

8558



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Form 504
U. S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. SU-160-1-60 Office No. H-8558

LOCALITY

State ALASKA

General locality BERING SEA

Locality BERING STRAIT

19 60

CHIEF OF PARTY

John C. Mathisson

LIBRARY & ARCHIVES

JUL 7 1961

DATE _____

USCOMM-DC 5067

8558

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

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-8558

Field No. SU-160-1-60

State Alaska

General locality Bering Strait

Locality Vicinity West end St. Lawrence Island

Scale 1:160,000 *Replotted at 1:100,000* feet & fms Date of survey 22 July - 12 Sept. 1960

Instructions dated 11 May 1960, Amended 9 June 1960

Vessel Ship SURVEYOR

Chief of party John C. Mathisson, CAPT, C&GS; H. J. Seaborg, CDR; LCDR L.S. Baker, H. P. Demuth, J. B. Watkins Jr.

Surveyed by LTJG R.W. Franklin, R.M. Buffington, P.W. Ward, ENS C.G.

Elliott, R.F. Dudley, R.L. Sandquist, J.M. Doherty, L.L. Wilkerson
Soundings taken by ~~fathometer~~, graphic recorder, ~~hand lead wire~~

Fathograms scaled by Ship's personnel

Fathograms checked by Ship's Officers, corrected by: J.M. Doherty, Ray E. Moses, J. McKee

Protracted by _____

Soundings penciled by _____

Soundings in ~~feet~~ feet at ~~MLW~~ MLLW _____

REMARKS: _____

DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SURVEY H-8558 (SU-160-1-60)
VICINITY WEST END ST. LAWRENCE ISLAND
BERING STRAIT, ALASKA

Replotted 1:100,000 Parts A & E

Scale: 1:160,000
USC&GSS SURVEYOR

22 July - 12 Sept. 1960
CAPT John C. Mathisson, Cmdg.

#

A. PROJECT:

This survey is part of Project CS-415. Paragraph 17 of the original Instructions, dated 11 May 1960, was revised in Amended Instructions dated 9 June 1960. Supplemental Instructions were issued on 3 June and 24 June 1960. Registry Numbers were issued on 21 November 1960. All Instructions were addressed to the Commanding Officer, USC&GSS SURVEYOR.

B. SURVEY LIMITS AND DATES:

This survey is in the Bering Strait (vicinity West end St. Lawrence Island).

This survey began on 22 July and was completed on 12 September 1960.

It joins H-7850, 1:40,000 scale, 1950 to the east and H-7849, 1:20,000 scale, 1950.

C. VESSELS AND EQUIPMENT:

All hydrography was done by the Ship SURVEYOR.

This ship's average speed was 14 knots at 120 RPM. The turning radius at 120 RPM, 15 degree rudder angle, was 682.8 meters.

The ship (blue capital day letters) was equipped with various fathometers. Due to failures, all were used. The instruments used were as follows: Edo (255C-30), Edo (255C-26), Edo UQN-1D (35) and Edo UQN-1D (40).

Bottom samples were obtained by a wire and snapper with the Ship's Hydrographic Winch #401.

D. TIDES AND CURRENT STATIONS:

A Portable Tide Gage was located at Tin City (Lat. 65° 33.5', Long. 167° 58.5') and Niyrakpak Lagoon Entrance (Lat. 63° 37', Long. 171° 23'). The total survey was divided into three tide zones. This sheet was in Zones 2 & 3

D. TIDES AND CURRENT STATIONS: (Contin.)

Corrections to the tide gages are as follows:

	<u>Zone</u>	<u>Time Correction</u>	<u>Height Ratio</u>
Tin City	2	+ 1 hour	0
	3	+ 2 hours	0
Niyrakpak	2	- 1 hour	1.3
	3	- 1 hour	1.3

Four current stations were observed with Roberts Current Buoys all with meters at 30 feet, 90 feet and 150 feet. They were located as follows:

<u>Buoy</u>	<u>Lat.</u>	<u>Long.</u>
A	63° 23.3' N	172° 18.0' W
B	62° 02.5' N	171° 51.7' W
B-2	63° 59.8' N	172° 01.0' W
C	64° 24.0' N	170° 59.0' W

E. SMOOTH SHEET:

The layout of the smooth sheet was followed as prescribed in the Instructions. The sheet was hand ruled with Raydist arcs every 400²⁰⁰ lanes. There was no transfer of topographic detail.

A smooth-boat sheet was used with the idea that all positions would be plotted on the smooth sheet while the work was being done. A vinylite sheet was layed over the smooth sheet and the positions pricked through to the smooth sheet, leaving only the soundings to be plotted at the end of the season.

Due to failure in the operation of Raydist, many positions were in error and had to be changed. It was felt that it would be more profitable to correct the sheets rather than start new ones.

All the inked positions were removed from the sheet. The corrected positions were plotted and the erroneous prick holes filled with a white crayon. The new positions were then inked, but no soundings plotted. The sheets were worked on by three or four men due to transfers, etc. As a result, the sheets are not the best quality of work, but are in good condition compared to the original work.

It seems that in this case, where so little was known about the operation of Raydist, that a smooth-boat sheet was not successful.

F. CONTROL STATIONS:

A limited amount of third order triangulation was accomplished in order to locate the Raydist shore stations. SAVOONGA 1951, JCE; KULIAK 1951, JCE; were used to establish subordinate control points from which the red raydist station was located. The subordinate control points were

F. CONTROL STATIONS: (Contin.)

marked by a hub. These were RAY-SAVO and CHULAR. The green and purple stations were located by the same method. CLARENCE ASTRONOMICAL 1900, JFP and TELLER NORTHWEST BASE 1943, ANS, were used to locate the green station. BOXER 1951, JCE; MINCE 1950, JCE; and NERO 1950, JCM, were used to locate the purple station.

RAY-SAVO or the ^{green}red and controlling station was located at Lat. $63^{\circ} 41' 44.87''$ N and Long. $170^{\circ} 29' 07.961''$ W.

RAY-CLAR or the ^{red}green station was located at Lat. $65^{\circ} 16' 39.569''$ N and Long. $166^{\circ} 50' 34.393''$ W.

RAY-BOX or the purple station, was located at Lat. $63^{\circ} 20' 25.640''$ N, and Long. $171^{\circ} 34' 49.894''$ W.

The red and green stations were used only on SU-160-2-60.

All stations were equipped with a 6' x 6' x 6' equipment hut and a 100 foot Tabbet Tower. This was considered to be the most efficient.

Visual fix calibration of raydist was accomplished on 1/5000 calibration sheets which are submitted under separate cover.

G. SHORELINE AND TOPOGRAPHY:

There is none on this sheet. ✓

H. SOUNDINGS:

All soundings taken were measured using either the Edo Model 255C or Model UQN-1D. Soundings taken on the project were measured in feet and tenths.

The operations of the UQN-1D recorders on the 600 foot scale were most satisfactory. The Model 255C units operating on the foot scale required extensive and frequent attention by an electronics technician to keep them in operation. The SURVEYOR is equipped with two Model 255C and two Model UQN-1D units mounted in the chart room and for the entire season, one or the other of the 255C units was continuously being overhauled or repaired. By constant attention to this problem, and having several spare units ready for rapid exchange, one Model 255C was available for hydrography the majority of the time.

The standard corrections were applied.

The soundings were as expected, with no unusual bottom conditions noted.

I. CONTROL OF HYDROGRAPHY:

Raydist was the major method used for horizontal control. Due to the failure of one or both of the Raydist stations, control was lost a great deal. As many as 30 lanes were lost on one station alone. This caused a few of the positions to be off as much as a mile with many more in error

I. CONTROL OF HYDROGRAPHY: (Contin.)

to a lesser degree. Calibration buoys were anchored to help regain control easily. Visual fixes were used for re-locating the ship off of these buoys. The original raydist readings were later corrected for buoy adjustment and scope and depression. The largest errors were found when the Brush recordings were scanned.

Visual hydrography was used to a very limited extent due to the lack of objects. The stations used for visual hydro are as follows: KING, 1944, ANS; FAIRWAY ROCK, 1944, ANS; and LITTLE DIOMEDE 1944, ANS.

J. ADEQUACY OF SURVEY:

This survey is considered adequate and complete. Junctions with the other surveys are good.

K. CROSSLINES:

About 8% of the lines run were crosslines. The soundings have not been put on, so no comparison of the depths can be made.

L. COMPARISON WITH PRIOR SURVEYS:

The present survey was compared with H-7850, 1:40,000 scale, 1950 and what junction there was, seemed adequate. Due to the type of job and location, junctions were given very little consideration.

M. COMPARISON WITH CHART:

The largest scale chart of the area is HO Chart 5819 printed January 1960 on a scale of 1:315,350. Various points were compared and found to differ greatly

N. DANGERS AND SHOALS:

No major dangers or shoals found.

O. Coast Pilot Information:

A Coast Pilot Report has been submitted.

P. AIDS TO NAVIGATION:

No aids to navigation in the area.

Q. LANDMARKS FOR CHARTS:

There are no landmarks in the area.

R. GEOGRAPHIC NAMES:

A Geographic Names study was not made in the area.

S. SILTED AREAS:

There were no silted areas detected.

T. BY-PRODUCT INFORMATION:

Magnetic observations were made at the following locations:

1. Triangulation Station CHULAR 1960, St. Lawrence Island.
2. Topographic Station NERO, St. Lawrence Island.
3. Astronomical Station CLARENCE ASTRO 1940-44, Cape Spencer, Alaska.

U. - Y. MISCELLANEOUS:

Report on Raydist Corrections - under separate cover. *ordered 6-17-69*
Fathometer Report - under separate cover. *2-11-69 in index*
Visual Calibration Sheets - under separate cover. *1-1-69 in Seattle Requested*

Respectfully submitted,

J. B. Watkins, Jr.
J. B. Watkins, Jr.
LCDR C&GS, Ship SURVEYOR
Act. Field Works Officer

Approved and Forwarded:

Wilbur R. Porter
Wilbur R. Porter
CAPT., C&GS
Cmdg., Ship SURVEYOR

STATISTICS
 HYDROGRAPHIC SURVEY
 H-8558 (SU-160-1-60)
 SHIP SURVEYOR (BLUE - CAPITAL LETTERS)

Volume No.	Day Letter	Date 1960	Number of Positions	Nautical Miles Soundings
	A	22 Jul	52	42.9
	B	23 Jul	134	112.8
	C	24 Jul	30	32.5
	D	30 Jul	228	259.5
	E	31 Jul	167	193.7
	F	6 Aug	121	143.5
	G	7 Aug	204	234.1
	H	8 Aug	36	34.5
	J	11 Aug	103	107.1
	K	12 Aug	287	312.0
	L	13 Aug	183	203.6
	M	14 Aug	28	29.5
	N	22 Aug	151	168.9
	P	23 Aug	269	286.3
	Q	24 Aug	288	318.9
	R	25 Aug	274	274.9
	S	26 Aug	122	105.0
	T	30 Aug	31	29.0
	U	31 Aug	70	71.0
	V	1 Sep	176	165.0
	W	2 Sep	148	135.0
	X	3 Sep	181	185.0
	Y	4 Sep	198	213.3
	Z	5 Sep	201	212.6
	AA	6 Sep	218	218.0
	BA	7 Sep	240	233.5
	CA	8 Sep	247	250.0
	DA	9 Sep	184	181.5
	EA	10 Sep	244	232.0
	FA	11 Sep	253	234.4
	GA	12 Sep	20	18.0
			Total:	5238.0

PROCESSING OFFICE NOTES H-8558

SMOOTH SHEET

The projection was machine ruled in the Washington Office. The control arcs drawn and positions plotted by ship personnel.

CROSSLINES

Due to something that appears to be Raydist trouble, poor crossings were found in a number of places. "J" day from pos. 4 through Pos. 47 appears to need to shift in a northeasterly direction approximately 100 lanes on each station, + 90 on the green and - 80 on the red (see Brush tape). Depths between positions 36 and 47 J appear to be as much as ten feet deeper than lines crossed. The balance of "J" day also appears to be in error, though not to the extent that the earlier positions are. Other days, notably R and S days are also not in agreement.

The fathograms for the above mentioned days have been checked and except for minor differences in scanning appear to be all right.

No serious attempt to adjust these sounding lines was made in this office because no one here at the present time has had enough experience with Raydist to come up with a solution.

Captain John C. Mathisson who was the Chief of Party is presently in the Washington Office and may be able to shed some light on the trouble.

JUNCTIONS

The junction with H-8559 has been compared and found to be satisfactory. There are no differences in depth of more than two feet and no holidays.


COMPARISON WITH PRIOR SURVEYS

No copies of prior surveys available in processing office.

COMPARISON WITH CHART

This survey was compared with H.O. Chart 5819 scale 1/315350, 2nd Ed. January 4, 1960. The soundings in the area of this survey appear to be mostly reconnaissance in nature and generally are not in agreement.

Respectfully submitted



WILLIAM M. MARTIN
SUPERVISORY CARTOGRAPHER

APPROVED & FORWARDED


M. E. WENNERMARK, CAPT., C&GS
SEATTLE DISTRICT OFFICER

GEOGRAPHIC NAMES

Survey No. H - 8558

Name on Survey	Source											
	A	B	C	D	E	F	G	H	K			
<i>Bering Sea (Title)</i>	✓											1
<i>Bering Strait (Title)</i>	✓											2
												3
												4
												5
												6
												7
												8
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												25
												26
												27

George M. Bann
Geographic Names
27 July 1961

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8558

Records accompanying survey: Smooth sheets ...1.;
 boat sheets ..1...; sounding vols. ...20...; wire drag vols.;
 Descriptive Reports ..1...; graphic recorder envelopes 22...;
 special reports, etc. 2-Calibration sheets; 2-Calibration Vols.
 filed with H-8559 & 1 Cahier-Temperature & Salinity Data, Curves,
 Computations and 14 Abstracts of Corrections. (Filed with H-8559.
 31-Raydist Tapes.

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- 8558

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

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. *H-8658 A*

RECORDS ACCOMPANYING SURVEY: To be completed when survey is registered.

RECORD DESCRIPTION		AMOUNT		RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET				BOAT SHEETS			
DESCRIPTIVE REPORT				OVERLAYS			
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS	
ENVELOPES							
CAHIERS							
VOLUMES							
BOXES							
T-SHEET PRINTS (<i>List</i>)							
SPECIAL REPORTS (<i>List</i>)							

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS			
	PRE-VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				
POSITIONS CHECKED		<i>ALL</i>		
POSITIONS REVISED		<i>51</i>		
DEPTH SOUNDINGS REVISED		<i>ALL</i>		
DEPTH SOUNDINGS ERRONEOUSLY SPACED		<i>400 APP</i>		
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		<i>-</i>		
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		<i>-</i>		
JUNCTIONS		<i>24</i>		
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		<i>30</i>		
SPECIAL ADJUSTMENTS		<i>150</i>		
ALL OTHER WORK		<i>441</i>		
TOTALS		<i>645</i>		
PRE-VERIFICATION BY	BEGINNING DATE		ENDING DATE	
VERIFICATION BY <i>Dennis J. Ransburg</i>	8-27-69		11-19-70	
REVIEW BY	BEGINNING DATE		ENDING DATE	

VERIFIER'S REPORT
HYDROGRAPHIC SURVEY, H-8558A

INSTRUCTIONS - This form serves to identify items of a check list in verification together with items which are separately reported to the Reviewer. The form is not to be forwarded to the Reviewer. A report, which is prepared for the Reviewer, should identify items by number and letter and will be filed in the Descriptive Report until the survey is reviewed.

CL - Check List Items: should be checked as having been completed during the verification processes.

R - Report Item: This column refers to those items reported to the reviewer and is used to indicate the items discussed.

Part I - DESCRIPTIVE REPORT	CL	R	Part III - JUNCTIONS (Continued)	CL	R
<p>Note: The verifier should first read the Descriptive Report for general information and problems.</p> <p>1. The Descriptive Report was consulted, paragraphs checked if found satisfactory, and notations were made in soft black pencil regarding action taken. Remarks Required: -- None</p>	✓		<p>10. Junctions with contemporary surveys were satisfactory except as follows: Remarks Required: -- Consider conditions after adjustments have been made; note adjustments made. Make special notes of Butt junctions and areas which are SUPERSEDED.</p>	✓	
<p>2. Soundings originating with the survey and mentioned in the Descriptive Report have been verified and checked in soft black pencil, including latitude and longitude, together with position identification. Remarks Required: -- None</p>	None		<p>Part IV - VOLUMES 11. 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 and exceptions noted in the volumes. Remarks Required: -- None</p>	✓	
<p>3. All reference to survey sheets mentioned in the Descriptive Report should include registry number and year. Remarks Required: -- None</p>	✓		<p>12. Condition of sounding records was satisfactory except as follows: Remarks Required: -- Mention deficiencies in completeness of notes or actions for the following: (a) rocks None (b) line turns ✓ (c) position values of beginning and ending of lines ✓ (d) bar check or velocity correctors ✓ (e) time recording ✓ (f) notes or markings on fathograms ✓ (g) was reduction of soundings accurately done? Automated (h) was scanning accurate? ✓ (i) were peaks at uneven intervals missed? No (j) were stamps completed? ✓ (k) references to adjacent features ✓</p>		
<p>Part II - SHORELINE AND SIGNALS 4. Source of shoreline signals Remarks Required: -- List all surveys a. Give earliest and latest dates of photographs b. Field inspection date c. Field Edit date d. Reviewed-Unreviewed</p>	None				
<p>5. The transfer of contemporary topographic information was carefully examined and reconciled with the hydrography. Remarks Required: -- Discuss remaining differences.</p>	None				
<p>6. The plotting of all triangulation stations, topographic stations and hydrographic signals has been checked and noted in processing stamp No. 42 on the smooth sheet. Remarks Required: -- None</p>	None				
<p>7. Objects on which signals are located and which fall outside of the high-water line have been described on the sheet. Remarks Required: -- List those signals still unidentified.</p>	None		<p>Part V - PROTRACTING 13. All positions verified instrumentally were check marked in color in the sounding records, and verifier initialed the processing stamp. Remarks Required: -- None</p>		Gerber Digital Plotter
<p>Part III - JUNCTIONS Note: Make a cursory comparison preliminary to inking soundings in area of overlap.</p> <p>8. All junctions of contemporary or overlapping sheets were transferred in colored ink and overlapping curves were made identical. Remarks Required: -- None</p>	✓		<p>14. The protracting and plotting of all unsatisfactory crossings were verified. Remarks Required: -- None</p>	✓	
<p>9. The notation in slanted lettering "JOINS H--- (19)" was added in colored ink for all verified contemporary adjoining or overlapping sheets. Those not verified are shown in pencil. Remarks Required: -- None</p>	✓		<p>15. All detached positions locating critical soundings, rocks, buoys, breakers, obstructions, kelp, etc., were verified and the position numbers are legible. Remarks Required: -- None</p>	✓	

Part V - PROTRACTING (Continued)	CL	R	Part VIII - AIDS TO NAVIGATION	CL	R
16. The protracting was satisfactory except as follows: Remarks Required: -- Refers to protracting in general except for specific faults repeated often, or faults in control information, which required considerable replotting or adjustments.		Gerber Digital Plotter	26. All fixed aids located together with those on the contemporary topographic sheets, have been shown on the survey. Remarks Required: -- Conflicts of any nature listed.	None	
17. The protractor has been checked within the last three months. Remarks Required: -- Date of check, type of protractor and number.		Electronic Control	27. All floating aids listed in the Descriptive Report should be verified and checked in soft black pencil, including latitude and longitude and position identification. Remarks Required: -- None	None	
Part VI - SOUNDINGS 18. All soundings are clear and legible, and critical soundings are a little larger than adjacent soundings. Remarks Required: -- None	✓		Part IX - BOAT SHEET 28. The boat sheet was constantly compared with the smooth sheet with reference to notes, position of sounding lines and supplemental information. Remarks Required: -- None	✓	
19. Sounding line crossings were satisfactory except as follows: Remarks Required: -- Discuss adjustments.	✓		29. Heights of rocks awash were correctly reduced and compared with topographic information. Remarks Required: -- Note excessive conflicts with topographic information.	None	
20. The spacing of soundings as recorded in the records was closely followed; Remarks Required: -- None	✓		Part X - GENERAL 30. All information on the sheet is shown in accordance with figures 82 and 83 in the Hydrographic Manual (Pub. 20-2). Remarks Required: -- None	✓	
22. The smooth plotting of soundings was satisfactory except as follows: Remarks Required: -- Refer to legibility, errors in spacing, and errors in numbers - but not to errors in scanning.	✓		31. Unnecessary pencil notes have been removed from the sheet. Remarks Required: -- None	✓	
Part VII - CURVES 23. The depth curves have been inspected before inking. Remarks Required: -- By whom was the penciled curves inspected.		Dale E. Westbrook	32. Degree, minute values and symbols have been checked; also electronic distance arcs have been properly identified and checked on the smooth sheet. Remarks Required: -- None	✓	
24. The low-water line and delineation of shoal areas have been properly shown in accordance with the following: a. From T-Sheet in dotted black lines b. From soundings in orange c. Approximate position of sketched curve is dashed orange d. Approximate position of shoal area not sounded in black dashed Remarks Required: -- None	None		33. The bottom characteristics are adequately shown. Remarks Required: -- None	✓	
25. Depth curves were satisfactory except as follows: (This statement should not refer to the manner in which the curves were drawn). Remarks Required: -- Indicate areas where curves could not be drawn completely because of lack of soundings. For some inshore areas a general statement is sufficient.	✓		Part XI - NOTES TO THE REVIEWER 34. Unresolved discrepancies and questionable soundings.		✓
Verified by <i>Dennis J. Romeburg</i>			35. Notation of discrepancies with photogrammetric survey inserted in report of unreviewed photogrammetric survey or on copy.	None	
			36. Supplemental information.		✓
			Date 11-19-70		

34-36

Because of the erratic operation and constant attention required to keep the fathometers operative, and because of the failure of the Raydist control as well as a lack of experience and knowledge of Raydist, sounding accuracy on this 1960 survey was doubtful. A comparison between the 1960 survey and larger scale surveys run in 1968-69 disclosed sounding discrepancies. With the improved control and sounding operations of the subsequent surveys it was decided that arbitrary corrections should be applied to bring the prior survey into substantial agreement with the subsequent surveys. A positive 4-ft. correction was applied to all soundings on the 1960 work and in certain instances additional corrections, either negative or positive were applied to bring about agreement. Soundings which received additional corrections are indicated on the preliminary prints.

CROSS REFERENCING OF POSITION NUMBERS

H-8558 A

<u>ORIGINAL RECORDS</u> (Sounding Volumes)			<u>AUTOMATED RECORDS</u>		
<u>DAY</u>	<u>DATE</u>	<u>POSITIONS</u>	<u>DAY</u>	<u>YEAR</u>	<u>POSITIONS</u>
A	7-22-60	1-52	204	60	1-51A
B	7-23-60	1-140	205	60	52-140
C	7-24-60	1-41	206	60	—
D	7-30-60	1-228	212	60	217-260
					318-405
					443-443A
E	7-31-60	1-167	213	60	444-539
					567-610
F	8-6-60	1-127	219	60	611-647
					693-733
G	8-7-60	1-204	220	60	734-776
					843-879
					899-937
H	8-8-60	1-36	221	60	938-972
J	8-11-60	1-103	224	60	973-1071
K	8-12-60	1-287	225	60	1072-1148
					1177-1271
					1320-1359
L	8-13-60	1-183	226	60	1360-1407
					1459-1542
M	8-14-60	1-28	227	60	1543-1570
N	8-22-60	1-151	235	60	1571-1721A
P	8-23-60	1-269	236	60	1722-1987A

<u>ORIGINAL RECORDS</u> (Sounding Volumes)			<u>AUTOMATED RECORDS</u>		
DAY	DATE	POSITION	DAY	YEAR	POSITIONS
Q	8-24-60	1-288	237	60	1988-2149 2154-2275A
R	8-25-60	1-274	238	60	2276-2332 2335-2549A
S	8-26-60	1-122	239	60	2550-2671
T	8-30-60	1-31	243	60	—
U	8-31-60	1-70	244	60	2698-2714 2764-2767
V	9-1-60	1-180	245	60	2768-2775
W	9-2-60	1-148	246	60	3056-3062
X	9-3-60	1-181	247	60	3136-3148
Y	9-4-60	1-198	248	60	3334-3335 3411-3417
Z	9-5-60	1-201	249	60	3618-3640
AA	9-6-60	1-219	250	60	3697-3730 3744-3776
BA	9-7-60	1-249	251	60	3969-4000
CA	9-8-60	1-249	252	60	4212-4243 4300-4313
DA	9-9-60	1-185	253	60	—
EA	9-10-60	1-244	254	60	4641-4652 4682-4687
FA	9-11-60	1-253	255	60	—

CONT
H-8558 A

ORIGINAL RECORDS
(Sounding Volumes)

AUTOMATED RECORDS

DAY	DATE	POSITIONS
GA	9-12-60	1-20

DAY	YEAR	POSITIONS
256	60	-

The total number of positions for a certain day as recorded in the original records and the automated records may differ by a few numbers. Positions not plotted and reported positions recorded in the original records are not reflected in the totals of the automated records. Also, any additional artificial fixes (turning positions, etc.) recorded in the automated records are not reflected in the totals of the original records.

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. *H-8558b*

RECORDS ACCOMPANYING SURVEY: To be completed when survey is registered.

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET		/	BOAT SHEETS			
DESCRIPTIVE REPORT			OVERLAYS <i>1 mylar position on day</i> <i>3 excess sounding 0' logs</i>			
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES						
CAHIERS						
VOLUMES						
BOXES						
T-SHEET PRINTS (<i>List</i>)						
SPECIAL REPORTS (<i>List</i>)						

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS			
	PRE-VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				
POSITIONS CHECKED		✓		
POSITIONS REVISED		0		
DEPTH SOUNDINGS REVISED		✓		
DEPTH SOUNDINGS ERRONEOUSLY SPACED				
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED				
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		0		
JUNCTIONS		1		
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS				
SPECIAL ADJUSTMENTS		376		
ALL OTHER WORK		269		
TOTALS		645		
PRE-VERIFICATION BY	BEGINNING DATE		ENDING DATE	
VERIFICATION BY <i>[Signature]</i>	Sept 8 1969		Nov 16 1970	
REVIEW BY	BEGINNING DATE		ENDING DATE	

VERIFIER'S REPORT
HYDROGRAPHIC SURVEY, H H-85586

INSTRUCTIONS - This form serves to identify items of a check list in verification together with items which are separately reported to the Reviewer. The form is not to be forwarded to the Reviewer. A report, which is prepared for the Reviewer, should identify items by number and letter and will be filed in the Descriptive Report until the survey is reviewed.

CL - Check List Items: should be checked as having been completed during the verification processes.

R - Report Item: This column refers to those items reported to the reviewer and is used to indicate the items discussed.

Part I - DESCRIPTIVE REPORT	CL	R	Part III - JUNCTIONS (Continued)	CL	R
<p>Note: The verifier should first read the Descriptive Report for general information and problems.</p> <p>1. The Descriptive Report was consulted, paragraphs checked if found satisfactory, and notations were made in soft black pencil regarding action taken. Remarks Required: -- None</p>	✓		<p>10. Junctions with contemporary surveys were satisfactory except as follows: Remarks Required: -- Consider conditions after adjustments have been made; note adjustments made. Make special notes of Butt junctions and areas which are SUPERSEDED.</p>	✓	<i>None</i>
<p>2. Soundings originating with the survey and mentioned in the Descriptive Report have been verified and checked in soft black pencil, including latitude and longitude, together with position identification. Remarks Required: -- None</p>			<p>Part IV - VOLUMES 11. 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 and exceptions noted in the volumes. Remarks Required: -- None</p>	✓	
<p>3. All reference to survey sheets mentioned in the Descriptive Report should include registry number and year. Remarks Required: -- None</p>			<p>12. Condition of sounding records was satisfactory except as follows: Remarks Required: -- Mention deficiencies in completeness of notes or actions for the following: (a) rocks (b) line turns (c) position values of beginning and ending of lines (d) bar check or velocity correctors (e) time recording (f) notes or markings on fathograms (g) was reduction of soundings accurately done? (h) was scanning accurate? (i) were peaks at uneven intervals missed? (j) were stamps completed? (k) references to adjacent features</p>		<i>o/h</i>
<p>Part II - SHORELINE AND SIGNALS 4. Source of shoreline signals Remarks Required: -- List all surveys a. Give earliest and latest dates of photographs b. Field inspection date c. Field Edit date d. Reviewed-Unreviewed</p>					
<p>5. The transfer of contemporary topographic information was carefully examined and reconciled with the hydrography. Remarks Required: -- Discuss remaining differences.</p>					
<p>6. The plotting of all triangulation stations, topographic stations and hydrographic signals has been checked and noted in processing stamp No. 42 on the smooth sheet. Remarks Required: -- None</p>					
<p>7. Objects on which signals are located and which fall outside of the high-water line have been described on the sheet. Remarks Required: -- List those signals still unidentified.</p>			<p>Part V - PROTRACTING 13. All positions verified instrumentally were check marked in color in the sounding records, and verifier initialed the processing stamp. Remarks Required: -- None</p>		<i>Gerber Potter</i>
<p>Part III - JUNCTIONS Note: Make a cursory comparison preliminary to inking soundings in area of overlap. 8. All junctions of contemporary or overlapping sheets were transferred in colored ink and overlapping curves were made identical. Remarks Required: -- None</p>			<p>14. The protracting and plotting of all unsatisfactory crossings were verified. Remarks Required: -- None</p>	✓	
<p>9. The notation in slanted lettering "JOINS H--- (19)" was added in colored ink for all verified contemporary adjoining or overlapping sheets. Those not verified are shown in pencil. Remarks Required: -- None</p>	✓		<p>15. All detached positions locating critical soundings, rocks, buoys, breakers, obstructions, kelp, etc., were verified and the position numbers are legible. Remarks Required: -- None</p>	✓	

Part V - PROTRACTING (Continued)	CL	R	Part VIII - AIDS TO NAVIGATION	CL	R
16. The protracting was satisfactory except as follows: Remarks Required: -- Refers to protracting in general except for specific faults repeated often, or faults in control information, which required considerable replotting or adjustments.			26. All fixed aids located together with those on the contemporary topographic sheets, have been shown on the survey. Remarks Required: -- Conflicts of any nature listed.		
17. The protractor has been checked within the last three months. Remarks Required: -- Date of check, type of protractor and number.			27. All floating aids listed in the Descriptive Report should be verified and checked in soft black pencil, including latitude and longitude and position identification. Remarks Required: -- None		
Part VI - SOUNDINGS			Part IX - BOAT SHEET		
18. All soundings are clear and legible, and critical soundings are a little larger than adjacent soundings. Remarks Required: -- None			28. The boat sheet was constantly compared with the smooth sheet with reference to notes, position of sounding lines and supplemental information. Remarks Required: -- None		
19. Sounding line crossings were satisfactory except as follows: Remarks Required: -- Discuss adjustments.			29. Heights of rocks awash were correctly reduced and compared with topographic information. Remarks Required: -- Note excessive conflicts with topographic information.	None	
20. The spacing of soundings as recorded in the records was closely followed; Remarks Required: -- None			Part X - GENERAL		
21. The scanning, reduction, spacing, plotting of questionable soundings have been verified. Remarks Required: -- None			30. All information on the sheet is shown in accordance with figures 82 and 83 in the Hydrographic Manual (Pub. 20-2). Remarks Required: -- None		
22. The smooth plotting of soundings was satisfactory except as follows: Remarks Required: -- Refer to legibility, errors in spacing, and errors in numbers - but not to errors in scanning.			31. Unnecessary pencil notes have been removed from the sheet. Remarks Required: -- None		
Part VII - CURVES			32. Degree, minute values and symbols have been checked; also electronic distance arcs have been properly identified and checked on the smooth sheet. Remarks Required: -- None		
23. The depth curves have been inspected before inking. Remarks Required: -- By whom was the penciled curves inspected.		R.H. Carstens	33. The bottom characteristics are adequately shown. Remarks Required: -- None		
24. The low-water line and delineation of shoal areas have been properly shown in accordance with the following: a. From T-Sheet in dotted black lines b. From soundings in orange c. Approximate position of sketched curve is dashed orange d. Approximate position of shoal area not sounded in black dashed Remarks Required: -- None		None	Part XI - NOTES TO THE REVIEWER		
25. Depth curves were satisfactory except as follows: (This statement should not refer to the manner in which the curves were drawn). Remarks Required: -- Indicate areas where curves could not be drawn completely because of lack of soundings. For some inshore areas a general statement is sufficient.			34. Unresolved discrepancies and questionable soundings.		
			35. Notation of discrepancies with photogrammetric survey inserted in report of unreviewed photogrammetric survey or on copy.		
Verified by <i>James H. Coogrove</i>			Date 11-18-70		

Because of the erratic operation and constant attention required to keep the fathometers operative, and because of the failure of the Raydist control as well as a lack of experience and knowledge of Raydist, sounding accuracy on this 1960 survey was doubtful. A comparison between the 1960 survey and larger scale surveys run in 1968-69 disclosed sounding discrepancies. With the improved control and sounding operations of the subsequent surveys it was decided that arbitrary corrections should be applied to bring the prior survey into substantial agreement with the subsequent surveys. A positive 4-ft. correction was applied to all soundings on the 1960 work and in certain instances additional corrections, either negative or positive were applied to bring about agreement. Soundings which received additional corrections are indicated on the preliminary printouts.

CROSS REFERENCING OF POSITION NUMBERS

H-8558 B

<u>ORIGINAL RECORDS</u> (Sounding Volumes)			<u>AUTOMATED RECORDS</u>		
<u>DAY</u>	<u>DATE</u>	<u>POSITIONS</u>	<u>DAY</u>	<u>YEAR</u>	<u>POSITIONS</u>
A	7-22-60	1-52	204	60	—
B	7-23-60	1-140	205	60	141-186
C	7-24-60	1-41	206	60	187-216
D	7-30-60	1-228	212	60	261-317 406-442
E	7-31-60	1-167	213	60	540-566
F	8-6-60	1-127	219	60	648-692
G	8-7-60	1-204	220	60	777-842 880-898
H	8-8-60	1-36	221	60	—
J	8-11-60	1-103	224	60	—
K	8-12-60	1-287	225	60	1149-1176 1272-1319
L	8-13-60	1-183	226	60	1408-1458
M	8-14-60	1-28	227	60	—
N	8-22-60	1-151	235	60	—
P	8-23-60	1-269	236	60	—
Q	8-24-60	1-288	237	60	2150-2153
R	8-25-60	1-274	238	60	2333-2334
S	8-26-60	1-122	239	60	—
T	8-30-60	1-31	243	60	2672-2697

CONT
H-8558 B

ORIGINAL RECORDS
(Sounding Volumes)

AUTOMATED RECORDS

DAY	DATE	POSITION	DAY	YEAR	POSITIONS
U	8-31-60	1-70	244	60	2715-2763
V	9-1-60	1-180	245	60	2776-2943
W	9-2-60	1-148	246	60	2944-3055
					3063-3091
X	9-3-60	1-181	247	60	3092-3135
					3149-3271
Y	9-4-60	1-198	248	60	3272-3333
					3336-3410
					3418-3469
Z	9-5-60	1-201	249	60	3470-3617
					3641-3670
AA	9-6-60	1-219	250	60	3671-3696
					3731-3743
					3777-3889
BA	9-7-60	1-249	251	60	3890-3968
					4001-4126
CA	9-8-60	1-249	252	60	4127-4211
					4244-4299
					4314-4373
DA	9-9-60	1-185	253	60	4374-4557
EA	9-10-60	1-244	254	60	4558-4640

cont
H-8558 B

ORIGINAL RECORDS
(sounding volumes)

AUTOMATED RECORDS

DAY	DATE	POSITIONS	DAY	YEAR	POSITIONS
					4653-4681
					4688-4801
FA	9-11-60	1-253	255	60	4802-5054
GA	9-12-60	1-20	256	60	5055-5074

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EHC



TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coastal Surveys:~~

August 17, 1961

Division of Charts: R. H. Carstens

Plane of reference approved in
20 volumes of sounding records for

HYDROGRAPHIC SHEET 8558

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

Locality Vicinity of Westend of St. Lawrence Island, Alaska

Chief of Party: J. C. Mathisson (1960)
Plane of reference is mean lower low water, reading
3.4 ft. on tide staff at Tin City, Alaska
5.8 ft. below B. M. Tin City NO 1 (1960)
4.0 ft. on tide staff at Niyrakpak Lagoon, Alaska
2.2 ft. below B.M. NO 1 (1960)

Height of mean high water above plane of reference is:

1.0 ft. Tin City, Alaska
0.7 ft. Niyrakpak Lagoon, Alaska

Condition of records satisfactory except as noted below:

Burt W. Wilcox
Chief, Tides & Currents Branch

~~Chief, Division of Tides and Currents~~

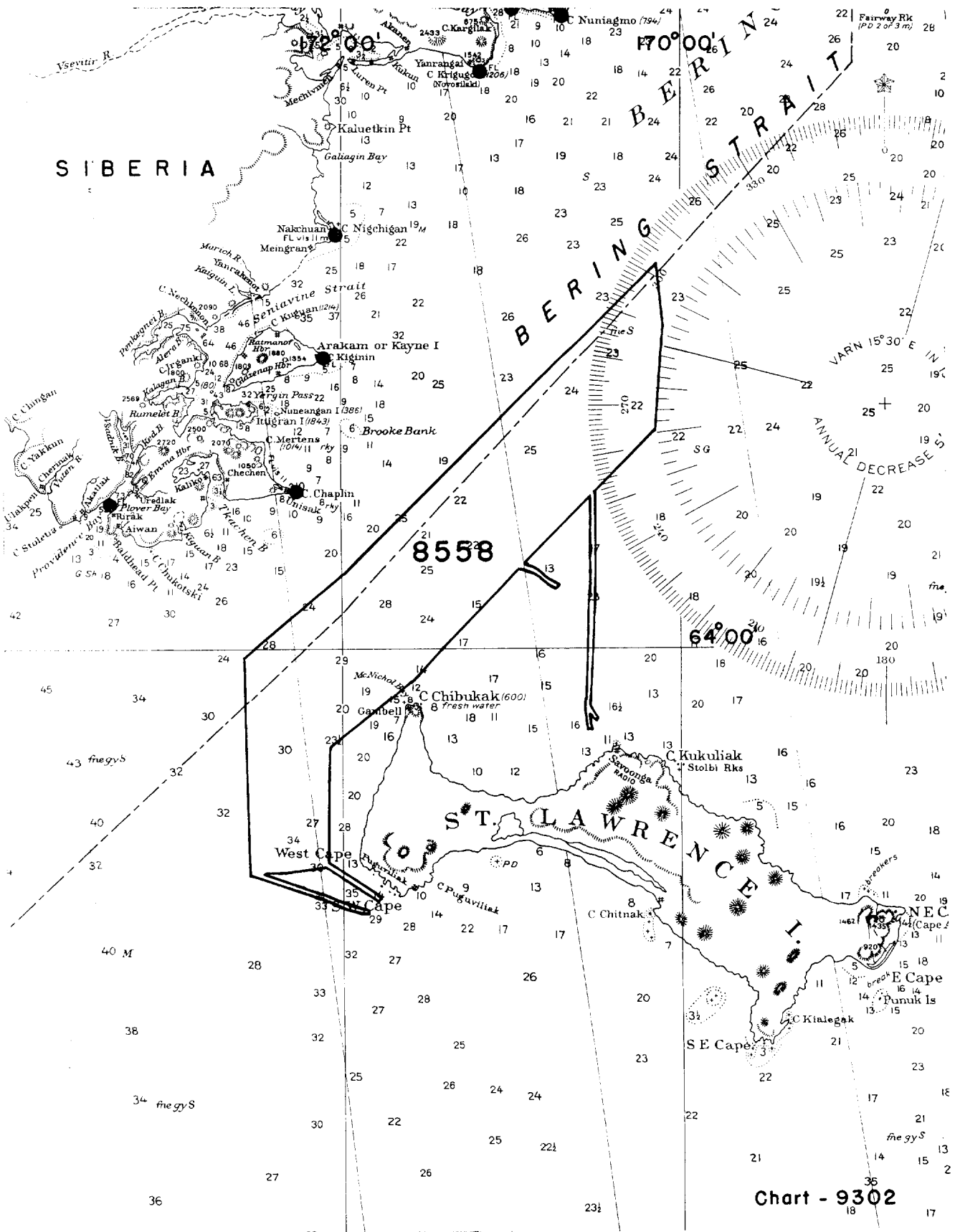


Chart - 9302

