - 1952
SCALE 1:20,000

Max G. Ricketts Chief, Arctic Field Party
Glenn W. Moore Officer in Charge, East Unit
J.B. Watkins and C.W. Mooney 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 is on the North Arctic Coast about five miles west of the Canadian Boundary. It includes all of Demarcation Bay and a small area off the entrance to the bay.

There are no prior surveys in this area. See attached layout for adjoining contemporary surveys.

Hydrography was accomplished between 30 July and 17 August 1952.

C: VESSELS AND EQUIPMENT

Launch Number 1, a converted 35-foot Navy rearming boat equipped with an 808J type portable depth recorder numbered 135, was used to make this survey. Transmitter and receiver units were installed outboard in a fish on the starboard side of the launch. The launch has a draft of 3 feet.

The turning radius of launch number 1 is between 7 and 10 meters. Hydrography on this sheet was accomplished at 1700 RPMs. The speed at 1700 RPMs was about 7.1 knots.

The launch based at Demarcation Bay 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 in Demarcation Bay - Latitude $69^{\circ}40.9'N$, Longitude $141^{\circ}12.9'W$. 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

Personnel of 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.

F: CONTROL STATIONS

The basic control was established by the 1952 Triangulation of Max G. Ricketts.

G: SHORELINE AND TOPOGRAPHY

Penciled shoreline shown on the sheet was taken from uncontrolled photographs for boat sheet purposes. Final shoreline will be obtained from the Portland Photogrammetric Office after the air photo compilation has been made. No attempt was made to remove any of this uncontrolled shoreline. A small portion of shoreline was obtained by the hydrographer on the west side of the bay just east of station SWEDE.

see review for source of smooth shoreline.

With the exception of one small bar, Latitude $69^{\circ} 40.94'$ - Longitude $141^{\circ} 21.28'$, 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 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. Some difficulty was experienced in the plotting of the line 47g to 58g. The fixes on this line were quite weak and it was found that the line tended to swing as much as one half mile south, at position 54g, from the line as plotted on the boat sheet. After some consideration, an overlay of onion skin tracing paper was secured to the smooth sheet and the signals used on this line were replotted. Plotting the line in this manner straightened out the trouble. No particular trouble was experienced in the plotting other than this line.

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 12% 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.

N: DANGERS AND SHOALS

Shoals make out from the spits on both the east and west sides of the entrance to Demarcation Bay. A depth of 15 feet can be carried thru the entrance to the bay. The extreme eastern portion of the bay, inshore from the 6-foot curve, is considered a foul area. It is filled with submerged rocks. This area was outlined on the smooth sheet by the hydrographer and was not surveyed.

O: COAST PILOT

Refer to Coast Pilot Report, Arctic Field 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 Field Party, 1952.

The following landmarks appear on the Smooth Sheet:

- (1) GORD - northwesterly house of three at GORDON;
Latitude $69^{\circ} 40$ 1777 meters, Longitude $141^{\circ} 11$ 64 meters
- (2) RALUK- large conical mound;
Latitude $69^{\circ} 43$ 1022 meters, Longitude $141^{\circ} 32$ 164 meters

R: GEOGRAPHIC NAMES

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

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 Nov. 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,

John B. Watkins, Jr.
John B. Watkins Jr.
Ensign, USC&GS

APPROVED & FORWARDED:

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

ATTACHMENT 1

LIST OF SIGNALS

HYDROGRAPHIC SURVEY H-7982
FIELD NO. ARE-2552

<u>SIGNAL</u>	<u>SOURCE</u>
DNWB	Demarcation NW Base
DON	GORDON 1952
DSEB	Demarcation SE Base
GORD	GORD 1952
HARD	HARD 1952
JUG	JUG 1952
Ked	1952 Triangulation
Lip	" "
MESS	MESS 1952
Mum	1952 Triangulation
Not	" "
Oak	1952 Triangulation
Paw	" "
Ran	" "
RALUK	RALUK 1952
SWEDE	SWEDE 1952

ATTACHMENT 2

STATISTICS

HYDROGRAPHIC SURVEY H-7982
FIELD NO. ARE-2552

<u>Launch No.</u>	<u>Date</u>	<u>Day Letter</u>	<u>Positions</u>	<u>Stat.Mi. Sndg.</u>	<u>Hand Lead</u>
1	7/30	a	109	31.0	1
1	8/1	b	144	34.3	1
1	8/3	c	50	12.7	1
1	8/5	d	164	39.1	0
1	8/6	e	46	8.4	0
1	8/7	f	140	33.7	0
1	8/8	g	129	27.6	0
1	8/16	h	54	9.1	4
1	8/17	j	21	5.2	0
TOTALS			857	201.1	7

Area Covered (Square Stat. Miles) .. 23.2
Bottom Samples 13

ATTACHMENT 3

TIDAL NOTE

HYDROGRAPHIC SURVEY H-7982
FIELD NO. ARE-2552

Tidal data for this survey was taken from the portable automatic tide gage located at Demarcation Bay - Latitude $69^{\circ}40.9'N$, Longitude $143^{\circ}35.3'W$.

Mean lower low water on the Demarcation gage was 1.7 feet above the zero of the tide staff.

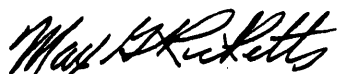
Time and height corrections were negligible in this area and were not applied.

ATTACHMENT 4

APPROVAL SHEET

HYDROGRAPHIC SURVEY H-7982
FIELD NO. ARE-2552

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 COAST AND GEODETIC SURVEY~~

11 February 1953

Division of Charts: R. H. Carstens

Plane of reference approved in 4
volumes of sounding records for

HYDROGRAPHIC SHEET 7982

Locality Arctic Coast, Alaska

Chief of Party: M. G. Ricketts in 1952
Plane of reference is mean lower low water, reading
1.7 ft. on tide staff at Demarcation Bay
6.0 ft. below B. M. 1 (1952)

Height of mean high water above plane of reference is
0.7 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-7982

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 Sea								BST	3
Demarcation Bay								"	4
Demarcation Point									5
Kulurvak (Abandoned)									6
Pingokraluk lagoon									7
Kagilvak Bight									8
Kagilvak Creek									9
Akootchook River									10
									11
									12
									13
									14
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									19
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									23
									24
									25
									26
									27

Names approved
2-6-53
L. Heck

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-7982...

Records accompanying survey:

Boat sheets 1....; sounding vols. 4....; wire drag vols.;
bomb vols.; graphic recorder rolls 4 ~~Exp.~~;
special reports, etc. 1 ~~Descriptive Report~~; 1 ~~Smooth Sheet~~;.....
.....

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

Number of positions on sheet	857
Number of positions checked	3
Number of positions revised	—
Number of soundings revised (refers to depth only)	—
Number of soundings erroneously spaced	—
Number of signals erroneously plotted or transferred	—
Topographic details	Time	3
Junctions	Time	2
Verification of soundings from graphic record	Time	2

Verification by... *R. E. Elkins* Total time *17 hr* Date *11-17-54*

Reviewed by... *R. E. Elkins* Time *8 hr* Date *1-4-55*

DIVISION OF CHARTS
REVIEW SECTION - NAUTICAL CHART BRANCH
REVIEW OF HYDROGRAPHIC SURVEY

Alaska, Arctic Coast, Demarcation Bay

REGISTRY No. H-7982

FIELD No. ARE-2552

PROJECT NO. CS-320

Surveyed - July, Aug., 1952

Scale 1:20,000

Soundings:

Control:

808 Fathometer

Sextant fixes on
shore signals

Chief of Party - Max G. Ricketts
Surveyed by - J. B. Watkins, C. W. Mooney
Protracted by - J. B. Watkins
Soundings plotted by - J. B. Watkins
Verified and inked by R. E. Elkins
Reviewed by - R. E. Elkins 1/4/55
Inspected by - R. H. Carstens

1. Shoreline and Control

The origin of the signals is given in the Descriptive Report. The shoreline is from reviewed photogrammetric manuscript T-11045 (1947-52) and from the present survey information.

2. Sounding Line crossings

Depths at crossings are in good agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves are adequately delineated.

The bottom is smooth except for irregularities at the entrance to Demarcation Bay.

4. Junctions with Contemporary Surveys

An adequate junction was effected with H-7984 (1952) at the entrance to Demarcation Bay.

5. Comparison with Prior Surveys

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

6. Comparison with Arctic Coast Chart 24 (print date 5/25/53)

A. Hydrography

The charted hydrography is from the present survey before verification and is in substantial agreement with the inked smooth sheet soundings. The rock awash charted in lat. $69^{\circ}40.94'$, long. $141^{\circ}21.28'$ is recorded in the sounding volumes as a sand bar uncovered 1-ft. at MLLW.

B. Aids to Navigation

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

7. Condition of Survey

a. The sounding records are complete and the Descriptive Report covers the important items of this survey.

b. The smooth plotting was well done.


8. Compliance with Project Instructions


This survey adequately complies with the Project Instructions.


9. Additional Field Work

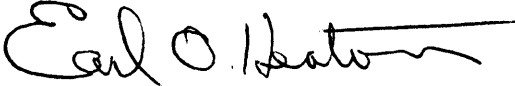
This is a good basic survey and no additional field work is required.

Examined and Approved:


H. R. Edmonston
Chief, Nautical Chart Branch


E. R. McCarthy
Acting Chief, Chart Division


J. C. Bull
Chief, Hydrography Branch


Earl O. Heaton
Chief, Division of Coastal Surveys

