

DECLASSIFIED

Diag. Cht. No. 9400

U. S. DEPARTMENT OF COMMERCE COAST AND GEODETIC SURVEY

# DESCRIPTIVE REPORT

Project OPR 420

Type of Survey Hydrographic

Field No.SU 100-2-62 Office No. H-8655

LOCALITY

Alaska

General locality Chukchi Sea

Locality Northwest of

1962

CHIEF OF PARTY

Wilbur R. Porter

LIBRARY & ARCHIVES

APR 1 1964

DATE .

USCOMM-DC 5087

## 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-8655
Field No. SU-100-2-62

State Alaska
General locality Chukchi Sea
Locality Cape Lesburne
Scale 1:100,000 Date of survey 21 July - 8 Sept. 1962
Instructions dated 9 May 1961, 2 May 1962
Vessel USC&GS SURVEYOR
Chief of party Wilbur R. Porter, Captain C&GS
Surveyed by Ship's Personnel
Soundings taken by fathometer, graphic recorder, hand lead, writer
Fathograms scaled by Ship Personnel
Fathograms checked by Ship Personnel
Protracted by LTJG R. L. Swanson
Soundings penciled by LTJG R. L. Swanson
Soundings in fathoms Yeek at MKW MLLW
REMARKS: (See next page)
<u> </u>

u. s. GOVERNMENT PRINTING OFFICE 777082

SIN

# DESCRIPTIVE REPORT H-8655 (1962)

#### Note:

This report was received in the Washington Office in rough form. An effort has been made to make it as complete as possible. However, the Special Report SU-20-62, Raydist Calibration Methods and Results, Project OPR-420, could not be located, so an abstract of Raydist corrections could not be inserted into the Descriptive Report.

In addition, the abstract of zones of velocity corrections for Pos. 1A to 63+2J could not be found.

With the exception of the items mentioned above it is considered that this report is now reasonably complete.

Dale E. Westbrook

Review Section

Hydrographic Branch

June 8, 1965

# Descriptive Report

To Accompany Hydrographic Survey H-8655, (SU 100-2-62)

USC&GS SHIP SURVEYOR - Captain Wilbur R. Porter, Commanding Scale 1:100,000
1962

# A Project

This survey H-8655 was part of OPR 420. The original instructions were written 9 May 61 and amended for the 1962 field season on 2 May '62. Letters of Reference are S-2-SU (16 March '61) and 222-83-982S (22 August '61).

# B Area Surveyed

The area surveyed was off shore and northwest of Cape Lisburne, Alaska. It covered from 168°00'W eastward to 166°00'W between Latitudes 68°45'N and 70°05'N. The survey began on 21 July 62 and was completed 8 Sept '62. A junction was made with SU 160-2-61 and SU 160-3-61. A junction was also made with contemporary survey SU 100-3-62, H-8557.

# C Sounding Vessel

All sounding was done by the Ship SURVEYOR and identified by blue day letters.

# D Sounding Equipment

All soundings on this sheet were taken with Raytheon
Model DE-723 survey fathometers Nos. 138 and 144. The
method used to correct the soundings is shown in Special
Report SU-662-Corrections to Echo Soundings.

Add free-field
E Smooth Sheet overlap with M-8662 and M-8663

The projection for the smooth sheet was made in the Washington Office with the ruling machine.

Except for a limited number of positions, the positions on the smooth sheet were replotted rather than being pricked through the boat sheet. It was felt that greater accuracy could be obtained by replotting with very little waste of time. Reasons for this are that the Raydists curves on the boat sheet were not as accurate as those

on the smooth sheet and that the smooth plotter has more time than the hydrographer to plot the positions accurately. The positions on A day are in error by about three lanes. This is because the final raydist corrections were changed after the smooth plot was begun. Since the crosslines checked, A day were not changed after the final corrections were arrived at.

can the de acrected on automatest plot

#### F Control

All hydrography on the sheet was controlled by Raydist.
Raydist stations Rayicy and Raybine were located by triangulation and named RAYICY 1961 and RAYBINE 1961.
A discussion of corrections to Raydist is found in Special Report SU 20-62 Project OPR 420, Raydist In Wash office Calibration Methods and results. Freq. 3280 kc

#### G Shoreline

No shoreline was put on the sheet. The small portion of Cape Lisburne that could have been put on the sheet was left off since the sheet is off shore and no shoreline at the proper scale was available.

## H Crosslines

Approximately 7.1% of the lines run were crosslines. All crosslines agree satisfactorily. In the few cases where soundings in fathoms do not agree, it is due to their being rounded off between 0.7 and 0.8 fathoms. When checked to tenths, they agree satisfactorily. The crosslines generally agree to 0.1% of the depth.

## I Junctions

This sheet makes a junction with the contemporary survey SU-100-3-62. There is no overlap of sounding lines since the hydrography was continuous, but parallel sounding lines are in good agreement.

This survey makes a junction with prior surveys SU-160-2-61 and SU-160-3-61. There appears to be excellent agreement between the two surveys.

J Comparison with Prior Surveys

There are no prior surveys of the area.

K Comparison with the Chart

Since only reconnaissance surveys had previously been made in the project area there are relatively few charted soundings available.

A comparison was made with C&GS Chart 9400, 1:1,587,870 printed 25 June 56. The soundings are in poor agreement. Discrepancies are listed below:

Latitude	Longitude	Charted Depth	Sounded Depth
69°51'N 69°04'N	167°54'W 167°17'W	32 18	27
69°38'N	166°12'W	19	22

The same soundings appear to be in error on C&GS Chart 9402, 1:700,000 printed August 1950 and revised 11 April 55 and on H. O. Chart 6782, 1:1,000,000 printed 18 July '60.

A discrepancy was noticed on the charts 9402 and 9400 and the T sheet T-9410. The western tip of Cape Lisburne on Chart 9402 is approximated at Longitude 166°19.5'W while on the T sheet it is at 166°12.6'W. The position on the chart appears to be in error since bearings taken to Cape Lisburne did not check the positions when sailing between Pt. Hope and Cape Lisburne.

L Adequacy of Survey

The survey is considered adequate and complete.

M Aids to navigation

There were no aids to navigation in the area of the survey.

# N Statistics

Positions	3356
Nautical Miles Sdg. Line with turns	4141.3
Nautical Miles Sdg. Line exclusive of turns	4088.3
Current Stations	1
Oceanographic Stations	5
Bottom Samples	83

# O Miscellaneous

The squat and settlement test was run on this sheet for correction to echo soundings.

# P Recommendations

None

# Q References to Reports

- 1. Special Report SU-20-62 Project OPR 420 Raydist Calibration Methods and Results (not received in Washington Office).
- 2. Special Report SU-6-62 corrections to Echo Soundings.
- 3. Special Report SU-21-62 Velocity Corrections.

4

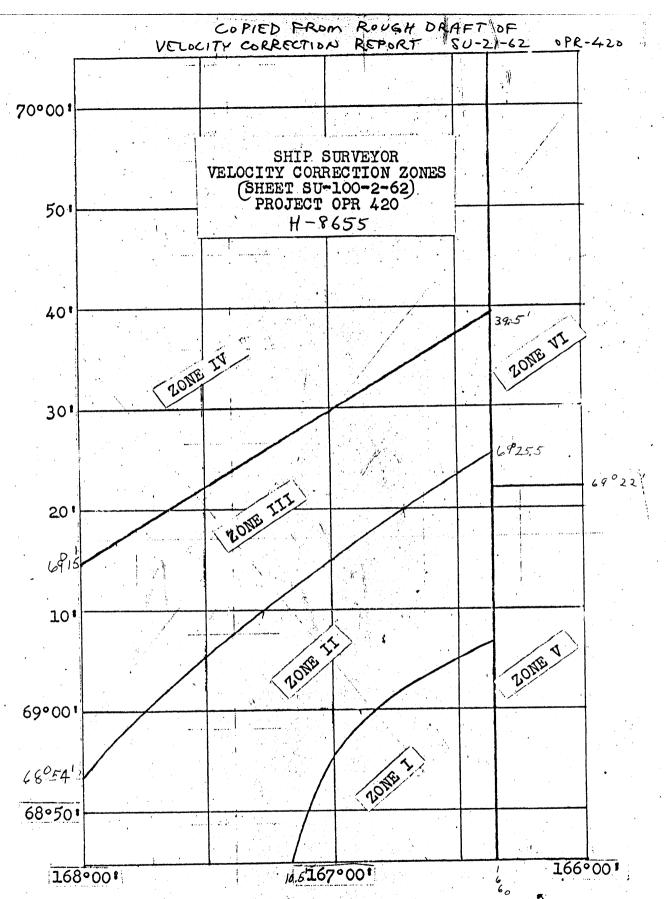
-5-

#### TIDE NOTE

Soundings on this survey were not corrected for tides for the following reasons. There was not enough information on the tides in the area to obtain accurate corrections. The small amount of information available indicated a small range of tide. It was felt that the tides in the area of the sheet were so small they would be masked by wind effect. The authority for not using tide reducers is given in a letter from the Director, dated 22 September 1961, reference No. 222-83-928s.

# INDEX CORRECTIONS SHIP SURVEYOR - OPR-420 1962

	•						
				DRAFT	DEPTH	SETTLEMENT	TOTAL INDEX
70 A (1977)	FROM		TO	COR.	COR.	& SQUAT	CORRECTION
DATE	MOM 4		10	<u> </u>		<u> </u>	
7/17	Beginning	8/1	0530	0.0	-0,5	+0.2	-0.3
0/1	053 <b>1</b>	8/1	0814	-0.1	-01	.0,~	-0.4
8/1 8/3	0311	9/6	0130	+0.1			-0.2
8/3		2/6	0320	0.0			-0.3
8/6	0131	8/6 8/6 8/6	2210	+0.1			-0.2
8/6	0321	8/8	1300	0.0			-0.3
8/6	2211	8/7	1612	+0.1			-0.2
8/7	1301	8/7 8/8		0.0			-0.3
8/7 8/8	1613	0/0	0949		1		-0.2
8/8	1040	8/8	1200	+0.1			-0.3
8/8	1201	8/8	1721	0.0			<u>-0.2</u>
8/8	1722	8/8	1800	+0.1			-0.3
8/8	1801	8/17	0830	0.0 -0.1			-0.4
8/17	08 <b>31</b>	8/17	0930	0.0			-0.3
8/17	0931	8/18	0459 1130	+0.1			-0.2
8/18	0500	8/18	0200	0.0			-0.3
8/18	1131	8/24		-0.1			-0.4
8/24	0201	8/24	0400				-0.3
8/24	0401	8/25	0415 0700	0.0 0.1			-0.4
8/24	0416	8/25	1630	0.0			-0.3
8/24	0701	8/27 8/27	2000	-0.1			-0.4
8/27	1631						-0.3
8/27	2001	8/28	0300 0800	0.0		•	-0.4
8/28	0301	8/28		-0.1			-0.3
8/28	0801	8/29	1334 0200	0.0 +0.1			-0.2
9/8	0401	9/9	1400	0.0			-0.3
9/9	0201	9/15 9/15	2100	-0.1			-0.4
9/15	1401	9/15	0400	0.0			-0.3
9/15	2101	9/16	0700	-0.1			-0.4
9/16	0401 0701	9/16	1300	0.0			-0.3
9/16		9/16	1930	-0.1			-0.4
9/16	1301	9/16	2200	0.0	.		-0.3
9/16	1931		2400 2400	-0.1			-0.4
9/16	2201	9/16	0200	0.0		14	-0.3
9/17	0001	9/17 9/17	0330				-0.4
9/17	0201	9/17		-0.1	-0.5	+0.2	-0.3
9/17	0331	9/17	1600	0.0	-013	+∪•~	<del>-</del> 0•J



Approximated on mylar overlay 2
to abstract zones for TRA Correction
THC

COPIED FROM

ROUGH DRAFT OF

VELOCITY CORRECTION REPORT

SU-21-62

OPR-420

# H-8655

# VELOCITY CORRECTIONS

(SHEET SU-100-2-62)

ZONE NO.	DEPTH	CORR.
a helilin selps set ammentententententent	_Cus	Jan Jan
3.	0 - 813,600	0.0
	13 - 23	+0.1.
:		
2	o - 28	0,0
· ~	0 - 13	0.0
	13 - 28	-0.1
4	0 - 13	0.0
	13 - 23	-0.1
	23 - 28	-0.2

Note; Abstract of Zones for 1A-63+2J missing. OF VELOCITY CORRECTION REPORT
SU-21-62 OPR-420

Dew

# H-8655 ZONES OF VELOCITY CORRECTIONS (SHEET SU-100-2-62-H)

Poa. &	Snd	gs .	Zone	<u>P</u> (	os. &	Snd	ąs –	Zone
63+2J		72+1J	3	24	42+2K		9+1L	2
72+2J	<del>.</del>	137+1J	4		9+2L		17+1Ŀ	3 -
137+2J		152+1J	3		17+2L	_	57+2L	4 -
152+2J	<u>.</u> .	173+1J	2-		58L	_	66+1L	3 —
173+2J	-	201+2J	1-		66+2L	_	78+1L	2
202J	_	213J	2		78+2L	·	102L	1 —
213+1J	-	221+1J	3 –	10	02+1L	-	112+2L	2
221+2J		262+2J	4 -	1	13L	_	120+2L	3 ~
263J	 -	271+1J	3 ~	1	21L	-	160+2L	4
271+2J	-	283+2J	2 —	1	61L	-	169+1L	3 —
284J	-	11+2K	1	. 1	69+2L	-	181+1L	2 _
12K	-	24K	2レ	1	81+2L	-	183L	1
24+1K	_	32+2K	3	1	84L		202L	2 , because:
33K	-	92K	4-	. 2	02+1L	-	239L	1
92+1K	-	108K	3 -	2	39+1L	-	260+2L	2 ←
108+1K		119+2K	2 -	2	61L		276+2L	3 —
120K	-	130K	1-	2	77L	-	44+1M	4
130+1K	-	142+2K	2-		44+2M	-	52+2M	3 -
143K	-	151+1K	3 -		53M	-	64+2M	2
151+2K	-	198K	4		65M~	-	17N '-	1-
198+1K		206+2K	3		17+1N	• · ·	38+2N	-2 -
207K	-	218+1K	2		39N	• • • • • • • • • • • • • • • • • • •	49+2N	3
218+2K	-	242+1K	1-		50N	-,	77N	4.
			그렇게 그리는 수 있었다.	a gray a file of the contract				

CANDALT TO SECURITION OF STREET

OF VELOCITY CORRECTION REPORT SU-21-62 OPR-420

# #-8655 VELOCITY CORRECTIONS (Sheet SU-100-2-62)

Дер	th			Zone	5		Zono
0.0 -	10.	0		0			+0.1
10.1 -	15.	0		+ 0.	1		+0.1
15.1 -	30.	0		+ 0.	1		+0.2
Posi	t1or	<b>18</b>	Zone				
IP .	-	80	. 5				
120	-	14R+1	6.	_		•	
148+2	-	59R	5		and the second second second	a value	
59R+1	-	278+1	6-				
273+2	<b></b> .	811+2	5.	_			

9U 8V

63V+1 -

30VI+1 -

971

IW.

63 V

1257

304

94W

967+2 -

FORM 197 (3-16-55)

Or de Cor J. S. de de Cor de de de de la Cor J. S. de de la Cor de de de la Cor de de de la Cor de la C 2.0 Cuide of MaQ **GEOGRAPHIC NAMES** On oce hap's Survey No. H-8655 Name on Survey Alzska Cape Lisburne (optional) Chukchi Sea 

FORM C&GS-946 (REV. 3-1-64) (PRESC. BY HYDROGRAPHIC MANUAL 20-2, 6-94, 7-13)

#### U.S. DEPARTMENT OF COMMERCE COAST AND GEODETIC SURVEY NAUTICAL CHART DIVISION

# HYDROGRAPHIC SURVEY STATISTICS HYDROGRAPHIC SURVEY NO. 8655

RECORDS ACCOMPANYING SURVEY: To be completed when survey is registered. AMOUNT RECORD DESCRIPTION RECORD DESCRIPTION AMOUNT BOAT SHEETS 1 SMOOTH SHEET 1 OVERLAYS DESCRIPTIVE REPORT 1 ABSTRACTS/ SOURCE DOCUMENTS HORIZ. CONT. DEPTH TAPE ROLLS PUNCHED CARDS PRINTOUTS DESCRIPTION RECORDS **RECORDS** ENVELOPES CAHIERS 1 11 VOLUMES BOXES T-SHEET PRINTS (List) SPECIAL REPORTS (List) OFFICE PROCESSING ACTIVITIES The following statistics will be submitted with the cartographer's report on the survey **AMOUNTS** PROCESSING ACTIVITY PRE-VERIFICATION REVIEW TQTALS VERIFICATION POSITIONS ON SHEET POSITIONS CHECKED POSITIONS REVISED DEPTH SOUNDINGS REVISED DEPTH SOUNDINGS ERRONEOUSLY SPACED SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED TIME (MANHOURS) TOPOGRAPHIC DETAILS JUNCTIONS VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS SPECIAL ADJUSTMENTS ALL OTHER WORK TOTALS BEGINNING DATE ENDING DATE PRE-VERIFICATION BY VERIFICATION BY BEGINNING DATE ENDING DATE BEGINNING DATE ENDING DATE REVIEW BY

FORM C&GS-946A (REV. 2-1-64) (PRES. BY HYDROGRAPHIC MANUAL, 6-94)

U.S. DEPARTMENT OF COMMERCE COAST AND GEODETIC SURVEY

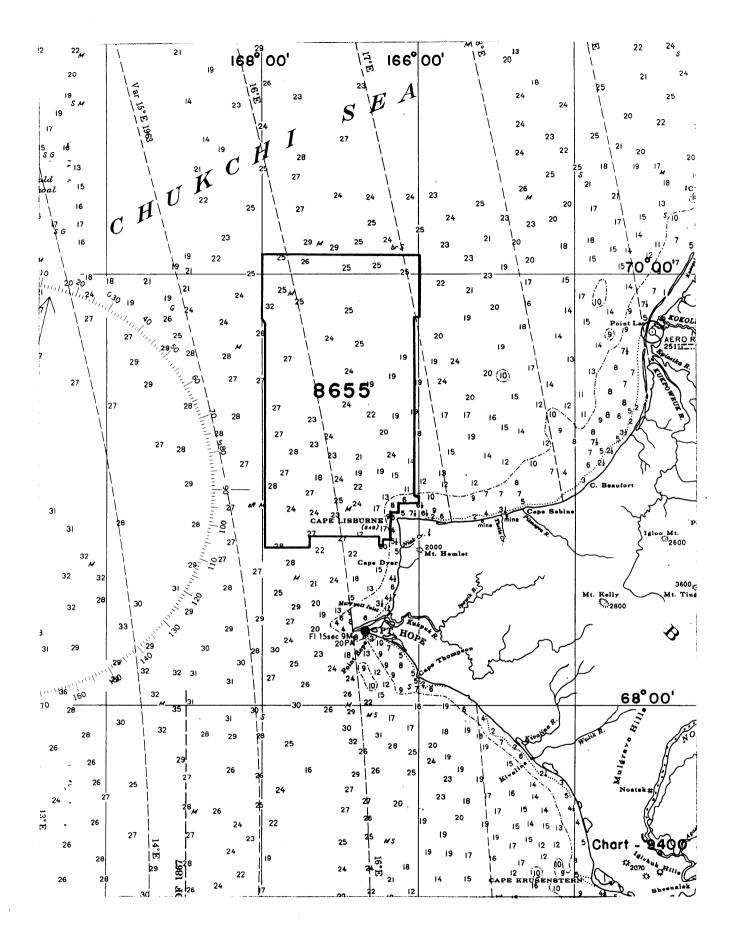
# VERIFIER'S REPORT HYDROGRAPHIC SURVEY, H=8655

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 1 - DESCRIPTIVE REPORT	CL	R	Part III - JUNCTIONS (Continued)	CL	R
Note: The verifier should first read the Descriptive Report for general information and problems.			<ul> <li>10. Junctions with contemporary surveys were satisfactory except as follows:</li> </ul>		
<ol> <li>The Descriptive Report was consulted, paragraphs checked if found satisfactory, and notations were made in soft black pencil regarding action taken.</li> <li>Remarks Required: None</li> </ol>	,		Remarks Required: Consider conditions after adjustments have been made; note adjustments made. Make special notes of Butt junctions and areas which are SUPERSEDED.		
<ol> <li>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.</li> <li>Remarks Required:None</li> </ol>			Port IV - YOLUMES  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.		
<ol> <li>All reference to survey sheets mentioned in the Descriptive Report should include registry number and year.</li> </ol>			Remarks Required: None		
Remarks Required: None			12. Condition of sounding records was satisfactory except as follows:		
Part II - SHORELINE AND SIGNALS 4. Source of shoreline signals Remarks Required: List all surveys			Remarks Required: Mention deficiencies in completeness of notes or actions for the following:		
<ul> <li>Give earliest and latest dates of photo- graphs</li> </ul>			(a) rocks (b) line turns		
b. Field inspection date			(c) position values of beginning and ending of lines		
d. Reviewed-Unreviewed			(d) bar check or velocity correctors		
<ol> <li>The transfer of contemporary topographic information was carefully examined and rec- onciled with the hydrography.</li> <li>Remarks Required: Discuss remaining</li> </ol>			<ul><li>(e) time recording</li><li>(f) notes or markings on fathograms</li><li>(g) was reduction of soundings accurately done?</li></ul>		
differences.  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			<ul> <li>(h) was stanning accurate?</li> <li>(i) were peaks at uneven intervals missed?</li> <li>(j) were stamps completed?</li> <li>(k) references to adjacent features</li> </ul>		
<ol> <li>Objects on which signals are located and which fall outside of the high-water line have been described on the sheet.</li> <li>Remarks Required: List those signals still unidentified.</li> </ol>			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		
Part III - JUNCTIONS  Note: Make a cursory comparison preliminary to inking soundings in area of overlap.			14. The protracting and plotting of all unsatisfactory crossings were verified.		
8. All junctions of contemporary or overlapping sheets were transferred in colored ink and overlapping curves were made identical.			Remarks Required: None		
Remarks Required: None  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.			15. All detached positions locating critical soundings, rocks, buoys, breakers, obstructions, kelp, etc., were verified and the position numbers are legible.		
Remarks Required: None		1	Remarks Required: None	1	

Part V - PROTRACTING (Continued)	CL	R	Part VIII - AIDS TO NAVIGATION	CL	R
16. The protracting was satisfactory except as follows:			26. All fixed aids located together with those on the contemporary topographic sheets, have		
Remarks Required: Refers to protracting in general except for specific faults repeated			been shown on the survey.		
often, or faults in control information, which required considerable replotting or adjustments.			Remarks Required: Conflicts of any nature listed.		
		<b>.</b>			
17. The protractor has been checked within the last three months.			27. All floating aids listed in the Descriptive Report should be verified and checked	į l	
Remarks Required: Date of check, type of			in soft black pencil, including latitude and longitude and position identification.		,
protractor and number.					
Part VI - SOUNDINGS			Remarks Required: None		
18. All soundings are clear and legible, and criti- cal soundings are a little larger than adjacent	<u>.</u>		Part IX - BOAT SHEET		
soun dings.			28. The boat sheet was constantly compared with the smooth sheet with reference to		
Remarks Required: None			notes, position of sounding lines and supplemental information.		
19. Sounding line crossings were satisfactory		ļ	Remarks Required: None		
except as follows:			remarks required. Work		
Remarks Required: Discuss adjustments.			29. Heights of rocks awash were correctly reduced and compared with topographic infor-		
20. The spacing of soundings as recorded in the			mation.		
records was closely followed;			Remarks Required: Note excessive con- flicts with topographic information.		
Remarks Required: None					
			Part X - GENERAL		
21. The scanning, reduction, spacing, plotting of questionable soundings have been verified.			30. All information on the sheet is shown in accordance with figures 82 and 83 in the		
Remarks Required: None			Hydrographic Manual (Pub. 20-2).		
			Remarks Required: None		
22. The smooth plotting of soundings was satisfactory except as follows:					
Remarks Required: - Refer to legibility,			31. Unnecessary pencil notes have been		
errors in spacing, and errors in numbers - but not to errors in scanning.			removed from the sheet.		
			Remarks Required: None		
B WII CONTRACT					
Part VII - CURVES  23. The depth curves have been inspected be-	}		32 Degree, minute values and symbols have been checked; also electronic distance arcs		
fore inking.  Remarks Required: By whom was the nen-			have been properly identified and checked on the smooth sheet.		
Remarks Required: By whom was the pen- ciled curves inspected.			,		
24. The low-water line and delineation of shoal areas have been properly shown in accordance			Remarks Required: - None		
with the following:					
o. From T-Sheet in dotted black lines			33. The bottom characteristics are adequately		
b. From soundings in orange			shown.		
<ul> <li>Approximate position of sketched curve is dashed orange</li> </ul>			Remarks Required: None	i	
d. Approximate position of shoal area not			Part XI - NOTES TO THE REVIEWER		
sounded in black dashed					
Remarks Required: None			34. Unresolved discrepancies and questionable soundings.		
25. Depth curves were satisfactory except as follows:			35. Notation of discrepancies with photogram-	, ]	
(This statement should not refer to the			metric survey inserted in report of unreviewed photogrammetric survey or on copy.	.	
manner in which the curves were drawn). Remarks Required: Indicate areas where			ratebrammettic sarrey of on copy.		
curves could not be drawn completely because of lack of soundings. For some inshore areas			36. Supplemental information.		
a general statement is sufficient.					
Verified by			Date		
			1		



#### NAUTICAL CHART DIVISION

## **RECORD OF APPLICATION TO CHARTS**

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. \_\_ H-8655

## **INSTRUCTIONS**

- A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.

  1. Letter all information.

- 2. In "Remarks" column cross out words that do not apply.
  3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charte" in the Por-

CHART	DATE	CARTOGRAPHER	REMARKS
9400	11/4/66	Frank Parlot/mR	Part Before Werification Review Inspection Signed Via
<del>, , , , , , , , , , , , , , , , , , , </del>	1///	1	Drawing No. See. L- 1394/66 for clearance to
•			that selected soundings on 9400 - MZ
1402	3-21-68	H. Rodden	Ent Part Before Merification Review Inspection Signed Via
			Drawing No. part apple then alt. 9452 and part
			200'd directly from sheet
9452	1-16-68	Horles Forber	Ball Part Before Amer Verification Review Inspection Signed Via
			Drawing No.
			- Francisco
<del>9402</del>	<del>2/13</del>	Clarence Trus Lolds	Full Part Before After Verification Review Inspection Signed Via
		7	Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
		·	
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			``
			1 ~.