

8443

Diag. Cht. No. 8152-2.

Form 504

U. S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. H0-1657 Office No. H-8443

LOCALITY

State S. E. Alaska

General locality Iphigenia Bay

Locality N. W. Coast Heceta Island

1957-58

CHIEF OF PARTY

J. E. Waugh & E. W. Richards

LIBRARY & ARCHIVES

DATE Nov. 17, 1959

8443

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-8143

Field No. HO-1657

State S. E. Alaska

General locality Iphigenia Bay

Locality Coast N W Side Heceta Island

Scale 1:10,000 Date of survey 24 - 27 Sept. 1957
15 May - 23 June 1958

Instructions dated 21 Nov 1955, 1 Oct 1956 & 27 Nov 1957.

Vessel Ship HODGSON (Launch No. 95)

Chief of party J. E. Waugh and E. W. Richards

Surveyed by J. E. Waugh, E. W. Richards, J. P. Randall, H. H. Druebert, R. D. Bernard, L. D. Thurman

Soundings taken by ~~hand~~ graphic recorder, ~~hydrographic~~

Fathograms scaled by H. H., J. L. E., J. D. E., C. A., W. E. P., A. M. L., C. J. B.

Fathograms checked by H. H., E. M., J. D. E., A. M. L., J. E. W., R. D. B., W. E. P., H. H. D.

Protracted by H. H. Druebert

Soundings penciled by V. Kiisk x

Soundings in fathoms ~~depth~~ at ~~depth~~ MLLW and are based on a

REMARKS: velocity of sound of 800 fms/sec.

GS
me

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SURVEY NO. H-8443 (FIELD NO. HO-1657)

1957 - 1958

SHIP HODGSON

SCALE 1:10,000

J. E. Waugh,
E. W. Richards, COMDG.

A. PROJECT:

This survey was executed as a part of Project 13470 in accordance with Revised Instructions dated 21 November 1955, Supplemental Instructions dated 1 October 1956 and part of Project CS 347 in accordance with Supplemental Instructions dated 27 November 1957.

B. SURVEY LIMITS AND DATES:

This survey includes a part of Iphigenia Bay, all of Port Alice, and the western entrance to Davidson Inlet. The northern and southern limits of the survey are $55^{\circ} 51'18''$ N and $55^{\circ} 45'19''$ N while the eastern and western limits are $133^{\circ} 33'15''$ W and $133^{\circ} 46'16''$ W.

Field work began on 24 September¹⁹⁵⁷ and was completed on 23 June 1958.

This survey is joined on the north by Survey H-8286 (Field No. HO-1156) and H-8287 (Field No. HO-1256) and on the south by H-2664. Survey H-8393 (Field No. 1557) joins this survey on the eastern side and contemporary Survey H-8444 (Field No. 4158) joins the survey on the western side.

C. VESSEL AND EQUIPMENT:

This survey was executed by the Ship HODGSON and Launch 95 which operated from the Ship HODGSON.

All of the inshore hydrography on the north and northwest side of Heceta Island as well as the shoals south of Whale Head Island was done with Launch 95. The Ship HODGSON performed the offshore hydrography at the northeast end of Iphigenia Bay and at the entrance of Davidson Inlet.

Soundings were taken with 808 type graphic recorders Nos. 628, 104S, and 106. The soundings on critical shoals were supplemented by vertical casts taken with a leadline.

D. TIDE AND CURRENT STATIONS:

The portable automatic tide gage maintained at Port Alice, Lat. 55° 48' 71" N, Long. 133° 36' 25" W was used without time or range correction for the reduction of all soundings on this survey.

One current station was occupied within the limits of this survey. It was located at Lat. 55° 49' 16" N and Long. 133° 41' 3" W.

E. SMOOTH SHEET:

The smooth sheet projection was made by hand at the Summer Processing Unit, Ketchikan, Alaska. The shoreline and topographic detail was transferred to the smooth sheet from blue-line prints of the photogrammetric manuscripts furnished by the Washington Office. The signals, shoreline and topographic detail were checked upon completion.

F. CONTROL STATIONS:

Topo (T-10403, 1955-57)

The triangulation used to control the surveys of this area was established in 1903 by E. F. D. with the exception of GAS, 1956 which was located by R. A. E. and SURF POINT LIGHT which was located in 1957 by E. W. R. *(Station "Lite")*

All photo-hydro signals for this survey are found on surveys T-10401, T-10402, T-10403, T-10405, and T-10406. *of 1953-55-57*

A number of signals were located by sextant cuts taken from or on photo-hydro stations or triangulation stations. These stations are indexed in the front of the volume in which they appear.

A list of all signals follows :

<u>NAME</u>	<u>ORIGIN</u>
ABE	T-10401
AGO	T-10402
ALP	T-10403
BAT	T-10402
BAY	BAY, 1903
BED	T-10406
BIG	T-10401
BUT	T-10401
CAN	T-10402
CAPE	CAPE LYNCH LIGHT, 1957
CLIFF	CLIFF, 1903
COD	T-10406
CORN	CORN, 1903-57
CUT	T-10403
DIP	T-10406
EVA	T-10406
FLAT	FLAT, 1904
FOAM	FOAM, 1903-57
FOR	T-10406
FOX	T-10402

Desc. REPO
8493

<u>NAME</u>	<u>ORIGIN</u>
GAS	GAS, 1956
GET	T-10402
GRASS	GRASS, 1903-57
GUS	T-10402
HEL	T-10406
HER	T-10406
HIR	T-10406
IDA	T-10406
IF	T-10402
JAY	T-10406
KED	T-10406
LET	T-10402
LIE	Offset from Triang.Sta. SKAG, 1903
LIP	T-10405
LITE	SURF POINT LIGHT, 1957
LOS	T-10405
MAG	T-10406
NEV	T-10406
NOW	T-10406
ODD	T-10405
OF	T-10406
OUT	T-10406
PINE	PINE, 1903,57
POW	POW, 1903
PUP	T-10405
RET	T-10405
ROC	T-10405
SAL	T-10405
SOO	T-10403
SPRAY	SPRAY, 1903-57
SURF (sect P 7A-2 Review)	SURF, 1903
TAT	Sextant Fix
TAU	T-10403
TEX	T-10405
THE	T-10406
TIT	Sextant Fix
TOE	Sextant Fix
US	T-10402
VAN	T-10406
WE	T-10406
WIG	T-10406
WIL	T-10406
ZAG	T-10401

3. SHORELINE AND TOPOGRAPHY:

All shoreline on the smooth sheet was taken from advance photogrammetric manuscripts Nos. T-10401, T-10402, T-10403, T-10405, and T-10406. of 1953-55-57

14 - 8443
Desc. REI

There was no conflict between the shoreline and the hydrography.

It was not practical in most places to try to define the low water line because of steep banks and numerous rocks and reefs adjacent to the shore. A sounding line was run as near the shore as feasible and an effort was made to delineate the adjacent 5 fathom curve. P3
Review

Revised from T-10406 (1953-55-57)
The shoreline at the extreme end of Port Alice, and the shoreline in the vicinity of 55° 50' N. 133° 35' W was copied as a dashed line from the blue line manuscript. No effort to actually delineate these shorelines in the field was made. It is recommended that this effort be attempted, if feasible, in the future. P 2&9
Review

H. SOUNDINGS:

All soundings were taken with 808 type graphic recorders with the exception of "1" day.

On this day six leadline soundings were taken while working from a skiff. The weather and sea conditions were very calm thereby allowing accurate vertical casts to be made. The leadline that was used was calibrated and found to be correct.

The 808 type graphic recorders that were used for this survey were calibrated for a speed of 800 fathoms per second.

The graphic recorder used on Launch 95 was set at the correct depth each morning, afternoon and evening with a bar suspended two fathoms below the water surface. The initial mark on the fathogram was set to read an initial of 0-0 and this reading was recorded. This procedure was again followed in the afternoon and evening. Compensation for variations of the initial mark during the day is made by applying an initial correction to the sounding volume.

Speed corrections were applied to graphic recorder No. 106 on "f" day while used on Launch 95, however, there were no discrepancies between these soundings and the soundings recorded while the graphic recorder was operating at its proper speed.

I. CONTROL OF HYDROGRAPHY:

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

There are some noticeable variations in the sounding speed of the Ship HODGSON and Launch 95 on shoals and along beach lines. These changes of speed were probably caused by either, or a combination of, current, kelp, rudder drag, and slight changes of engine speed. Sufficient fixes were taken, however, so that no sounding is appreciably displaced.

In the smooth plotting, the track of Launch 95 between fixes on the beach lines was transferred from the boat sheet by tracing.

J. ADEQUACY OF SURVEY:

This survey is complete and adequate for the area. No additional field work is deemed necessary.

P9
Review

Satisfactory junctions were made with Survey H-8286 (Field No. HO-1156) and H-8287 (Field No. HO-1256) on the north, Survey H-8393 (Field No. 1557) on the east, and contemporary Survey H-8444 (Field No. 4158) on the west. There are no holidays or excessive differences of depths at the junctions of the survey.

(1957)

(1956)

(1957)

(1958)

K. CROSSLINES:

8% of the total lines were crosslines. No significant crossing discrepancies were noted on the boat sheet. IN THE NORTHWEST AREA OF THE BOAT SHEET SEVERAL DISCREPANCIES, SOME AS GREAT AS 11 FMS OR 66 FT WERE EITHER ERASED OR NOT PLOTTED - H day, D day & B day involved. ZAR

P4b
Review

L. COMPARISON WITH PRIOR SURVEYS:

This survey was originally surveyed on Sheet No. H-2664 (1903-1904) and H-2732 (1904). Both of the original surveys were at a scale of 1:20,000.

The soundings of the present survey are in general agreement with those of the prior surveys.

P7
Review

No evidence of the sunken, offshore rocks shown southwest of signal BAY was found. Numerous additional shoaler depths were obtained on some shoals previously located, and numerous new shoals were uncovered in the deeper water areas.

P6A Review

P6 &
P7 Re-
view.

M. COMPARISON WITH CHARTS:

Parts of the limits of this survey are included on Charts ~~8155~~ 8171, and 8173 and they have print dates of 9/30/57, 1/14/57, and 10/22/51 respectively.

The results from this comparison were similar to those under Item K.

P7
Review

N. DANGERS AND SHOALS:

No new dangers to navigation were discovered, although several of the existing ones were found to have less water than charted on the existing charts.

LAT.	LONG.	LEAST DEPTH MLW
55° 47' 30"	133° 45' 59"	12 fms. ✓
55° 47' 16"	133° 44' 06"	37 fms. ✓
55° 48' 09"	133° 44' 46"	26 fms. ✓
55° 48' 4		

LAT.	LONG.	LEAST DEPTH MLLW
55° 48' 38"	133° 44' 51"	42 fms. ✓
55° 49' 07"	133° 43' 52"	27 fms. ✓
55° 50' 21"	133° 44' 13"	21 fms. ✓
55° 50' 42"	133° 44' 28"	13 fms. ✓
55° 50' 53"	133° 44' 23"	13 fms. ✓
55° 51' 00"	133° 43' 35"	12 fms. ✓
55° 50' 59"	133° 43' 12"	14-15 fms. ✓
55° 50' 50"	133° 42' 39"	11 fms. ✓
55° 50' 28"	133° 43' 00"	11 fms. ✓
55° 50' 40"	133° 41' 58"	8.8 fms. ✓
55° 50' 03"	133° 42' 17"	15 fms. ✓
55° 50' 00"	133° 41' 00"	27-28 fms. ✓
55° 51' 01"	133° 39' 59"	21 fms. ✓
55° 49' 26"	133° 41' 24"	23 fms. ✓
55° 47' 38"	133° 42' 39"	2.8 fms. ✓
55° 47' 40"	133° 42' 27"	1.6 fms. ✓
55° 47' 28"	133° 42' 26"	(7) 3.4 fms. ✓
55° 47' 45" ^{35"}	133° 42' 09"	(4) 2.5 fms. ✓
55° 47' 32"	133° 42' 16"	2.6 fms. ✓
55° 47' 26"	133° 41' 32"	1.0 fms. ✓
55° 47' 35"	133° 41' 06"	2.0 fms. ✓
55° 47' 47"	133° 40' 48"	10.7 fms. ✓
55° 48' 39"	133° 40' 48"	14 fms. ✓
55° 47' 14"	133° 42' 08"	4.5 fms. ✓
55° 47' 07"	133° 42' 13"	5.0 fms. ✓
55° 48' 52"	133° 40' 09"	1.1 fms. ✓
55° 49' 15"	133° 40' 12"	9.0 fms. ✓
55° 50' 34"	133° 40' 36"	3.9 fms. ✓
55° 50' 41"	133° 41' 21"	3 fms. ✓
55° 50' 43"	133° 41' 04"	3.1 fms. ✓
55° 50' 39"	133° 40' 27"	15 4.7 fms. ✓
55° 50' 52"	133° 41' 08"	3.8 fms. ✓
55° 50' 59"	133° 40' 42"	2.3 fms. ✓
55° 50' 38"	133° 37' 57"	5.3 fms. ✓
55° 50' 37"	133° 37' 06"	5.2 fms. ✓
55° 50' 12"	133° 37' 26"	1.2 fms. ✓
55° 50' 59"	133° 34' 05"	9.3 fms. ✓
55° 50' 56"	133° 35' 14"	15 fms. ✓

*Hand annotated sheet
RKD 1-12-60*

*(2) 2.5 forward
from H-2664
Hand annotated sheet
RKD 1-12-60*

*(6) 2.0 fms forward
from H-2664*

Rock bars 3 at MLLW

*15
probe 133° 37' 36"
RKD 1-12-60*

*not on this sheet
RKD 1-12-60*

O. COAST PILOT INFORMATION:

No additional coast pilot information is submitted. ✓

P. AIDS TO NAVIGATION:

The following fixed aids to navigation are located on this survey:

SURF POINT LIGHT (1958 Light List No. 2618) ✓

CAPE LYNCH LIGHT (1958 Light List No. 2616) ✓

*RP 7B
Review*

There were no floating aids within the limits of this survey. ✓

R. SILTED AREAS:

There is no evidence of silted areas within the limits of this survey.

S-X: Not applicable ✓

Y. TABULATION OF APPLICABLE DATA:

Boat Sheets, A&B, HO-1657 - fwd. 2/2/59
Blackline and Blueline Impressions - fwd. 2/2/59
Fathograms - Fwd. 2/3/59 ✓
Sounding Volumes - Fwd. 2/3/59
Descriptive Report - to be forwarded
Smooth Sheet - to be forwarded

Respectfully submitted,

G. L. Short

G. L. Short,
LCDR, C&GS

Approved and forwarded:

G. L. Short

G. L. Short
LCDR, C&GS
C. O., HODGSON

TIDAL NOTE

SHEET HO-1657

TIDE STATION - PORT ALICE

Lat. 55° 48.8 N

Long. 133° 36.2 W

MLLW on Staff 3.9 ft.

DAILY STATISTICS

HYDROGRAPHIC SURVEY NO. H-8443 (FIELD NO. HO-1657)

1957

DATE	DAY LETTER	VOL NO.	NO. OF POS.	LAUNCH NO. 95		HANDLEADS
				NAUT. MILES		
9/18	a	3	160	23.0		
9/19	b	3	88	10.0		
9/20	c	3&4	204	27.7		
9/25	d	4	81	14.6		
9/26	e	4&5	138	12.0		
9/27	f	5	62	5.0		
TOTALS			<u>733</u>	<u>92.3</u>		

SHIP HODGSON						
9/24	A	1	196	39.8		
9/26	B	1&2	175	30.5		
TOTALS			<u>371</u>	<u>70.3</u>		

1958

LAUNCH NO. 95						
5/26	a	11	131	20.1		
5/27	b	11&12	165	24.1	1	
5/28	c	12&13	134	19.8	1	
5/29	d	13	156	20.4		
6/2	e	14	46	2.5	9	
6/3	f	14	113	14.8	3	
6/4	g	14&15	120	11.9	4	
6/10	h	15	151	12.4	24	
6/11	j	15&16	178	15.7	8	
6/12	k	16	135	11.6	15	
6/23	l	16	6	0.0	6	
TOTALS			<u>1335</u>	<u>153.3</u>	<u>71</u>	

SHIP HODGSON						
5/15	G	6	33	0.0	(bottom samples)	
5/26	D	6	160	69.0		
5/30	E	7	139	30.5		
6/5	F	7&8	182	34.1		
6/6	G	8	182	27.5		
6/12	H	8&9	225	27.2		
6/21	J	9	130	19.0		
6/23	K	9&10	62	8.6		
TOTALS			<u>1113</u>	<u>215.9</u>		

1957-1958 GRAND TOTALS 3552 531.8 71

1957-1958 AREA - 20.0 sq. nautical miles

PHASE CORRECTIONS

FOR

HO-1657

FATHOMETER 62S

A	B	corr.	A	B	Corr.
44.4	44.2	+0.2	44.4	44.5	-0.1
44.4	44.2	+0.2	44.4	44.5	-0.1
44.5	44.3	+0.2	45.0	45.0	0.0
44.3	44.1	+0.2	45.4	45.5	-0.1
44.4	44.0	+0.4	45.8	46.0	-0.2
44.3	44.0	+0.3	46.4	46.5	-0.1
44.2	44.0	+0.2	46.8	47.1	-0.3
44.2	44.0	+0.2	47.4	47.4	0.0
44.1	44.0	+0.1	47.5	47.6	-0.1
44.1	44.0	+0.1	47.7	47.7	0.0
	Total	+2.1		Total	-1.0
	Mean	+0.2		Mean	-0.1

First comparison = +0.2
 Second comparison = -0.1
 Mean = 0.0

B	C	Corr.
77.1	79.6	+2.5
77.0	79.7	+2.7
77.0	79.7	+2.7
77.0	79.7	+2.7
77.0	79.7	+2.7
77.0	79.5	+2.5
77.0	79.5	+2.5
77.0	79.6	+2.6
77.0	79.7	+2.7
77.0	79.5	+2.5
	Mean	+2.6

Following are the phase corrections to be applied for Fathometer 62S:

A - B = 0.0 fms.
 A - C = +2.6 fms.

FATHOMETER 104

A	B	Corr.	B	C	Corr.
55.0	56.8	-1.8	79.9	83.1	-3.2
55.0	56.9	-1.9	79.9	83.2	-3.3
55.0	56.8	-1.8	79.9	83.1	-3.2
55.0	56.8	-1.8	79.9	83.1	-3.2
43.8	45.3	-1.5	79.9	83.1	-3.2
43.8	45.2	-1.4	79.9	83.1	-3.2
43.8	45.0	-1.2	79.9	83.1	-3.2
43.0	44.8	-1.8	79.9	83.1	-3.2
	Total	13.2	79.9	83.1	-3.2
	Mean	-1.6	79.5	82.8	-3.3
				Mean	-3.2

Following are the phase corrections to be applied to Fathometer 104:

A - B = -1.6 fm.
 A - C = -4.8 fm.

FATHOMETER 106

A	B	Corr.	B	C	Corr.
47.3	47.0	+0.3	82.0	81.5	+0.5
47.0	46.0	+1.0	82.0	81.5	+0.5
47.0	45.5	+1.5	82.0	81.5	+0.5
43.0	42.0	+1.0	82.0	81.5	+0.5
42.4	41.7	+0.7	82.0	81.5	+0.5
42.4	41.5	+0.9	82.0	81.5	+0.5
40.0	39.0	+1.0	82.0	81.5	+0.5
39.9	38.9	+1.0	82.0	81.5	+0.5
40.2	40.0	+0.2	81.8	81.3	+0.5
41.5	40.7	+0.8	81.8	81.3	+0.5
	Total	<u>+6.4</u>		Total	<u>+5.0</u>
	Mean	+0.8		Mean	+0.5

Following are the phase corrections to be applied for Fathometer 106:

A - B = +0.8 fm.
 A - C = +1.3 fm.

PHASE CORRECTIONS

FOR

HO-1657

Graphic Recorder No. 106 - 9 June 1958

A	B	Corr.
50.2	47.4	+2.8
50.4	47.6	+2.8
50.4	47.6	+2.8
50.5	47.6	+2.9
50.6	47.5	+3.1
50.4	47.4	+3.0
50.2	47.4	+2.8
50.0	47.0	+3.0
50.0	47.0	+3.0
50.0	46.8	+3.2
	Total	+29.4
	Mean	+2.9 fms.

B	C	Corr.
82.1	82.8	-0.7
82.0	83.0	-1.0
82.2	83.0	-0.8
82.0	83.0	-1.0
82.4	83.2	-0.8
82.0	83.0	-1.0
82.0	83.0	-1.0
82.0	83.0	-1.0
81.8	82.4	-0.6
81.2	82.5	-1.3
	Total	-9.2
	Mean	-0.9

Following are the phase corrections to be applied to graphic recorder 106:

A-B	+2.9
A-C	+2.0

U. S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

Ship HODGSON
Point Baker, Alaska

C-*[signature]*
~~211~~
~~8351~~
2231

28 June 1962

Chief, Operations Division
Coast and Geodetic Survey
Department of Commerce
Washington 25, D. C.

SURF POINT LIGHT (LL NO. 2618) PROJECT OPR-347

Reference is respectfully made to your memorandum of 5 June 1962. A search has been made aboard the HODGSON and no records were found concerning the location of Surf Point Light.

The general consensus is that the position was plotted on the boat sheet and recorded in a sounding volume.

Harold E. McCall
- for -
John O. Phillips
CDR, C&GS
Comdg., Ship HODGSON

*No record of location of Surf Pt. Lt. in sdg. vols
(See TP 7A-2 of Review. 142)*

GEOGRAPHIC NAMES

Survey No. H-8443

Name on Survey	Source of Name										
	A	B	C	D	E	F	G	H	K		
IPHIGENIA BAY	8152										1
WHALE HEAD ISLAND	"										2
HECETA ISLAND	"										3
CAPE LYNCH	"										4
PORT ALICE	"										5
CONE BAY	"										6
											7
SOFT POINT	"										8
Whale Rock	"										9
Wale Rock											
Gas Rock	"										10
Davidson Inlet	"										11
											12
											13
											14
											15
											16
											17
											18
											19
											20
											21
											22
											23
											24
											25
											26
											27

George M. Bae
Geo News Section
June 14 1960
June 5 1962

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. ~~44~~ 8443.....

Records accompanying survey:

Boat sheets 2....; sounding vols. 16....; wire drag vols.;
 bomb vols.; graphic recorder rolls 5-Envelopes
 special reports, etc. 1-Smooth sheet and 1-Descriptive report.

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

Number of positions on sheet		3552.
Number of positions checked		337.
Number of positions revised		4.
Number of soundings revised (refers to depth only)		152.
Number of soundings erroneously spaced		82.
Number of signals erroneously plotted or transferred	
Topographic details	Time	30.
Junctions	Time	24.
Verification of soundings from graphic record	Time	22.

Verification by *J. Heaton* ^{F.R. SAULSBURY}..... Total time 16 hrs Date 3-1-62

Reviewed by *A. Jeske*..... Time 144 Date 6-4-62

OFFICE OF CARTOGRAPHY

REVIEW SECTION -- NAUTICAL CHART DIVISION

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8443

FIELD NO. HO-1657

S. E. Alaska, Iphigenia Bay, N.W. Coast Heceta Island

SURVEYED: September 1957,
May-June 1958

SCALE: 1:10,000

PROJECT NO. 13470

SOUNDINGS: 808 Depth Recorders
Leadline

CONTROL: Sextant
fixes on shore
signals.

Chief of Party----- J. E. Waugh & E. W. Richards
Surveyed by----- J. E. Waugh, E. W. Richards,
J. P. Randall, H. H. Druebert,
E. D. Bernard & L. D. Thurman
Protracted by ----- H. H. Druebert
Soundings plotted by ----- J. Kiisk
Verified and inked by----- J. H. Eaton and F. P. Saulsbury
Reviewed by ----- I. M. Zeskind
Inspected by ----- R. H. Carstens Date: 6/4/62

1. Description of the Area

This is a survey of the water area northwest of Heceta Island. The survey includes Port Alice, the southwestern entrance to Davidson Inlet and a part of Iphigenia Bay. Submarine features such as ridges, troughs, deeps, reefs, ledges and shoals make the bottom very irregular.

2. Control and shoreline

The source of the control is given in the Descriptive Report.

The shoreline originates with unreviewed photogrammetric surveys T-10401 (1953-57), T-10402(1953-55-57), T-10403(1955-57), T-10405 and T-10406 of 1953-55-57. The dashed shoreline shown

on the present survey in the vicinity of lat. $55^{\circ}50'$, long. $133^{\circ}35'$ originates with unreviewed photogrammetric surveys T-10402 and T-10403.

3. Hydrography

Depths at crossings are in adequate agreement. The usual depth curves were adequately delineated, except close inshore where the foul character of the bottom generally prevented development to the low-water line. The least depths on shoals and the bottom configuration were generally adequately developed. In several areas rocks awash and shoaler depths from prior surveys have been carried forward to supplement present survey information.

4. Condition of Survey

- a. The Descriptive Report and sounding records are complete and comprehensive.
- b. The smooth plotting was accurately done, except in the northwest portion of the survey where it was necessary to replot a number of sounding lines because of conflicts in depths at sounding line crossings or in surrounding hydrography. This condition existed because of weak control in the affected area. In order to correct these inaccuracies in depths, those sounding lines which ran in an east-west direction were arbitrarily held in position, whereas more weakly controlled sounding lines which crossed the east-west sounding lines were adjusted to bring surrounding hydrography into agreement. This adjustment was generally accomplished by plotting sounding line fixes by their sum angles and dead reckoning.
- c. Fathograms for A and B (blue) days were not received in the Washington Office. Therefore depths on these days could not be checked when necessary by the verifier.

5. Junctions

Adequate junctions were effected with H-8287(1956) on the north and with H-8393(1957) on the east. The junctions with

H-8286(1956) on the north, and with H-8444(1958) on the west will be considered in the reviews of those surveys. The present survey extends to the project limits on the south. Charted depths here are in adequate agreement with the present survey.

6. Comparison with Prior Surveys

A. H-2664(1903-04), 1-20,000
H-2732(1904), 1-20,000

These prior surveys cover the area of the present survey. A comparison between the prior and present surveys reveals the present depths generally to be 1-2 fathoms shoaler than the prior depths, except in several areas where the present depths are as much as four fathoms shoaler. An example of this latter difference in depths occurs in lat. $55^{\circ}48.72'$, long. $133^{\circ}36.04'$ where a prior depth of 24 fathoms, falls in present depths of 20 fathoms. These differences in depths are attributed principally to the different methods of surveying. Soundings on the prior surveys were obtained by leadline, whereas those on the present survey were obtained by depth recorder. In the southern part of Port Alice, some of the differences may also be attributed to the depositing of sediment.

The sunken rocks charted in the vicinity of lat. $55^{\circ}48.22'$, long. $133^{\circ}40.74'$, from H-2664(1903-04) should be deleted from the chart. No evidence of these features which symbolize a foul area on the prior survey were found on the present survey. (See paragraph L of the Descriptive Report.)

A number of rocks awash and soundings have been carried forward from H-2664(1903-04) to the present survey. With the addition of these rocks and soundings, the present survey is adequate to supersede the prior surveys within the common area.

B. T-2641(1903), 1-20,000

A number of rocks have been carried forward from plane table survey T-2641(1903) to the present survey.

1. The rock awash charted in lat. $55^{\circ}49.90'$, long. $133^{\circ}37.11'$, from T-2641(1903) falls in present depths of 4.5 - 6.9 fathoms. References to this feature in the sounding volumes of H-2664(1903-04) to which the rock awash was transferred from T-2641 indicate the feature was incorrectly located. The feature actually falls about 80 meters south southeastward where a reef is located on the present survey. The rock awash should be deleted from the chart.
2. The rock awash charted in lat. $55^{\circ}49.99'$, long. $133^{\circ}37.48'$, from T-2641(1903) was not located on contemporary hydrographic survey H-2664(1903-04) or the present survey where depths of 1.2 - 3 fathoms are found. The rock awash is considered discredited by the present survey and should be deleted from the chart.
3. The sunken rock charted in lat. $55^{\circ}49.25'$, long. $133^{\circ}39.56'$, from T-2641(1903) where it is believed to symbolize a foul area, falls in present depths of 2.6 fathoms. The feature falls about 60 meters south southeast of a present depth of 1.6 fathoms. This area is considered to be adequately developed on the present survey for cartographic purposes. The sunken rock should be deleted from the chart.
4. The rock awash located on T-2641(1903) in lat. $55^{\circ}48.53'$, long. $133^{\circ}40.05'$, which falls in present depths of 5.2 fathoms should be disregarded. The feature is believed to symbolize the reef which is located about 60 meters to the northwestward on the present survey.
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 with the previously discussed prior surveys which need no further consideration, with partial application of the present survey prior to verification and review and with U.S. Geological Survey

REVIEW REPORT
 Comparison
 with
 Chart 8171
 8173

Quadrangles "Craig D-5 and Craig D-6." A comparison between the charted and present survey soundings generally shows minor differences of one fathom in hydrographic information between the chart and present survey were noted:

1. The charted rocks awash listed below, originating with the U.S. Geological Quadrangle "Craig D-6," should be deleted from the chart. It is believed that the Geological Survey misinterpreted kelp patches on the photographs to be rocks awash.

<u>Feature</u>	<u>Chart Location</u>	
	<u>Latitude</u>	<u>Longitude</u>
Rock awash	55°47.26'	133°41.40'
Rock awash	55°47.47'	133°40.40'
Rock awash	55°47.50'	133°40.77'

2. The rock awash charted in lat. 55°48.76', long. 133°39.90', first appears on the fifth edition of Chart 8171, dated January 9, 1956, from a source not readily ascertainable. The charted feature falls on the present survey about 20 meters north of a 0.6 fathom sounding and about 40 meters south southwestward from a rock awash. The charted rock awash should be deleted from the chart because the present survey adequately develops the area for charting purposes.

3. The rock awash charted in lat. 55°48.68', long. 133°40.05', from a source not readily ascertainable, falls about 40 meters north of a rock awash located on the present survey. The rock awash shown on the present survey is adequate for charting in this area.

4. The one-fathom sounding charted in lat. 55°50.12', long. 133°37.46', from the present survey prior to verification was revised during the review of the present survey to a rock awash uncovering three feet at MLLW. The one-fathom sounding should be deleted from the chart and the rock awash charted.

5. The 19-fathom sounding charted in lat. $55^{\circ}50.98'$, long. $133^{\circ}44.22'$, originates with the present survey prior to verification and review. The 19-fathom sounding was revised to 29 fathoms, and the sounding line on which it is located was moved about 100 meters south southwestward during verification of the present survey where the 19 falls in comparable depths. The charted 19 fathoms should be deleted from the chart.

6. The location of the 4-fathom sounding charted in lat. $133^{\circ}49.60'$, long. $133^{\circ}36.08'$, from the present survey prior to verification and review, was revised 105 meters to the eastward where depths of 3.9 fathoms are found on the present survey. The 5 and 10-fathom curves were also revised during the review of the present survey. The 4-fathom sounding should be deleted from the chart and in its stead the 3.9 fathom should be charted. The charted 10-fathom depth curve also should be revised to agree with that shown on the present survey.

The present survey is adequate to supersede the charted hydrography within the common area.

B. Aids to Navigation

There are no floating aids to navigation within the limits of the present survey.

1. Cape Lynch Light charted in lat. $55^{\circ}46.87'$, long. $133^{\circ}42.0'$, originates with L.H.N. to M. 20, 1927, where it is designated as a day beacon. The 1957 Light List, Pacific Coast, shows this feature to be re-established in 1933 as a light.

The smooth sheet location which was transferred from photogrammetric survey T-10405(1953-55-57) locates the light about 45 meters north of its charted position. The charted position of the light should be revised to agree with the photogrammetric survey position. The smooth sheet location of the light adequately marks the feature intended.

REVIEW
REPORT

2. Surf Point Light charted in lat. $55^{\circ}49.91'$, long. $133^{\circ}37.84'$, from HON to M32, 1940, is located on the smooth sheet about 40 meters southwest of its charted position. The location of the light was determined by the field party by running a traverse from nearby triangulation station Surf, 1903. However, it was not possible to check the accuracy of the smooth sheet location because the distance from triangulation station Surf 1903, to Surf Point Light, 1957 was not forwarded to the Washington Office.

It is recommended that the light be charted in the location shown on the smooth sheet, because the field party probably had all the data which was necessary to locate the light. The smooth sheet location of the light adequately marks the feature intended.

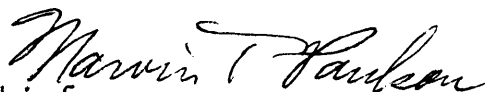
8. Compliance with Instructions

The survey adequately complies with the project instructions.

9. Additional Field Work


The survey is considered to be an adequate basic survey. It is noted that only an approximate high-water line is presently available in the vicinity of lat. $55^{\circ}50'$, long. $133^{\circ}35'$.

Examined and Approved:


Chief,
Nautical Chart Division


Assistant Director
Office of Cartography


Projects Officer
Operations Division


Assistant Director,
Office of Oceanography

RHC

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coast and Geodetic Survey~~

29 December 1959

Division of Charts: R. H. Carstens

Plane of reference approved in
16 volumes of sounding records for

HYDROGRAPHIC SHEET 8443

Locality Davidson Inlet, Alaska

Chief of Party: J. E. Waugh in 1957-58

Plane of reference is mean lower low water, reading

4.1 ft. on tide staff ~~at~~ (1957) at Port Alice

3.9 ft. ~~below B.M.~~ on tide staff (1958) at Port Alice

11.8 ft. below B.M. 4 (1957)

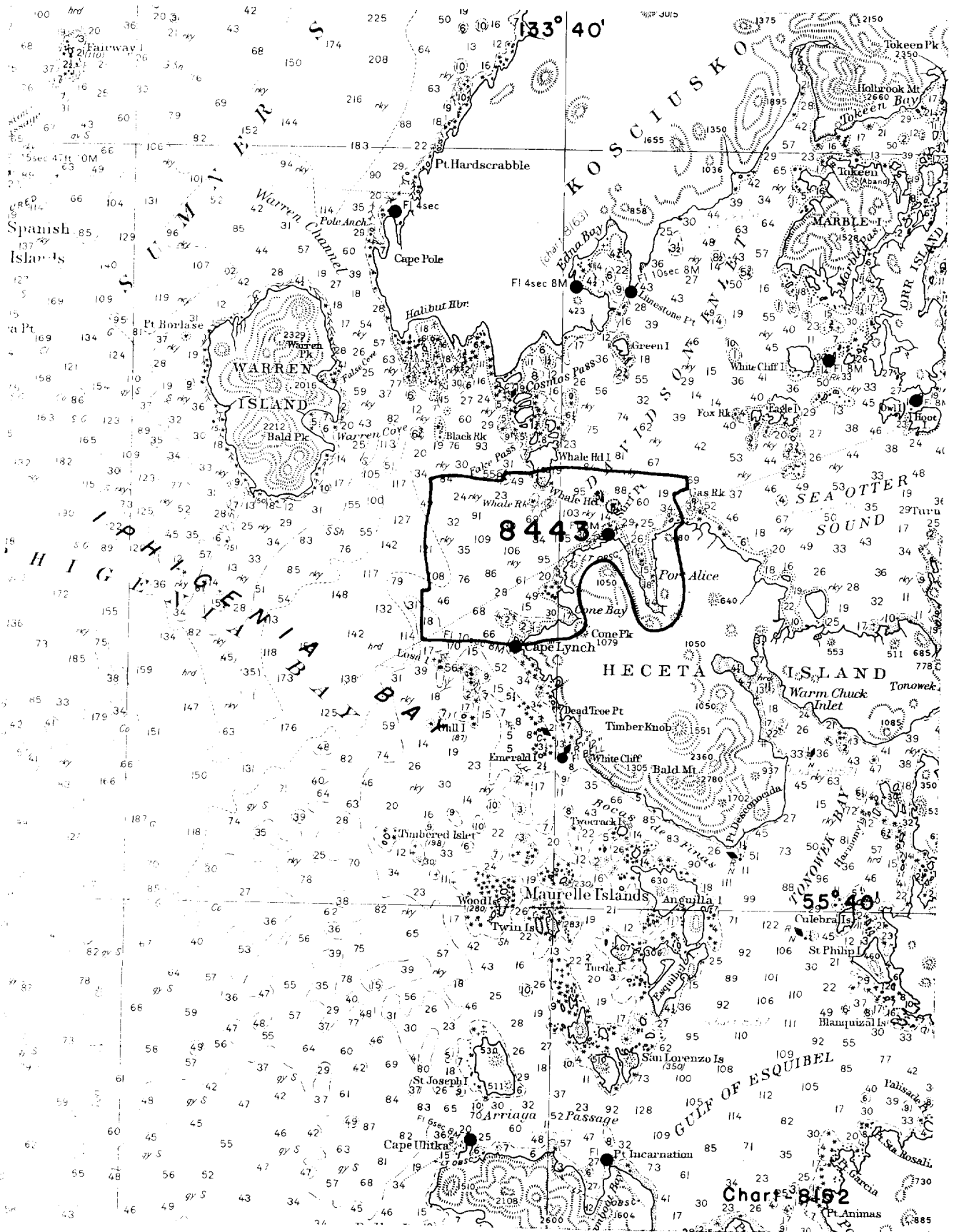
Height of mean high water above plane of reference is 10.0 feet.

Condition of records satisfactory except as noted below:

William Hofner

Chief, Tides Branch

~~Chief, Division of Tides and Currents~~



NAUTICAL CHARTS BRANCH

SURVEY NO. H-8443

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
1-12-60	Tide over 8171	R. K. DeLander	Part applied. Before After Verification and Review
2/16/60	8173	Helmert	Before ^{During} After Verification and ^{Before} Review Partial
6-1-60	Tide over 8171	R. K. DeLander	Re-apply to bring 8173 & 8171 into agreement Part applied ^{before} Before After Verification and Review ^{to tide over print} dwy. Area covered by chrt 8173 appl thru that chrt.
10-28-60	8152	R. E. Elkins	Before After Verification and Review Partly applied thru chrt 8173 dng #6 & 8171 dng #9.
14 Mar 61	8002	Earl M. Brogna	Before ^{Before} After Verification and Review Completely applied thru chrt 8152 dng 12 and sound sheet.
14 MAR 61	8201	J. H. Eaton	Before ^{Before} After Verification and Review Part. App'd thru chrt 8173 dng 6 and 8171 dng 9
10-22-62	Reconstr 8171	R. K. DeLander	Before After Verification and Review
10-22-62	Tide-Over 8171	R. K. DeLander	Before After Verification and Review ^{part.} and three reconstruct. in dwg. ^{completely fully appl.} until Revised is published.
5-22-63	8002	H. Keeler	Part appl. Before After Verification and Review no correction pending application to larger scale charts
5/28/64	8201	G. R. Johnson	Partly appl'd after V&R, in part thru chart 8171, dng #10
12/23/64	8173	G. K. Myers, Jr.	Fully applied after verification, review & inspection, west of 133°41'W.
1/6/65	8201	G. K. Myers Jr.	Completely applied thru chts 8171 & 8173
1/7/65	8152	G. K. Myers Jr.	Comp appl thru chts 8171 & 8173.
3/20/65	8157	C. Musfeldt	applied
7/1/69	8002	J. S. Skort	Fully Applied thru 8152

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.