

8286

Diag. Cht. No. 8152-2.

Form 504

U. S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. HO-1156 Office No. H-8286

LOCALITY

State S. E. Alaska

General locality Sumner Strait

Locality Warren Channel

1956

CHIEF OF PARTY

R. A. Earle

LIBRARY & ARCHIVES

DATE Feb. 25, 1960

USCOMM-DC 5087

8286

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-8286

Field No. HO-1156

State Southeast Alaska

General locality Sumner Strait

Locality Warren Channel - Davidson Inlet

Scale 1:10,000 Date of survey 25 Apr. to 6 July 1956

Instructions dated 2 November 1956

Vessel USC&GSS HODGSON

Chief of party R. A. Earle

Surveyed by R. A. Earle and Paul Taylor

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

Fathograms scaled by L. F. H. & H. W. H.

Fathograms checked by H. W. H. & A. M. L.

Protracted by J. M. Rogers & V. F. Flor

Soundings penciled by V. F. Flor

Soundings in fathoms ~~feet~~ at ~~MLLW~~ and are based on a mean
velocity of sound of 800 fms/sec.

REMARKS:

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SURVEY NO. H-8286 (FIELD NO. HO-1156)

SHIP HODGSON

R. A. EARLE, COMDG.

A. PROJECT:

This survey was executed as a part of Project 13470 in accordance with Revised Instructions, dated 21 November 1955. ✓

B. SURVEY LIMITS AND DATES:

Field work for this survey was started on 25 April and completed on 6 July 1956. ✓

This surveyed area extends from Davidson Inlet, Longitude $133^{\circ} 39' 10''$ W., westward through Cosmos and Fake Pass, thence through Warren Channel to Warren Island. It lies between Latitude $55^{\circ} 51' 4''$ N. and Latitude $55^{\circ} 55' 15''$ N. ✓

This survey connects with contemporary survey H-8287 on the east; with survey H-6283, 1937 on the north; and with survey H-2664 and H-2732, 1903-04, on the south. (See sheet layout sketch which was previously submitted.) Also H-8112 (1960) SE of H-8443 and 44 (1957-58) South. ✓

C. VESSEL AND EQUIPMENT:

The Ship HODGSON surveyed the deeper portions of Warren Channel and the southern portion of the sheet. The remainder of the work which included the east shore of Warren Island, Warren Cove, Halibut Harbor, Cosmos and Fake Passes, and the western part of Davidson Inlet, was done with Launch 98, operating from the Ship HODGSON. ✓

Soundings were taken with 808 type fathometers, which were supplemented by hand lead soundings on critical shoals. ✓

Recorded vertical casts which were taken while obtaining bottom samples, may be used where needed, to delineate depth curves; but should not be used for fathometer comparisons because of the slant of the wire and line. ✓

D. TIDE AND CURRENT STATIONS:

Mean lower low water, as recorded on the portable automatic tide gage maintained at Token Cove, Lat. $55^{\circ} 59' 75''$ N, Long. $133^{\circ} 27' 83''$ W, was used without time or range corrections for the reduction of all soundings. ✓

Edge of limits of present survey.
Current station No. 4 in Warren Channel, at Lat. $55^{\circ} 55' 3''$ N, Long. $133^{\circ} 49' 9''$ W, was observed with a Roberts' Automatic Recorder buoy during the time of this survey. ✓

E. SMOOTH SHEET:

Smooth sheet work will be done by personnel attached to the Ship HODGSON or by the Seattle Processing Office personnel. Their report will ✓

be included as an addendum to this report.

F. CONTROL STATIONS:

Triangulation stations LICHEN 2 1937, HALI 1937, QUARTZ 1903, BLACK 1903, STRAW 1903, FAKE 1903, MOSS 1903 and ROUND 1903, were located previously.

Stations An, As, Ba, Bo, ^{Co}Cy, Do, Ed, Em, He, Hi, Is, It, and Me are hydrographic stations located by sextant cuts. They are indexed in the sounding volume in which they were located. The remainder of the control stations, which were located by photogrammetric methods, will be found on photogrammetric manuscripts T-10393, T-10394, T-10395, T-10396, T-10400 and T-10401. A list of all stations used, together with their origin, is attached to the cover sheet of sounding volume No. 1 of this survey. *Me was located by angle & distance from Δ COVE, 1903 (vol. 4, p. 57)*

No particular difficulty was experienced in the use of any of the signals which were located by photogrammetric methods.

G. SHORELINE AND TOPOGRAPHY:

All shoreline on the boat sheet was taken from preliminary and incomplete photogrammetric manuscripts. No discrepancies were noted by the hydrographer. The completed manuscripts should be used for transferring shoreline to the smooth sheet.

The shoreline along the west side of Davidson Inlet, through the passes, and along the east side of Warren Channel, is very rugged and contains many foul areas. The entire area east of Quartz and Black Rocks, and including Fake Pass, should be navigated with caution.

No attempt was made by the hydrographer to define the low water line due to the numerous rocks and reefs that abound in the area. Lines were run, however, as near the shore as feasible in an effort to develop the adjacent 5 fathom curve.

H. SOUNDINGS:

All soundings were taken with 808 type fathometers Nos. 62S and 104S which were calibrated at 800 fathoms per second. These soundings were supplemented on critical rocks and shoals by vertical casts taken with a standardized leadline.

Only the least depths, plus representative soundings, were recorded on shoals which were investigated with the hand lead.

The fathometer used on the Ship HODGSON was set each morning at some place where the bottom was flat, in order that it would record the correct depth. The transducer depth (draft) was measured and the fathometer initial setting was read and recorded. Compensation was made for changes occurring in these values during the day, by an initial correction which was entered in the sounding volume.

The fathometer used in Launch 98 was set at the correct depth each morning, and checked at the end of the day, with a bar held two fathoms below the water surface. The fathometer initial setting was recorded.

Compensation for variations of the initial is made by applying an initial correction in the sounding volumes. Numerous checks on fathometer speed were made by the hydrographers during the day but no variation from standard speed was noted.

No corrections were applied to the soundings for temperature and salinity. All other corrections which apply to the soundings, have been entered and checked in the sounding volumes.

Appended to this report is a table of fathometer phase corrections and also a leadline standardization table.

I. CONTROL OF HYDROGRAPHY:

All hydrography was controlled by sextant fixes taken at fixed intervals, and the soundings were equally spaced between these fixes.

It will be noted that there are occasionally differences in the distances between fixes, taken by both the ship and the launch. This variation in the apparent speed of the ship is attributed to the strong current and current swirls encountered in Warren Channel. The varying distances are most pronounced in the launch work, especially in narrow channels and around the numerous rocks and reefs. These apparent changes of speed of the launch were caused by either, or a combination of, current, kelp and rudder drag. There are, however, a sufficient number of sextant fixes so that no sounding is appreciably displaced.

Reference should be made to the boat sheet for line directions between fixes along the shoreline and through some of the foul areas.

J. ADEQUACY OF SURVEY:

This survey is considered complete and adequate for the area. No additional field work is considered necessary at this time.

Satisfactory junctions were made with Survey H-6283 in the northern portion of Warren Channel, and with contemporary Survey H-8287 in Davidson Inlet. There are no holidays or excessive differences in depths at the junctions of these surveys. (1954)
see
IP5
RE-
view
1956

K. CROSSLINES:

Adequate cross lines were run and the only discrepancy noted was in a small section of a line run by Launch 98 which crossed Warren Channel between positions 122 and 1251. This error was probably caused by faulty sextant angles or by taking an erroneous object. As the soundings on this section of line added nothing to the adequacy of the survey they were rejected, and no attempt was made to rectify the differences.

L. COMPARISON WITH PRIOR SURVEYS:

It is hard to compare the present survey with the prior survey (No. H-2664 of 1903-04), due to the scarcity of soundings on the latter and generally speaking, the present soundings are slightly shoaler than those obtained in 1903. Numerous reefs and shoals were missed entirely in the original survey. see
IP6
Review

0.13

No evidence of the rocks shown on the prior survey at Lat. 55° 52'15" N, Long. 133° 43'10" W was found, however, there is a reef about 0.2 mile to the northeast. Numerous other reefs have also been displaced slightly. (apparently Pos. 102 "Q", vol. 7, p. 40)

M. COMPARISON WITH CHART:

For comparison between the present survey and Charts 8171 and 8173, the following comments are offered:

- 1. The charted 43 fathom sounding at Lat. 55° 52'18" N, Long. 133° 49.1' W is substantially correct, however, a least depth of 38 fathoms was obtained on the present survey in this area. (Pos. 190-191 "L", vol. 6, p. 45)
- 2. The charted 20 fathom sounding at Lat. 55° 52'10" N, Long. 133° 46'15" W is correct. (Pos. 18 and pos. 19 "S", vol. 8, p. 17)
- 3. A minimum sounding of ^{7.0} 6.8 fathoms was obtained near the charted 11 fathom sounding at Lat. 55° 52'14" N, Long. 133° 46'16" W. (Verified as 7 Fm. pos. 26-29 "ae" see vol. 13, p. 58)
- 4. "Breakers" shown on Chart 8173 at Lat. 55° 53'17" N, Long. 133° 45'15" W were not identified, however, this note is printed on the east edge of a very foul area which the present survey delineates.
- 5. Minimum depths of 6 and 7 fathoms were obtained on the charted breaker area at Lat. 55° 52'18" N, Long. 133° 43'12" W.

N. DANGERS AND SHOALS:

Rocks and reefs abound in the east portion of Warren Channel to the eastward of a line between Black Rock, and the southwest point of Kosciusko Island. Any ship traversing this area should do so with caution. (pos. 41 "h", vol. 4, p. 55)

Special attention is called to the rock on the north side of the entrance to Warren Cove; to the foul area on the north side of the entrance to False Cove; to the rocks in the east entrance to Halibut Harbor; to the rock in the west entrance to Fake Pass; to the reef at Long. 133° 42'17" W, between Fake and Cosmos Passes and to the shoal area 0.6 mile south of Round Island. There are notes in the records concerning these dangers and particular attention is directed to the notes made on the boat sheet. Attention is also directed to the notes on the boat sheet relative to rocks which were transferred from the photogrammetric manuscript of False Cove and disproved by the hydrographer. (vol. 8, p. 72; vol. 6, p. 70)

Bull kelp was found on all shoals in the area that had a minimum depth of 5 fathoms or less at MLLW. During the latter part of the summer, kelp may also be found in depths up to 8 fathoms. (Note bathogram "G" day, pos. 17-18, pos. 62-63, pos. 66-67, pos. 70-71)

O. COAST PILOT INFORMATION:

The only good ship's anchorage in the area of this survey is in Warren Cove in 5 to 6 fathoms of water, where there is a good holding bottom of fine sand and broken shell. In addition to Warren Cove small boats may find good anchorage on the south side of False Cove in from 3 to 5 fathoms, and in Halibut Harbor in from 5 to 15 fathoms of water.

Small boats use Cosmos Pass when running between Davidson Inlet and Warren Channel. The channel thru this pass has a controlling depth of 3 1/2

fathoms at MLLW. Maximum current through the pass is estimated at 3 knots. The sea breaks across the entire width of the west entrance to Cosmos Pass ✓ in heavy southwest weather.

P. AIDS TO NAVIGATION:

Cosmos Pass Buoy 1 is the only aid to navigation within the area of this survey. This is a can buoy which marks the north side of the channel ✓ through Cosmos Pass. This buoy was located by sextant fixes which are recorded in a sounding volume. (Pos. 14 "g", vol. 4, p. 28)

Q. LANDMARKS FOR CHARTS:

There are no additional landmarks to be charted within the area of ✓ this survey.

R. GEOGRAPHIC NAMES:

A special "Geographic Names Report" was submitted for the entire ✓ project.

hmb Quartz Rock and Straw Pass were two new recommended names which fall ✓ within the area of this survey. These names are penciled on the boat sheet.

S. SILTED AREAS:

There are no areas on which excessive amounts of silting was noted, ✓ within the limits of this survey.

T.- X:

Not applicable or previously covered. ✓

Y. MISCELLANEOUS:

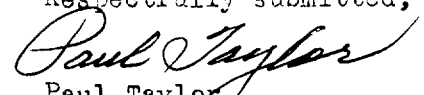
While numerous bottom samples were obtained in shoal depths and places where ship could anchor, it was considered a waste of time to adhere to the ✓ maximum spacing in deep water, as numerous bottom samples had been obtained during the original survey. This omission is in accordance with Ref. No. 3842 of the Hydrographer's Manual.

No attempt was made to place stray lines of soundings between rocks ✓ in some foul areas, as these soundings were considered to have little value for charting purposes and excessive time would have been wasted in doing this work. (See paragraph 4.08 of Hydrographic Instructions No. 2.)

Z. TABULATION OF APPLICABLE DATA:

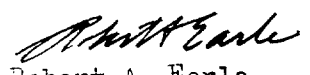
1. Tide Data, Tokeen Cove Gage. - Forwarded 6/21 and 10/30/56.
2. Photogrammetric Manuscripts and Reports. - Forwarded 8/4, 10/16 and 11/15/56.
3. Fathometer Phase Correction. - Attached.
4. Geographic Names Report. - Forwarded 11/28/56. ✓
5. Coast Pilot Notes - To be forwarded to Washington

Respectfully submitted,



Paul Taylor,
CDR, USC&GS

Approved and forwarded:



Robert A. Earle,
CDR, USC&GS
Comdg., Ship HODGSON

STATISTICS

SURVEY NO. H-8286 (FIELD NO. HO-1156)

LAUNCH 98

Date	Vol No.	Day Ltr.	Positions	Naut.Mi.	H. L.
4/25	1	a	135	21.8	
4/26	1	b	101	18.2	
4/27	1&2	c	125	15.3	
5/2	2&3	d	199	28.2	
5/3	3	e	160	26.5	5
5/4	3&4	f	192	28.7	
5/5	4	g	120	10.0	19
5/24	4	h	40	2.5	
5/26	4&5	j	200	23.1	
5/28	5&6	k	183	28.2	
5/29	6	l	194	24.1	
5/30	6	m	76	3.0	12
5/31	6	n	33	2.9	
6/8	6&7	p	75	8.1	
6/9	7	q	170	27.3	
6/11	7&8	r	110	8.3	
6/12	8	s	159	20.3	
6/13	8&9	t	177	22.3	
6/14	9	u	143	18.5	
6/15	9&10	v	138	24.6	
6/17	10	w	148	17.6	
6/20	10&11	x	123	16.8	
6/25	11	y	91	13.0	15
6/26	11	z	54	8.4	
6/27	11&12	aa	129	19.4	
6/28	12	ab	196	37.1	
6/29	13	ac	147	11.9	14
6/30	13	ad	98	7.9	14
7/6	13	ae	29	1.8	10
Total Launch - - -			<u>3745</u>	<u>495.8</u>	<u>89</u>

SHIP HODGSON

5/23	14	A	67	17.6	
5/24	14	B	26	7.0	
5/26	15	C	175	47.3	
5/28	15	D	92	22.9	
5/29	15	E	78	11.7	
6/19	15&16	F	139	37.0	
6/20	16	G	71	13.2	15
Ship Total - - -			<u>648</u>	<u>156.7</u>	<u>15</u>

Grand Total - - - 4393 652.5 104

Area of Sheet = 25.0 sq. nautical miles

TIDE NOTE

SURVEY NO. H-8287

TIDE STATION: (Not on H-8286)

TOKEEN COVE

Lat. 55° 59' 45" N

Long. 133° 27' 50" W

MLLW on staff = 2.7 feet

APPROVAL SHEET

HYDROGRAPHIC SURVEY NO. H-8286 (FIELD NO. HO-1156)

The boat sheets and field records for this survey, when the hydrography was not done by the writer, were examined at frequent intervals during the field season. As the survey is considered to be complete and adequate, no additional field work is deemed necessary.

The person plotting the smooth sheet should write an addendum to this report.

Robert A. Earle

Robert A. Earle,
CDR, USC&GS
Comdg., Ship HODGSON

PHASE COMPARISON

LAUNCH 98

FATHOMETER 62-8

A	B	A-B
46.0	45.4	+0.6
45.6	45.2	+0.4
45.5	45.0	+0.5
45.2	44.7	+0.5
45.0	44.6	+0.4
45.0	44.5	+0.5
44.8	44.3	+0.5
44.6	44.2	+0.4
44.3	44.1	+0.2
44.3	43.8	+0.5
	Sum	+4.5
(31 May 1956)	Mean	+0.45

B	C	B-C
75.1	73.3	+1.8
74.8	73.0	+1.8
74.7	72.8	+1.9
74.8	72.8	+2.0
74.0	72.7	+1.3
74.6	72.6	+2.0
74.6	72.6	+2.0
74.6	72.5	+2.1
74.4	72.4	+2.0
74.4	72.4	+2.0
	Sum	18.9
(31 July 1956)	Mean	+1.89

48.6	48.3	+0.3
48.7	48.4	+0.3
48.8	48.6	+0.2
49.0	48.5	+0.5
49.0	48.6	+0.4
49.0	48.8	+0.2
49.0	48.8	+0.2
49.0	48.8	+0.2
49.0	48.7	+0.3
49.0	48.7	+0.3
	Sum	+2.9
(10 Aug. 1956)	Mean	+0.29

RESULTS

A	B	C	D
0.0	+0.3	+2.2	+3.7

PHASE COMPARISON

SHIP HODGSON

FATHOMETER 62S

4-23-56

A	B	A-B	B	C	B-C	
44.0	43.3	+0.7	79.0	76.5	+2.5	
44.0	43.3	+0.7	79.5	77.0	+2.5	
43.9	43.3	+0.6	80.5	78.0	+2.5	
44.0	43.4	+0.6	80.9	78.3	+2.6	A-B = +0.59
44.0	43.4	+0.6	81.0	78.6	+2.4	B-C = <u>+2.47</u>
44.0	43.3	+0.7	81.2	79.0	+2.2	+3.06 ✓
44.0	43.4	+0.6	81.3	79.0	+2.3	
44.0	43.4	+0.6	81.9	79.2	+2.7	
43.8	43.4	+0.4	82.0	79.5	+2.5	
43.8	43.4	+0.4	82.2	79.7	+2.5	
		<u>+5.9</u>			<u>+24.7</u>	
Mean		+0.59 ✓		Mean	+2.47 ✓	

RESULTS

A	B	C
0.0 ✓	+0.6 ✓	+3.0 ✓

PHASE COMPARISON
Ship HODGSON FATHOMETER 104S

A	B	A-B	B	C	<u>5-26-56</u> B-C	C	D	C-D
46.0	45.8	+0.2				118.8	126.4	-7.6
46.8	46.4	+0.4				119.0	126.8	-7.8
47.6	47.6	0.0				119.0	127.2	-8.2
49.0	48.9	+0.1				120.0	127.8	-7.8
50.0	49.6	+0.4				120.0	128.2	-8.2
50.5	50.4	+0.1				120.4	128.8	-8.4
51.7	51.5	+0.2				120.8	129.0	-8.2
52.3	52.1	+0.2				121.0	129.3	-8.3
53.0	53.0	0.0				121.0	129.8	-8.8
53.7	53.1	+0.6				121.0	129.4	-8.4
	Sum	+2.2 ✓					Sum	-81.7 ✓
	Mean	+0.22 ✓					Mean	-8.17 ✓

					<u>5-29-56</u>			
40.1	39.6	+0.5	85.5	89.6	-4.1	122.8	131.0	-8.2
40.3	38.8	+0.5	85.8	89.8	-4.0	123.0	131.1	-8.1
40.6	40.0	+0.6	85.9	90.0	-4.1	123.0	131.0	-8.0
40.6	39.9	+0.7	85.8	90.0	-4.2	123.0	131.0	-8.0
40.8	40.0	+0.8	85.8	89.9	-4.1	122.8	130.8	-8.0
40.8	40.0	+0.8	86.0	90.0	-4.0	122.8	130.8	-8.0
41.0	40.1	+0.9	86.0	90.0	-4.0	122.7	130.7	-8.0
41.0	40.2	+0.8	86.1	90.2	-4.1	122.8	130.9	-8.1
41.0	40.2	+0.8	86.2	90.2	-4.0	122.8	130.9	-8.1
41.0	40.2	+0.8	86.2	90.3	-4.1	122.7	130.7	-8.0
	Sum	+7.2 ✓		Sum	-40.7 ✓		Sum	-80.5 ✓
	Mean	+0.72 ✓		Mean	-4.07 ✓		Mean	-8.05 ✓

B to C = -4.07 ✓
A to B = +0.32 ✓
C = -3.75 ✓

<u>7-16-56</u>		
50.0	50.0	0.0
50.0	49.9	+0.1
49.0	49.0	0.0
49.0	49.0	0.0
48.8	48.7	+0.1
48.8	48.6	+0.2
49.0	48.6	+0.4
48.0	48.0	0.0
47.0	47.0	0.0
46.0	46.0	0.0
	Sum	+0.8 ✓
	Mean	+0.08 ✓

RESULTS

A	B	C	D
0.0 ✓	+0.3 ✓	-3.8 ✓	-11.9 ✓

<u>8-27-56</u>		
48.0	47.4	+0.6
47.6	47.4	+0.2
47.4	47.2	+0.2
47.2	47.0	+0.2
45.2	45.0	+0.2
45.2	45.0	+0.2
44.9	44.8	+0.1
44.9	44.7	+0.2
44.9	44.7	+0.2
44.8	44.4	+0.4
	Sum	+2.6 ✓
	Mean	+0.26 ✓

PHASE COMPARISON

LAUNCH 98 - FATHOMETER NO. 104S - 4/25/56

A Scale	FATHOMS B Scale	Corr.
42.6	42.8	-0.2
42.7	42.8	-0.1
42.6	42.7	-0.1
43.0	43.2	-0.2
42.9	43.1	-0.2
42.5	42.7	-0.2
42.3	42.4	-0.1
42.0	42.3	-0.3
42.0	42.2	-0.2
42.0	42.3	-0.3
	Sum	<u>-1.9</u>
	Mean	-0.19

ADDENDUM TO DESCRIPTIVE REPORT

TO ACCOMPANY

HYDROGRAPHIC SURVEY NO. H-8286 (FIELD NO. HO-1156)

E. SMOOTH SHEET

The smooth sheet projection was made by ship base personnel. The projection was made by hand. Shoreline was from corrected blue-line transfers and signals were pricked through from preliminary manuscripts. Transfer of all topographic detail was verified.

F. CONTROL STATIONS

The relocation of photo-signal "TIT", southwest side of Warren Channel, by the Photo Office, proved to be in error when the positions using this signal would not check in either time or course as recorded in the sounding volumes. The field location of this signal was pricked through from the manuscript and the positions replotted.

Photo-signal "NIP" is the east gable of the hunter's cabin, located on the southwest side of Warren Island. In transferring this signal to the smooth sheet it was noted that the field location and the cabin symbol differed on manuscript T-10400; therefor, the center of the cabin symbol was pricked through and circled in green.

The relocation of photo-topographic station "KILL 1956" caused a considerable shift in the hydrography and the hydrographic stations in which "offset" station "Kill" was used. There were no resulting holidays.

There was some confusion in the recording of the angles and cuts to hydrographic signal "MA", False Cove, Warren Island, which resulted in an excessively large triangle of error which caused the signal to plot in the water. The hydrography which was plotted on the smooth sheet using the signal seems to be in error an amount equivalent to the distance the signal plots offshore. This station should be relocated as shown on the boat sheet. See vol. 5, p. 12, "5" day. *Distance of signal MA offshore not considered to significantly affect hydrography.*

I. CONTROL OF HYDROGRAPHY

Slight discrepancies in the time and course of sounding lines were noted but can be explained satisfactorily by the reasons given in the main body of this report.

GENERAL

Information in this addendum is applicable to the smooth sheet through the plotting of position 124j for Launch No. 98 and position 9B for the Ship HODGSON. (apparently April 25 to May 26)

SMOOTH SHEET

The smooth sheet was prepared by Ship's officers. Twenty-nine percent of the positions were also plotted by ship's officers. ✓

ADEQUACY OF SURVEY

The survey is complete and adequate for charting. ✓

The junction with H-8287 ⁽¹⁹⁵⁶⁾ to the east has been compared and except for a minor discrepancy in the 50 fathom curve at Lat. $55^{\circ} 53'.4$ N, Long. $133^{\circ} 39'.0$ W, the depth curves can be adequately drawn at the junction. (Corrected and made identical by revision) ✓

Copies of other junction surveys were not available in the Processing Office for comparison. ✓

CROSSLINES

Positions 1201 thru 1251 were plotted on the smooth sheet and after changing signals in a couple of fixes, were found to be in agreement with sounding lines which they cross. (Extremely irregular bottom. Soundings retained. See vol. 6, p. 31-32) ✓
s. Rose

COMPARISON WITH CHART

Items under this heading have been checked or corrected in ink, to smooth sheet values in the field report. ✓

The smooth sheet was compared with Chart 8171 5th Ed., Revised 1/14/57 and Chart 8173 2nd Ed., Revised 10/22/51. ✓

See section of each chart attached to this report for comparison. ✓

Respectfully submitted,

William M. Martin
WILLIAM M. MARTIN
Suprv. Cartographer

APPROVED & FORWARDED:

G. C. Mast
G. C. MAST, CAPTAIN, C&GS
SEATTLE DISTRICT OFFICER

RHC

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coastal Surveys~~

June 16, 1960

Division of Charts: R. H. Carstens

Plane of reference approved in
16 volumes of sounding records for

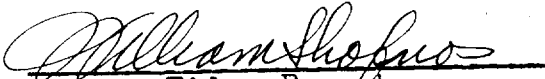
HYDROGRAPHIC SHEET 8286

Locality Sumner Strait, Alaska

Chief of Party: R. A. Earle in 1956
Plane of reference is mean lower low water, reading
2.7 ft. on tide staff at Tokeen Cove (not on H-8286)
19.1 ft. below B. M. 1 (1956)

Height of mean high water above plane of reference is 9.9 feet.

Condition of records satisfactory except as noted below:


Tides Branch
Chief, ~~Division of Tides and Currents~~

GEOGRAPHIC NAMES

Survey No. H -8286

Name on Survey	<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">On Chart No. 8173</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">On previous survey No.</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">On U. S. quadrangle Maps</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">From local information</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">On local Maps</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">P. O. Guide or Map</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Rand McNally Atlas</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">U. S. Light List</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">BGN</div> </div>									
	A	B	C	D	E	F	G	H	K	
Black Rock	x									1
Cosmos Pass	x									2
Fake Pass	x									3
False Cove	x								x	4
Halibut Harbor	x									5
Kosciusko Island	x									6
Quartz Pass	x									7
Straw Pass	x									8
Warren Channel	x									9
Warren Cove	x									10
Warren Island	x									11
Whale Head Island	x									12
										13
Davidson Inlet (Title)										14
Sumner Strait (Title)										15
Tide Sta.										16
Token Bay										17
										18
Survey Cove										19
Quartz Rk										20
										21
										22
										23
										24
										25
										26
										27

George DeBee
GEOGRAPHIC NAMES SECTION
1 APRIL 1960

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. ...8286...

Records accompanying survey: Smooth sheets .1....;

boat sheets ..2...; sounding vols. .16...; wire drag vols.;

Descriptive Reports .1...; graphic recorder envelopes .10....;

special reports, etc.

.....

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

Number of positions on sheet 4.393

Number of positions checked .150

Number of positions revised .5 {+L "v" 81 "ab"}

Number of soundings revised (refers to depth only) .30 {revision of peaks or deeps to adjust curves}

Number of soundings erroneously spaced .9

Number of signals erroneously plotted or transferred 0 {See D.R. addendum and notes of Processing}

Topographic details Time .25 hrs. {shopline o.k. tieplines revised}

Junctions Time .20 hrs.

Verification of soundings from graphic record Time 20 hrs. {phase-changes cumbersome due to steep and rugged bottom}

Special adjustments At least 1/3 of depths are in fractional fathoms. Time .0

Verification by *A. Rose* Total time 531 hr. Date Nov. 14, 1962

Reviewed by *DuZeskind* Time 14 hr. Date Feb. 5 - 63

OFFICE OF CARTOGRAPHY

REVIEW SECTION -- NAUTICAL CHART DIVISION

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8286

FIELD NO. HO-1156

S.E. Alaska, Sumner Strait, Warren Channel

SURVEYED: April-July, 1956

SCALE: 1:10,000

PROJECT NO. 13470

SOUNDINGS: 808 Depth Recorder
Hand Lead

CONTROL: Sextant
fixes on shore sig-
nals

Chief of Party-----R. A. Earle and P. Taylor
Surveyed by-----R. A. Earle and P. Taylor
Protracted by-----J. M. Rogers and V. Flor
Soundings plotted by-----V. Flor
Verified and inked by-----S. Rose
Reviewed by-----I. M. Zeskind
Inspected by-----R. H. Carstens

Date: 2/6/63

1. Description of Area

This is a survey of the southern entrance to Sumner Strait. The bot-
tom is very irregular. Submarine features such as ledges, reefs,
ridges, shoals and pinnacles contribute to the bottom irregularity.

2. Control and Shoreline

The source of the control is adequately described in the Descriptive
Report.

The shoreline originates with the advance manuscripts of photogrammetric
surveys T-10393 (1953), T-10394 (1953-56), T-10395, T-10396 of 1953-56),
and T-10401 (1953-56), and the incomplete manuscript of T-10400 (1953).
In several places the exact location of the high water line could not
be determined on the photographs. In these places the high water line
is indicated by dashed lines on the photogrammetric survey, and was so
transferred to the hydrographic smooth sheet of the present survey.

3. Hydrography

Considering the irregularity of the bottom, depths at crossings are in adequate agreement. The usual depth curves were adequately delineated, except close inshore in the vicinity of reefs or foul areas, where the character of the bottom generally prevented development to the low water line. In a number of areas shoal indications were not investigated to determine the least depths. Examples are the 2.3-fm. sounding in lat. $55^{\circ}54.62'$, long. $133^{\circ}43.80'$, the 6.8-fm. sounding in lat. $55^{\circ}52.78'$, long. $133^{\circ}46.24'$, and the 5-fm. sounding in lat. $55^{\circ}53.49'$, long. $133^{\circ}45.37'$. Hydrography was not extended into the cove in lat. $55^{\circ}55.4'$ and long. $133^{\circ}38.6'$.

4. Condition of Survey

- a. The sounding records and Descriptive Report are complete and comprehensive.
- b. The smooth plotting was accurately done.
- c. In several instances original notes in the sounding volumes had been revised by erasure rather than marking through them and adding the correct information.

5. Junctions

Adequate junctions were effected with H-8443 (1957-58) on the south, with H-8287 (1956) on the east, and with H-6283 (1937) in Warren Channel on the northwest. The junctions with H-8444 (1958) and H-8112 (1960) on the southwest will be considered in the reviews of those surveys.

6. Comparison with Prior Surveys

H-1749 (1886), 1-80,000
 H-2664 (1903-04), 1-20,000
 H-2732 (1904), 1-20,000
H-4273 (1922), 1-20,000

These prior surveys together cover the area of the present survey. A comparison between the prior and present surveys shows the present depths are generally 2-4 fms. shoaler than the prior depths except in Warren Cove where close agreement in depths are found. These differences in depths are attributed principally to the fact that the prior soundings were obtained by lead line or wire, whereas the present

depths were generally obtained by depth recorders. A number of soundings and rocks on the prior surveys have been carried forward to the present survey. In some areas, however, rocks shown on the prior surveys symbolize foul areas. These rocks have been carried forward only in those areas which were inadequately developed on the present survey. Discrepancies of as much as 150 meters are noted between the shoreline delineation on the prior and present surveys. Differences in the sizes and shapes of many of the islands shown on the prior survey with those shown on the present survey are noted. These differences are attributed to the fact that the shoreline was probably sketched on the 1-20,000 scale plane table topographic surveys, whereas the shoreline on the present 1-10,000 scale photogrammetric surveys could be better delineated. A number of bottom characteristics have been brought forward from the prior surveys to the present survey, where they are shown in red. Attention is directed to the following discrepancies between the prior and present surveys:

1. The 4 rocks awash charted in the vicinity of lat. $55^{\circ}52.9'$, long. $133^{\circ}50.3'$, from H-4273 (1922) fall in depths of 11-13 fms. on the present survey. These rocks awash symbolize the limits of a "rock line" whose distances were estimated from sounding lines on H-4273. The charted rocks awash are believed to fall 100-150 meters further inshore where a foul area is adequately defined on the present survey. The 4 rocks awash should be deleted from the chart.
2. The rock awash charted in lat. $55^{\circ}52.7'$, long. $133^{\circ}50.44'$, from a source which could not be ascertained, falls on a 2-fm. sounding on the present survey. The present soundings taken at MLLW are adequate to disprove the existence of the rock awash. Neither the boat sheet of the present survey nor the advance manuscript of photogrammetric survey T-10393 (1953) which covers this area, shows this feature. The rock awash is believed to be nonexistent and, therefore, should be deleted from the chart.
3. The 3 rocks awash charted on the south side of Warren Cove in the vicinity of lat. $55^{\circ}52.45'$, long. $133^{\circ}51.4'$, from H-4273 (1922) symbolize a foul area and fall on land on the present survey. This condition is attributed to the fact that the prior survey shows a small cove here, whereas on the present survey the shoreline is straight. An examination of air photograph number 41306

which was used in compiling photogrammetric survey T-10400 (1953) from which the shoreline on the present survey in this area originates, shows the shoreline to be straight. It is believed that the foul area symbolization is inaccurately located on H-4273 and should actually fall further offshore where the present survey shows a foul area. The 3 rocks awash, therefore, should be deleted from the chart.

4. A rock awash appears in lat. $55^{\circ}52.09'$, long. $133^{\circ}50.48'$, on incomplete photogrammetric survey T-10400 (1953). No evidence of this feature could be found at mean lower low water during the present survey. The rock awash should be disregarded.
5. The sunken rocks charted in the vicinity of lat. $55^{\circ}53.5'$, long. $133^{\circ}42.6'$, originate with H-2664 (1903-04) where they symbolize a foul area. These features fall in depths of 0.4 fms. to 1.9 fms on the present survey, which is considered adequately developed to define the bottom configuration in the affected areas.

It is recommended that the sunken rock symbols be deleted from the chart and in their stead depths on the present survey be charted.
6. The 2 rocks awash charted in the vicinity of lat. $55^{\circ}53.5'$, long. $133^{\circ}41.3'$, originates with H-2664 (1903-04) where they symbolize a foul area. The area is adequately developed on the present survey to delineate the bottom configuration here. The 2 rocks awash should be deleted from the chart and in their stead the reef and islet shown here on the present survey should be charted.
7. The rocks awash charted in lat. $55^{\circ}53.57'$, long. $133^{\circ}40.95'$, from H-2732 (1904), where it is located an estimated distance from a sounding line. The feature is believed to actually fall about 50 meters to the southward where reefs and a foul area is shown on the present survey. The position of the rock awash should be revised on the chart.
8. The rock awash charted in lat. $55^{\circ}53.47'$, long. $133^{\circ}40.88'$, from H-2732 (1904), where it was approximately located, falls in present depths of 2.6 fms. The feature is believed to actually fall about 60 meters to the northward where a foul area is shown on the present survey. The

charted rock awash should be revised to conform to present survey information.

9. The 59-fm. sounding charted in lat. $55^{\circ}53.43'$, long. $133^{\circ}49.55'$, from H-1749 (1886) which is a poorly controlled small scale reconnaissance survey, falls in present depths of 77 fms. The sounding is believed to be plotted out of position on the prior survey and should actually fall about 250 meters to the westward where comparable depths are found on the present survey. The 59-fm. sounding should be deleted from the chart. ✓
10. The 51-fm. sounding charted in lat. $55^{\circ}51.63'$, long. $133^{\circ}47.96'$, originates with H-2664 (1903-04) where it is plotted out of position. The sounding actually falls about 0.6 mile north northeastward where it falls in comparable depths on the present survey. The 51-fm. sounding should be deleted from the chart. ✓
11. The 72-fm. sounding charted in lat. $55^{\circ}51.83'$, long. $55^{\circ}47.46'$, originates with H-2664 (1903-04) where it is plotted out of position. The sounding actually falls about 1.7 miles northward where it falls in comparable depths on the present survey. The 72-fm. sounding should be deleted from the chart. ✓
12. The 117-fm. sounding charted in lat. $55^{\circ}52.18'$, long. $133^{\circ}47.36'$, from H-2664 (1903-04), falls on the present survey in depths of 107 fms. The 117-fms sounding is believed to be 10 fms. in error and should actually be 107 fms. The charted 117 fm. sounding should be deleted from the chart. ✓
13. The rock awash charted in lat. $55^{\circ}53.98'$, long. $133^{\circ}47.2'$, from H-2664 (1903-04) should be deleted from the chart. The feature originates with a cluster of rocks awash which are shown on H-2664 in accordance with a note in the sounding volumes which states that "breaking is noted about 100 meters north of Quartz Rock". The present survey is considered adequately developed to show the extent of a reef in this area. ✓
14. The rock awash charted in lat. $55^{\circ}52.6'$, long. $133^{\circ}42.9'$, from H-2664 (1903-04) is believed to have been erroneously recorded in the sounding volumes of the prior survey as falling on the port side instead of the starboard side of ✓

REVIEW
REPORT

a sounding line. If the feature is plotted on the star-board side of the sounding line it will fall on a reef on the present survey. The rock awash should be deleted from the chart.

15. The westernmost of 2 rocks awash charted in lat. $55^{\circ}54.92'$, long. $133^{\circ}43.84'$, originates with H-2664 (1903-04) where it was erroneously plotted. This feature is believed actually to be the same rock awash as the one plotted to the eastward. The westernmost rock awash should be deleted from the chart. ✓

With the addition of the soundings and bottom characteristics mentioned above, the present survey is adequate to supersede the prior surveys within the common area.

7. Comparison with Chart 8171 (Latest print date 12-19-60)
Chart 8173 (Latest print date 12-19-60)

A. Hydrography

The charted hydrography originates principally with the prior surveys previously discussed which need no further consideration, supplemented by critical data from the present survey prior to verification and review.

The below listed rocks awash charted in False Cove from the preliminary manuscript of photogrammetric survey T-10393 (1953) were found to be non-existent during the present survey. These features should be deleted from the chart.

CHART LOCATION

Latitude	Longitude
$55^{\circ}53.95'$	$133^{\circ}50.76'$
$55^{\circ}53.84'$	$133^{\circ}51.00'$
$55^{\circ}53.87'$	$133^{\circ}50.60'$
$55^{\circ}53.70'$	$133^{\circ}50.60'$

The rock awash charted in lat. $55^{\circ}52.6'$, long. $133^{\circ}42.45'$ originates with the present survey where it was incorrectly located. The feature actually falls on the present survey on a reef about 240 meters to the northwestward. The charted rock awash should be deleted from the chart.

The present survey is adequate to supersede the charted

hydrography within the common area.

B. Aids to Navigation

The present survey position of black can buoy No. 1 which is the only aid to navigation falling within the limits of the present survey, is in substantial agreement with its charted position and adequately marks the feature intended.

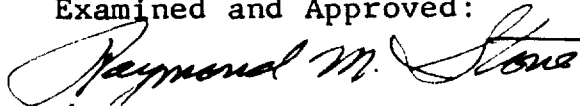
8. Compliance with Project Instructions

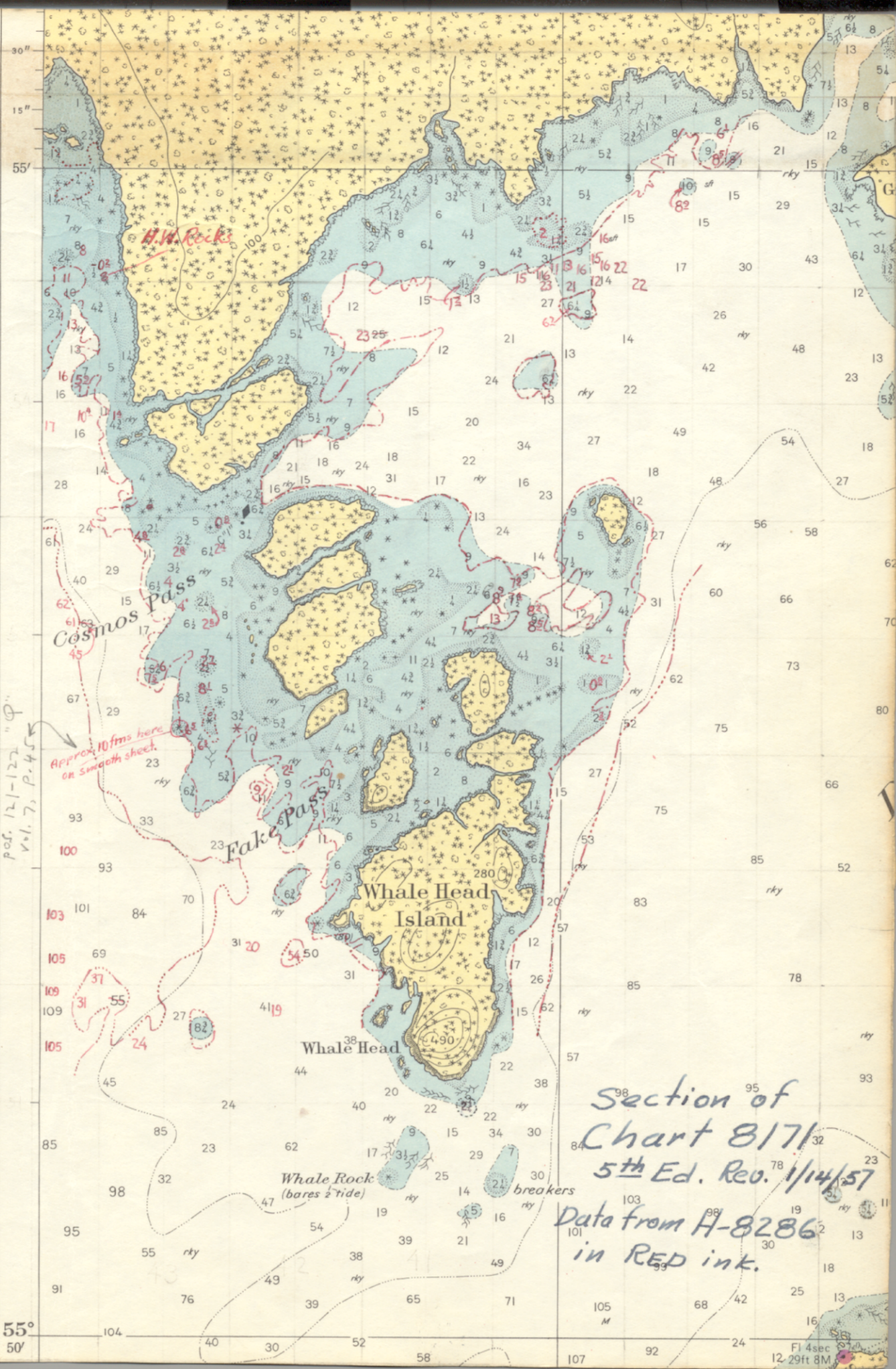
The survey adequately complies with the Project Instructions.

9. Field Work Recommended

This survey is considered basic for charting and no additional field work is recommended.


chief,
Marine Chart Division

Examined and Approved:

Acting
Associate Director,
Hydrography and Oceanography



Section 8171
 5th Ed. Rev. 1/14/57

pos. 121-122 "P"
 Vol. 7, P. 45

Approx. 10 fms here
 on smooth sheet.

Section of
 Chart 8171
 5th Ed. Rev. 1/14/57
 Data from H-8286
 in RED ink.

Fl 4sec
 12.29ft 8M

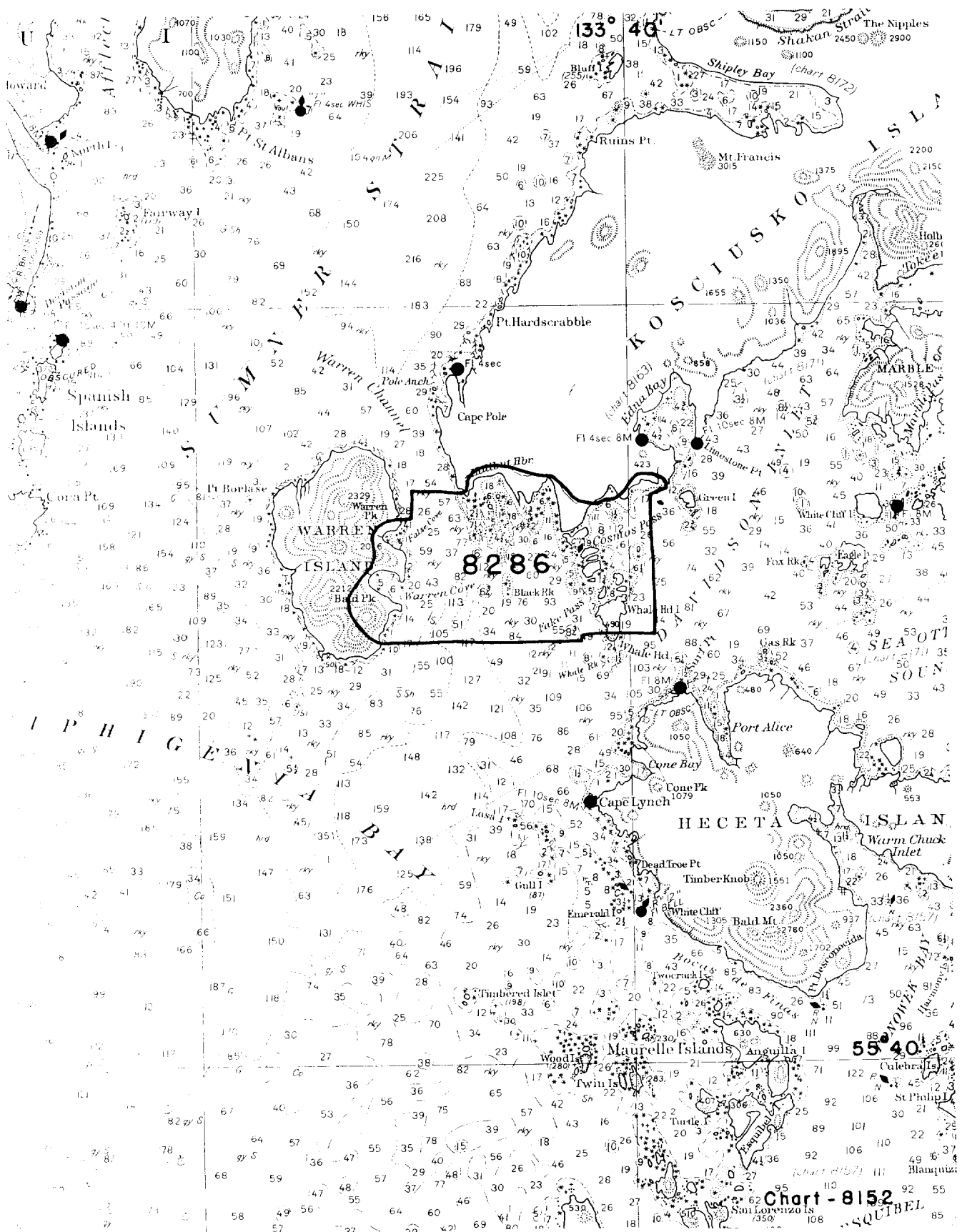


Chart - 8152

