

8662

DECLASSIFIED  
AUTHORITY *Oceanav Ltr  
Ser 1337/NFD*  
DATE *12-16-75* BY *RR/lyh*

Diag. Cht. No. 9400.

Form 504 U. S. DEPARTMENT OF COMMERCE COAST AND GEODETIC SURVEY	
<b>DESCRIPTIVE REPORT</b>	
Type of Survey	Hydrographic
Field No. SU-160-2-61	Office No. H-8662
<b>LOCALITY</b>	
State	Alaska
General locality	Chukchi Sea
Locality	West of Pt. Hope
1961	
<b>CHIEF OF PARTY</b> W. R. Porter	
<b>LIBRARY &amp; ARCHIVES</b>	
DATE	September 27, 1962

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

8662

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. ~~None~~  
SU-160-1-61, SU-160-2-61,  
Field No. ~~SU-160-3-61, SU-160-4-61~~

State Alaska

General locality Chukchi Sea

Locality West of Pt. Hope

Scale 1:160,000 Date of survey <sup>22</sup> July to <sup>13</sup> Sept. 1961

Instructions dated 9 May 1961 & Supplemental Instructions 16 March 1961

Vessel USO&SS SURVEYOR

Chief of party Wilbur R. Porter, CAPT., C&GS

Surveyed by Ship Personnel

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

Fathograms scaled by Ship Personnel

Fathograms checked by Ship Personnel

Protracted by LTJG R. L. Swanson, LTJG J. Collins, ENS R. L. Lushane, ENS C. Paul, ENS W. C. Page, ENS D. A. Field & LTJG Elliott

Soundings penciled by LTJG R. L. Swanson, ENS C. K. Paul, D. A. Field, W. C. Page, and W. B. Mersellis

Soundings in fathoms feet at MLW MLLW

REMARKS:

**DESCRIPTIVE REPORT**

**TO ACCOMPANY**

**HYDROGRAPHIC SURVEYS:**

**SU-160-1-61, SU-160-2-61,**

**SU-160-3-61, SU-160-4-61**

**(No Registry Nos. Assigned)**

**WILBUR R. PORTER CAPT CAGS, COMDG. USCAGSS SURVEYOR**

**SCALE 1:160,000**

**1961**

**A. PROJECT:**

This survey is part of project OPR-420, no Registry Number having been assigned. The Instructions are:

General Instructions (File No. S-2-SU) dated 9 May 1961 and Supplemental Instructions (File S-2-SU) dated 16 March 1961. Letter No. 222-83-982s dtd. 22 September 1961, concerning tide corrections.

**B. AREA SURVEYED:**

This survey is in the Chukchi Sea, Alaska and covers an area from Latitude 66° 00' to 73° 00' and Longitude 168° 00' to 169° 00'; the survey being covered by four sheets with the following limits:

SU-160-1-61: Lat. 66° 00' to Lat. 67° 50'  
Long. 168° 06' to Long. 168° 56'

SU-160-2-61: Lat. 67° 50' to Lat. 69° 50'  
Long. 168° 00' to Long. 168° 56'

SU-160-3-61: Lat. 69° 50' to Lat. 71° 50'  
Long. 168° 50' to Long. 168° 56'

SU-160-4-61: Lat. 71° 50' to Lat. 73° 00'  
Long. 168° 30' to Long. 169° 00'

The dates of the survey are: 20 July to 16 September 1961, with dates for each sheet as follows:

SU-160-1-61: 21 July - 15 August

B. AREA SURVEYED (contin.)      -2-

SU-160-2-61:                    22 July - 13 September  
SU-160-3-61:                    22 Aug. - 16 Sept.  
SU-160-4-61:                    23 Aug. - 30 Aug.

Junctions. Sheet SU-160-1-61 is the only sheet that joins a prior survey. It joins H-7850, 1:40,000 of 1950 and H-8559, 1:160,000 of 1960.

C. SOUNDING VESSEL:

The Ship SURVEYOR was used for the entire survey.  
The day letters are in blue.

D. SOUNDING EQUIPMENT:

Three types of echo-sounders were used on the project: the 808A, Edo 255C, and PDR/Edo UQH.

SU-160-1-61:    808 Nos. 55 & 67  
                  Edo 255C Nos. 30 & 31  
                  PDR No. 133/Edo UQH Nos. 1 & 2

SU-160-2-61:    808 Nos. 55, 67, 50, 116  
                  Edo 255C Nos. 30, 27, 31  
                  PDR No. 133/Edo UQH No. 2

SU-160-3-61:    808 Nos. 50, 55, 67, 116  
                  Edo 255C Nos. 27, 31

SU-160-4-61:    808 Nos. 50, 55, 67; Edo 255C Nos. 27, 31  
                  PDR No. 133/Edo UQH Nos. 1 and 2

The method used for correcting the fathometers is found in SPECIAL REPORT - CORRECTIONS TO ECHO SOUNDINGS 1961 - USCGS SHIP SURVEYOR.

E. SMOOTH SHEET:

The projections for sheets SU-160-1-61, SU-160-2-61 and SU-160-3-61 were made in the Washington Office on the ruling machine. The projection for Sheet SU-160-4-61 was protracted aboard the SURVEYOR.

The Smooth-Boat Sheet method of plotting was used to some extent on this project; a detailed description of which is found in a "Special Report Smooth-Boat Sheets USCGSS SURVEYOR 1961". As stated in this special report, some positions were pricked through on Sheets SU-160-1-61 and SU-160-2-61, but on

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F. SMOOTH SHEET (Contine.)

sheets SU-160-3-61 and SU-160-4-61 all positions were replotted on the smooth sheet. It was found upon re-examination of methods used in smooth plotting that approximately an equal amount of time was consumed by either plotting directly on the smooth sheet or by pricking through from the mylar overlay. It was felt however, that it was more advantageous to re-plot the positions on the smooth sheet since greater accuracy could be obtained. A possible explanation for this is that the inked Raydist curves on the boat sheet were too thick for accurate plotting. It was found that the colored ink ran on the mylar; also, it would rub off after continued use. Another factor causing inaccurate boat sheet positions is the hydrographer not having as much time as a smooth plotter, due to the complexity of his job at times.

F. CONTROL:

All hydrography on Project OPR-420 was controlled by Raydist. A description of method of station location and operation is found in "Season's Report, USC&GSS SURVEYOR 1961". A discussion of corrections applied to the raydist is found in "Special Report, Raydist Corrections, USC&GSS SURVEYOR 1961".

G. SHORLINE:

No shoreline was transferred onto Sheets SU-160-1-61 and SU-160-2-61 because manuscripts to 1:160,000 scale were not available, and no practical purpose would be served by doing so.

H. CROSSLINES:

Approximately 8% of the total hydrography was cross-lines. There are approximately 250 positions which cross the main north - south system of lines, of which 7% do not cross within the accepted 3% difference in depth. The majority of these discrepancies are found to occur during "N" day, the soundings for this day being generally shallower than coincident soundings. No reason was found to explain these discrepancies. Any systematic change in the soundings to improve the crossings

## H. CROSSLINES: (Cont'd.)

causes new discrepancies, making large areas of soundings meaningless. Soundings from this day were selected to fit the local pattern rather than a selection of the shallowest soundings.

### SU-160-2-61:

Approximately 11% of the total hydrography was cross-lines. 94% of the crosslines agree within 3 feet or less with the sounding lines. Of 390 crossline positions, 15, or 4%, differ with the sounding lines by more than 3 feet, the majority of these being within 4 feet. At Lat.  $69^{\circ} 42'$ , Long.  $168^{\circ} 34'$  the intersection of positions 107V + 4 minutes and 165W, the soundings differ by 6 feet. The sounding at 107V plus 4 minutes was taken by Edo 2550 #31; the weather being rough at the time. The sounding at 165W was recorded on 800 #70.

### SU-160-3-61:

The percentage of crosslines to total hydrography is 9.2%. All crossings were within 3 feet, or approximately 2%.

### SU-160-4-61:

The percentage of crosslines to total hydrography is 6%. 73% of the crosslines agree within 3 feet. 100% of the crossings agree within 4 feet with two exceptions. At Latitude  $72^{\circ} 21.3' N$ , Long.  $168^{\circ} 40' W$ , at the crossing of Position 118D and Position 23A plus 1 minute, there is a 6.5 foot discrepancy and at the crossing of Position 98D plus 4 and 34A, located at Lat.  $72^{\circ} 36.2' N$ , Long.  $168^{\circ} 37.5' W$ , there is a 6 foot discrepancy. No adequate reason was found for these discrepancies.

## I. JUNCTIONS:

SU-160-1-61 - A junction is made with H-7850, 1:160,000 scale 1950, in the SE corner of Sheet SU-160-1-61. The soundings at this junction agree within 6 feet. This difference is attributed to the fact that the soundings on Sheet H-7850 were recorded in fathoms, thus making the error within one unit of measure. A junction was also made with H-8559, 1:160,000 of

-5-

I. JUNCTIONS: (Cont'd.)

1960 at the south end of SU-160-1-61. No adequate comparison could be made between the surveys because the smooth soundings for Sheet H-8559 were not available. However, the boat sheet soundings on Sheet H-8559 were generally 6 feet shallower than the soundings on Sheet SU-160-1-61.

There are no junctions on Sheets SU-160-2-61, SU-160-3-61, and SU-160-4-61.

J. COMPARISON WITH PRIOR SURVEYS:

There are no modern prior surveys of this area.

K. COMPARISON WITH THE CHART:

SU-160-1-61 - A comparison was made with C&GS Chart 9402, 1:700,000 printed in August 1950 and revised 11 April 1955. The soundings on the chart were found to be shallower from 4 to 20 feet with a few more extreme differences. Similar findings were found upon comparison with C&GS Chart 9400, 1:1,587,870 printed 25 June 1956 and H O chart 6782, 1:1,000,000 printed 18 July 1960.

SU-160-2-61: Comparison with C&GS Chart 9402 showed that charted soundings agreed within 1 to 28 feet plus or minus of the smooth sheet soundings. Also, comparison with H O Chart 6782 showed soundings to agree within 1 to 22 feet plus or minus, with the smooth sheet.

SU-160-3-61 - Comparison with C&GS Chart 9402 showed the charted soundings to agree within 1 to 20 feet, plus or minus, of the smooth sheet soundings.

SU-160-4-61 - Comparison with H O Chart 6782 indicated that smooth sheet soundings were greater than charted soundings from 8 to 37 feet. In general the difference between charted and smooth sheet depths can possibly be attributed to the fact that the horizontal positioning used for Project OPR-420 was quite accurate whereas all prior surveys no such positioning was used. Also the soundings taken from the chart were in fathoms and had to be converted to feet for comparison, thus magnifying the discrepancy. It seems reasonable to accept the smooth sheet soundings

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K. COMPARISON WITH THE CHART (Contin.)

as correct since they are checked by crosslines and were controlled to a high degree by Raydist control.

L. ADEQUACY OF SURVEY:

This survey is complete and adequate, for the area covered, to supersede prior surveys for charting purposes. The survey is to be continued during the 1962 field season.

M. AIDS TO NAVIGATION:

Refer to COAST PILOT NOTES, USCGS SHIP SURVEYOR 1961 and LANDMARKS FOR CHARTS, USCGS SHIP SURVEYOR

N. STATISTICS:

<u>SHEET</u>	<u>No. of Positions</u>	<u>Naut. Miles Sounding Lines</u>	<u>Area Sq. Naut. Mi.</u>
SU-160-1-61	2517	3529.3	2090.0
SU-160-2-61	3283	4397.0	2500.0
SU-160-3-61	2036	2321.5	2700.0
SU-160-4-61	<u>118</u>	<u>570.9</u>	<u>534.2</u>
Total Is:	8285	10618.7	7844.2

Number of Tide Stations: 2\*

Number of Current Stations 1\*

Number of Oceanographic Sta. 14\*

\*For details see Season's Report, USCGS SURVEYOR 1961

O. MISCELLANEOUS

On Sheet SU-160-3-61 a fairly extensive shoal was noted in the vicinity of Latitude 70° 35' N., Longitude 168° - 50' W. A development of the area was run to determine the exact extent and character of the shoal.

P. RECOMMENDATIONS:

This survey is complete and accurate for charting purposes. On Sheet SU-160-2-61 between Latitudes 68° 36' N., to 68° 42' N, along Longitude 168° 22.8' W, from Positions 51M to and including 55M the soundings are missing. These positions were rejected in the record book because of Raydist (Green Station) failures. Due to an oversight by the hydrographer, the

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P. RECOMMENDATIONS (Contin.)

soundings for these positions were left on the boat sheet, thus the existence of the blank portion was not realized until smooth plotting.

Q. REFERENCES TO REPORTS:

Following is a list of reports which the SURVEYOR submitted separately:

- SEASON'S REPORT, USCGC SURVEYOR 1961, forwarded 7 Dec. 1961
- SPECIAL REPORT - TOWED MAGNETOMETER 1961, fwd. 20 Oct. 1961
- REPORT - TIDE STATION MAREF, forwarded 16 October 1961
- REPORT - TIDE STATION MARRY, forwarded 16 October 1961
- SPECIAL REPORT OCEANOGRAPHY USCGC SHIP SURVEYOR 1961, forwarded 25 October 1961
- SPECIAL REPORT RAYDIST CORRECTIONS USCGC SHIP SURVEYOR, 1961, forwarded 14 November 1961
- SPECIAL REPORT SMOOTH-BOAT SHEETS USCGC SHIP SURVEYOR 1961, forwarded 15 November 1961
- SPECIAL REPORT CORRECTIONS TO ECHO SOUNDINGS 1961 USCGC SHIP SURVEYOR, fwd 7 December 1961
- COAST PILOT NOTES USCGC SHIP SURVEYOR 1961
- LANDMARKS FOR CHARTS USCGC SHIP SURVEYOR 1961

Respectfully submitted

Ray R. Moses  
LT CGC  
USCGC SURVEYOR

**TIDE NOTE**

No tide corrections were used for Project OPR-420. The authority for not using tide reducers is given in a letter from The Director, dated 22 September 1961, reference No. 222-83-982a.

**APPROVAL SHEET**

These smooth sheets and all accompanying records have been inspected by me and are approved. This survey is to be continued during the 1962 field season.

Wilbur R. Porter  
CAPT CGS  
Comdg., USC&GSS SURVEYOR

## Appendix D

Project OPR 420

TIME	MID-SHIP DRAFT feet
July 22--July 26	17
July 27--July 28	17.5
July 29--July 30 (1200)	17.0
July 30 (1200) --Aug.3 (1200)	16.5
Aug. 4-- Aug. 9	18.0
Aug. 10-- Aug. 21	17.5
Aug. 22--Aug. 25	17.0
Aug. 26--Aug. 28	16.5
Aug. 29--Sept. 5	17.0
Sept. 6-- Sept 8	16.5
Sept. 9-- Sept. 11	17.5
Sept. 12-- Sept. 13	17.0
Sept. 14-- Sept. 15	17.5
Sept. 16-- Sept 17	17.0
Sept. 22-- Sept. 24(1200)	18.5
Sept. 24(1200)--Sept. 27	18.0

\* Unless otherwise indicated, all dates are from 0000 of the first date to 2400 of the second date. Times are 165 West Meridian Time

## APPENDIX "D"

## ABSTRACT OF MIDSHIP DRAFT

USC&GSS SURVEYOR  
22 JULY to 27 SEPTEMBER 1961

DRAFT			DRAFT		
DATE	TIME	FT & TENTHS	DATE	TIME	FT & TENTHS
7/22	1400	17.0	8/13	0000	17.5
7/23	0000	17.0	8/13	1200	17.5
7/23	1200	16.9	8/14	0000	17.5
7/24	0000	16.8	8/14	1200	17.55
7/24	1200	16.8	8/15	0000	17.75
7/25	0000	16.8	8/15	1200	17.7
7/25	1200	-- -	8/16	0000	17.3
7/26	0000	-- -	8/16	1200	17.45
7/26	1400	17.5	8/17	0000	17.75
7/27	0000	17.2	8/17	1200	17.65
7/27	1200	17.5	8/18	0000	17.7
7/28	0000	17.5	8/18	1200	17.6
7/28	1200	17.1	8/19	0000	17.7
7/29	0000	17.2	8/19	1200	17.6
7/29	1200	17.3	8/20	0000	17.6
7/30	0000	17.0	8/20	1200	17.6
7/30	1200	16.5	8/21	0000	17.6
7/31	0000	16.5	8/21	0600	17.65
			8/21	0900	17.0
8/1	0000	16.3	8/21	1200	-- -
8/1	1200	16.0	8/22	0000	-- -
8/2	No record		8/22	1200	17.05
8/3	No record		8/23	0000	16.9
	fueled ship		8/23	1200	17.0
8/4	0000	18.4	8/24	0000	16.85
8/4	1200	18.3	8/24	1200	17.0
8/5	0000	18.4	8/25	0000	16.85
8/5	0800	18.35	8/25	1200	16.65
8/5	1000	17.8	8/26	0000	16.6
8/5	1200	-- -	8/26	1200	16.75
8/6	0000	-- -	8/27	0000	16.7
8/6	0800	18.0	8/27	1200	16.75
8/6	1200	18.05	8/28	0000	16.65
8/7	0000	18.0	8/28	1200	16.65
8/7	1200	17.8	8/29	0000	16.45
8/8	0000	17.85	8/29	1200	16.8
8/8	1200	18.0	8/30	0000	17.35
8/9	0000	17.8	8/30	1200	16.6
8/9	1200	17.55	8/31	0000	17.35
8/10	0000	17.65	8/31	1200	17.05
8/10	1200	17.7			
8/11	0000	17.75	9/1	0000	16.6
8/11	1200	17.65	9/1	1200	17.1
8/11	1800	17.6	9/2	0000	17.25
8/12	0000	17.5	9/2	0800	17.2
8/12	1200	17.7	9/2	1200	17.1
8/12	1400	18.1	9/3	0000	17.3
8/12	1600	17.6	9/3	1200	17.0
8/12	2300	18.0	9/4	0000	17.2

## APPENDIX "D" (CONTINUED)

<u>DATE</u>	<u>TIME</u>	<u>DRAFT</u> <u>FT &amp; TENTHS</u>
9/4	1200	16.8
9/5	0000	17.2
9/5	1200	17.3
9/6	0000	16.6
9/6	1200	16.5
9/7	0000	16.5
9/7	1200	16.6
9/8	0000	16.4
9/8	1200	16.3
9/9	0000	16.1
9/9	1200	17.7(Refueled)
9/10	0000	17.5
9/10	1200	17.4
9/11	0000	18.0
9/11	1200	17.2
9/12	0000	17.3
9/12	1200	17.2
9/13	0000	17.1
9/13	1200	17.6
9/14	0000	17.2
9/14	1200	17.1
9/15	0000	17.5
9/15	1200	17.0
9/16	0000	17.5
9/16	1200	17.1
9/17	0000	17.0
9/17	1200	16.8
9/22	1600	18.5(Refueled)
9/22	2000	18.5
9/23	0000	18.5
9/23	1200	18.5
9/24	0000	18.3
9/24	1200	18.2
9/25	0000	18.2
9/25	1200	18.3
9/26	0000	18.0
9/26	1200	18.0
9/27	0000	18.0
9/27	1200	18.1

APPENDIX "D"  
USCGC SURVEYOR

MID SHIP DRAFT VS. TIME  
22 July - 30 SEPTEMBER

Project OPR 420

MID SHIP DRAFT (FEET)

20

18

16

22

JULY

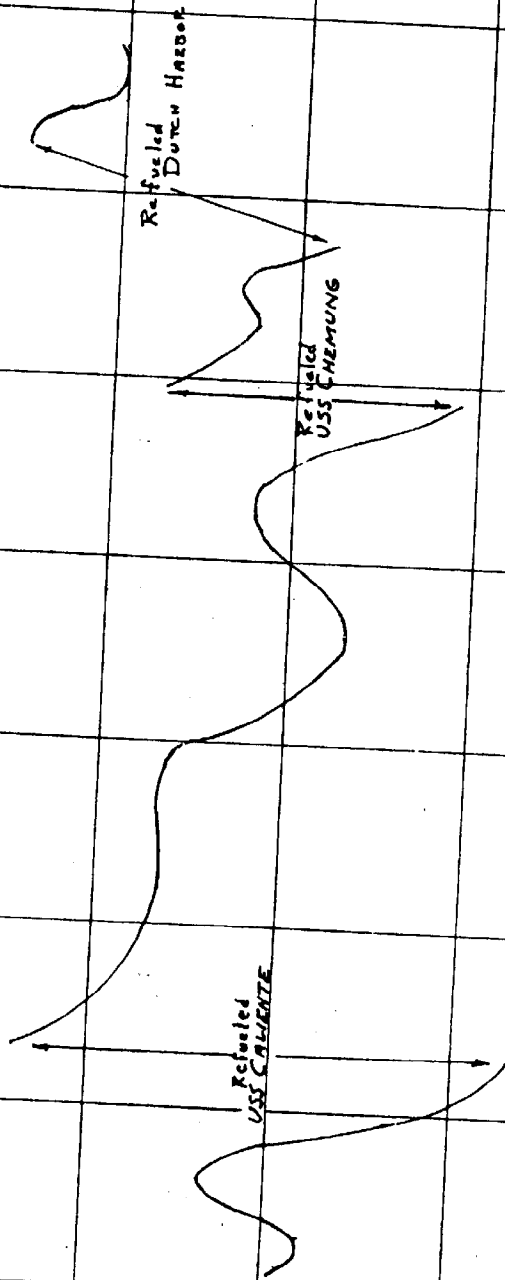
AUGUST

DAYS

31

SEPTEMBER

30



APPENDIX E

VELOCITY CORRECTIONS Project OPR-420

SHEET FIELD NUMBER SU-160-2-61

<u>Depth (feet)</u>	<u>Correction (feet)</u>
0.0 to 115.0	0.0
115.1 to 200.0	- 0.5

SHEET FIELD NUMBER SU-160-3-61

<u>Depth (feet)</u>	<u>Correction (feet)</u>
0.0 to 71.0	0.0
71.1 to 120.0	- 0.5
120.1 to 156.0	- 1.0
156.1 to 190.0	- 1.5

SHEET FIELD NUMBER SU-160-4-61

<u>Depth (feet)</u>	<u>Correction (feet)</u>
0 to 56	0.0
57 to 96	- 0.5
97 to 128	- 1.0
129 to 158	- 1.5
159 to 186	- 2.0
187 to 215	- 2.5
216 to 242	- 3.0
243 to 271	- 3.5
272 to 300	- 4.0
301 to 328	- 4.5
329 to 350	- 5.0

Note: All recorded depths were corrected for intial and draft prior to applying a velocity correction.



(Let 1 inch equal 4 fathoms for deep water and 1 inch equal 0.4 fathom for shoal.)

CORRECTIONS IN FEET, FATHOMS

APPENDIX E

VELOCITY CORRECTIONS

U.S. Coast and Geodetic Survey

Ship SURVIVOR

W.R. PORTER

Comdr.

These corrections are to be used between JULY 1961 and AUGUST 1961

in the locality CHOCOMA SEA

Correction Zone Number 3 only

for hydrographic surveys Nos. SU-160-1-61 (part) and SU-160-2-61 (total)

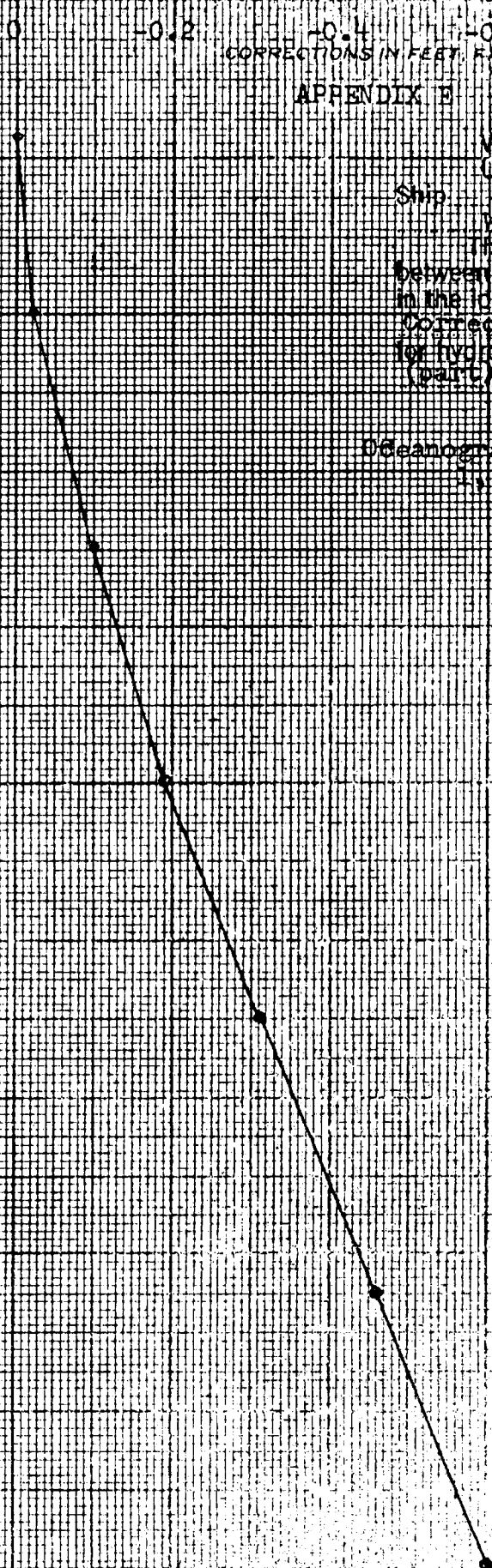
Oceanographic Stations Number

1, 3 and 9

(For deep water add 1/2 inch for 100 fathoms)

DEPTH IN FEET

10  
20  
30  
40  
50  
60  
70  
80  
90  
100  
110  
120  
130  
140  
150  
160  
170  
180  
190



(1 inch equal 4 fathoms for deep water and 1 inch equal 0.4 fathom for shoal.)

CORRECTIONS IN FEET, FATHOMS

Salinity

Temperature °C

VELOCITY CORRECTIONS

U.S. Coast and Geodetic Survey

Ship SURVEYOR

W.R. PORTER

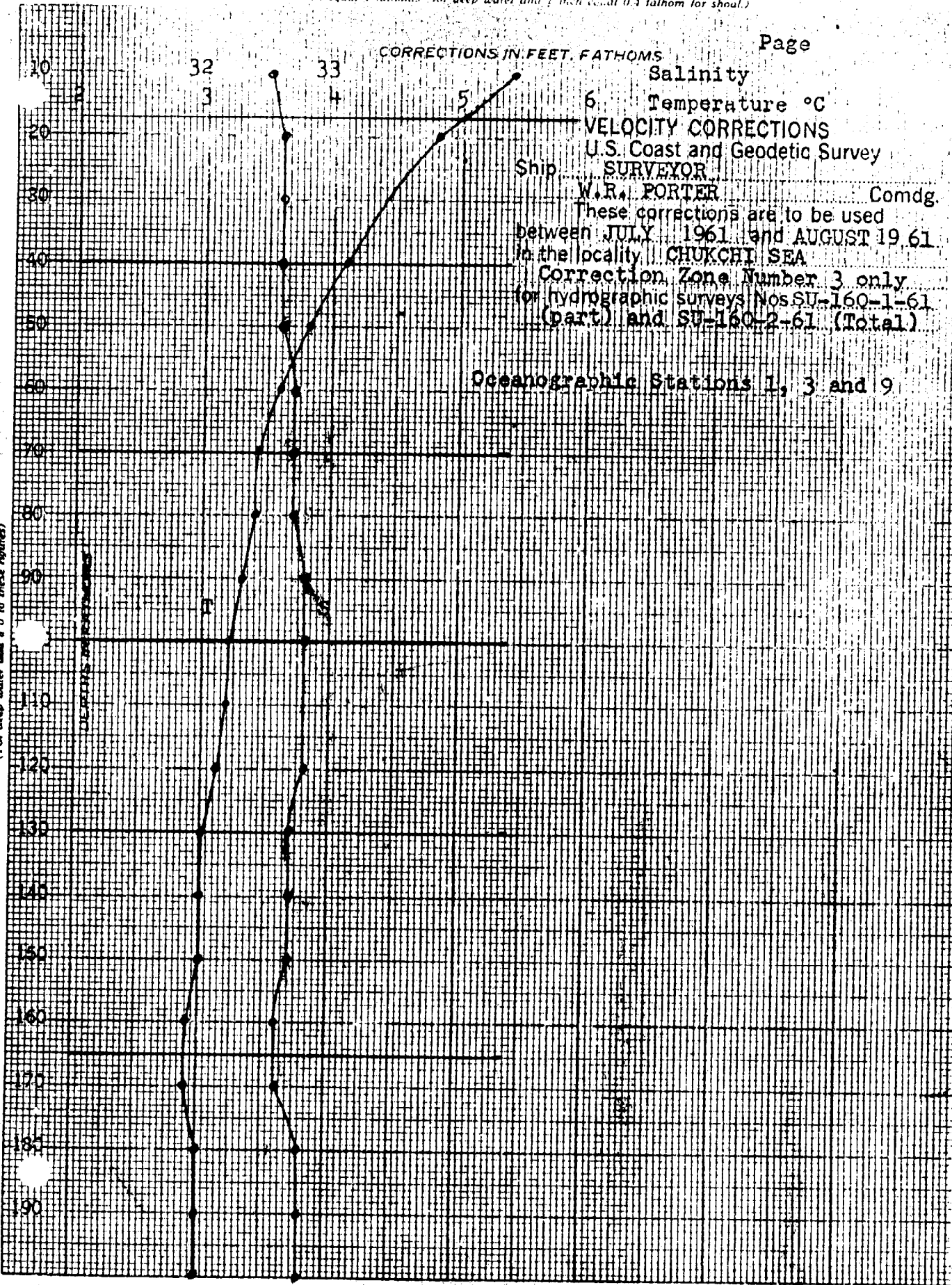
Comdg.

These corrections are to be used between JULY 1961 and AUGUST 1961 in the locality CHUKCHI SEA

Correction Zone Number 3 only for hydrographic surveys Nos SU-160-1-61 (part) and SU-160-2-61 (Total)

Oceanographic Stations 1, 3 and 9

(For deep water add a 0 to these figures)









EHC

TIDE NOTE FOR HYDROGRAPHIC SHEET

April 22, 1963

Nautical Chart Division: R. H. Carstens

Plane of reference approved in  
21 volumes of sounding records for

HYDROGRAPHIC SHEET 8662

Locality Chukchi Sea, Alaska

Chief of Party: W. R. Porter 1961

Plane of reference is mean lower low water

ft. on tide staff at

ft. below B. M.

Condition of records satisfactory except as noted below:

NOTE: No tide reducers required on account of small tidal range.

  
\_\_\_\_\_  
Chief, Tides and Currents Branch

GEOGRAPHIC NAMES

Survey No. H-8662

Name on Survey											
	A	B	C	D	E	F	G	H	K		
Alaska											1
Chukchi Sea											2
											3
											4
											5
											6
											7
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											25
											26
											27

*George M. Bass*  
*Geographic Names*  
*30 April 1963*

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. ...8662...

Records accompanying survey: Smooth sheets ...1...; boat sheets .1...; sounding vols. .21...; wire drag vols. ....; Descriptive Reports ...1.; graphic recorder envelopes ...18...; special reports, etc. 1. Cahier-Raydist Tapes files with H-8661. and 2 Calibration volumes filed with H-8661.

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

Number of positions on sheet .....
Number of positions checked .....
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 .....
Junctions Time .....
Verification of soundings from graphic record Time .....
Special adjustments Time .....

Verification by ..... Total time ..... Date .....

Reviewed by ..... Time ..... Date .....



VERIFIER'S REPORT OF HYDROGRAPHIC SURVEY NO. H-8662

The verifier should deal with the present hydrographic survey only, as the reviewer considers its relation to previous surveys and published charts. He should be thoroughly familiar with Chapters 3, 7 and 9 of the Hydrographic Manual.

1. The descriptive report was consulted and appropriate notes were made in soft pencil regarding action taken.
2. Soundings originating with the survey and mentioned in the descriptive report have been verified, including latitude and longitude.
3. All reference to survey sheets mentioned in the descriptive report include the registry number and year.
4. Geographic names of hydrographic features if on sheet are in slanting lettering and of topographic features in vertical lettering.
5. All items affecting the plotting of the survey which are entered in the remarks columns of the sounding records were noted and check marked. In all cases appropriate action was taken.
6. All positions verified instrumentally were check marked in the sounding records.
7. All critical soundings are clear and legible and are a little larger than the adjacent soundings.
8. The metal protractor has been checked within the last three months.
9. The protracting and plotting of all bad crossings were verified.
10. All detached positions locating critical soundings, rocks or buoys were verified.
11. The boat sheet was compared with the smooth sheet.

12. The spacing of soundings as recorded in the records was closely followed.
13. The bottom characteristics were shown on outstanding shoals.
14. The reduction and plotting of doubtful soundings were checked.
15. The transfer of contemporary topographic information was carefully examined.
16. All junctions were transferred and overlapping curves made identical.
17. The notation "JOINS H- (19--)" was added in ink for all contemporary adjoining or overlapping sheets now registered. Those not verified are shown in pencil.
18. The depth curves have been inspected before inking.
19. All triangulation stations and transfer of topographic and hydrographic signals were checked.
20. Heights of rocks were checked against range of tide.
21. Rocks transferred from topographic surveys have a dotted curve where shown thereon. Rocks located accurately by hydrographer are encircled by dotted red curve.
22. Unnecessary pencil notes have been removed.
23. Objects on which signals are located and which fall outside of the low water line have been described on the sheet.
24. The low water line and delineation of shoal areas have been properly shown.
25. Degree and minutes values and symbols have been checked.
26. Questionable soundings have been checked on the fathograms.

27. Source of shoreline and signals (when not given in report).
28. All notes on sheet are in accordance with figure 171 in the Hydrographic Manual.
29. All aids located, with those on contemporary topographic sheets, have been shown on survey.
30. Depth curves were satisfactory except as follows:
31. Sounding line crossings were satisfactory except as follows:
32. Junctions with contemporary surveys were satisfactory except as follows:
33. Condition of sounding records was satisfactory except as follows:
34. The protracting was satisfactory except as follows:
35. The field plotting of soundings was satisfactory except as follows:
36. Notes to reviewer:

Verified by

Date

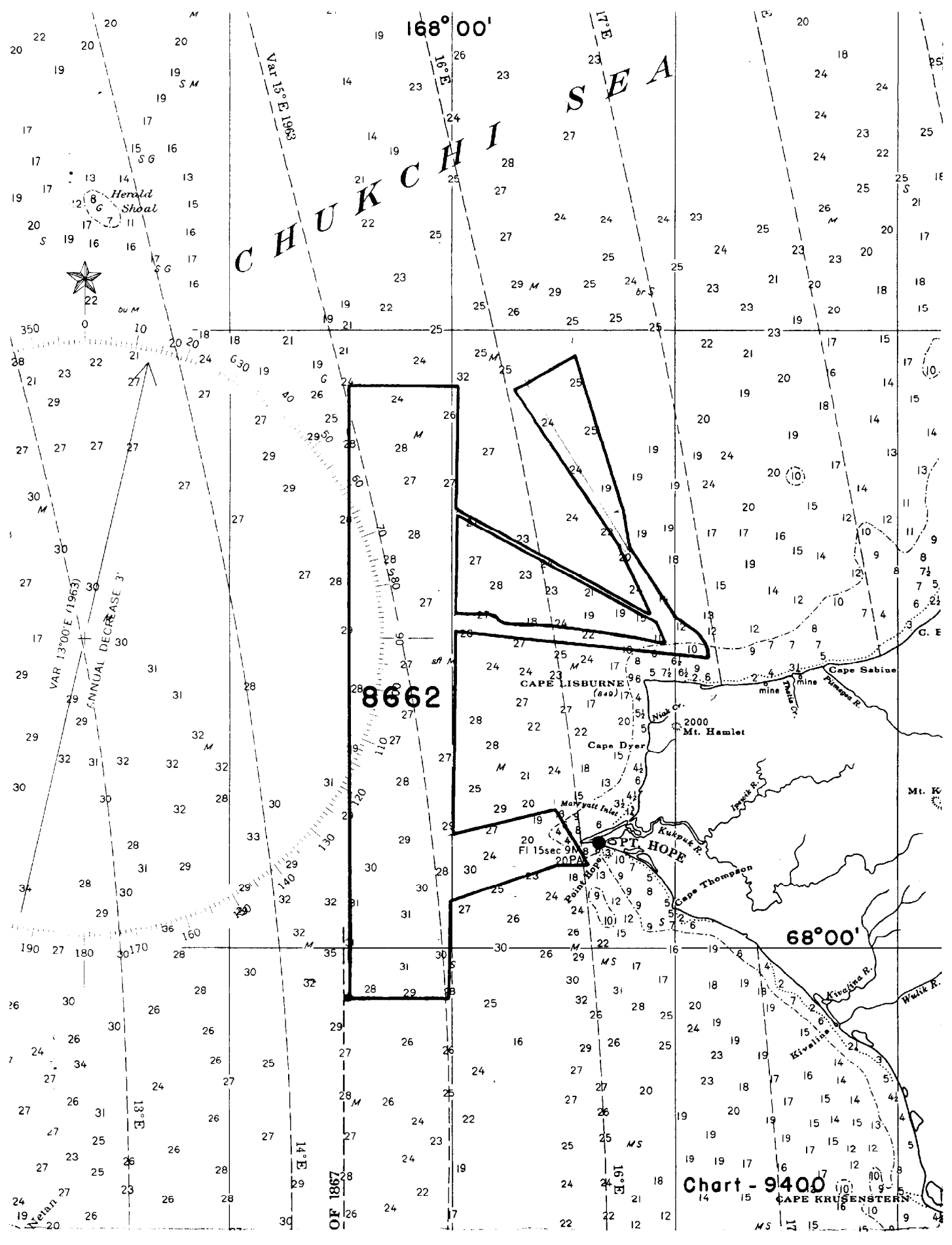


Chart - 9400

OF 1867

