

8064

Diag. Cht. Nos. 8002-2 and 8102-3.

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. HO-2153 Office No. H-8064

LOCALITY

State S. E. Alaska

General locality Cordova Bay

Locality Southern Part. (Cordova Bay)

1953

CHIEF OF PARTY

F. R. Gossett

LIBRARY & ARCHIVES

DATE October 13, 1954

8064

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-8064

Field No. HO-2153

State S. E. Alaska

General locality Cordova Bay

Locality Southern part. (Cordova Bay)

Scale 1:20,000 Date of survey 27 May - 17 Sept. 1953

Instructions dated 17 March 1953

Vessel USC&GS Ship HODGSON

Chief of party F. R. Gossett

Surveyed by F. R. Gossett

Soundings taken by fathometer, ~~graphic recorder, hand lead, wire~~ 808 type No. 62, and NMC-1,
No. 289

Fathograms scaled by H. Hildahl

Fathograms checked by H. Hildahl and D. T. Williams

Protracted by A.O. Buchanan

Soundings penciled by A.O. Buchanan

Soundings in fathoms ~~663~~ at ~~MLLW~~ and are based on a
REMARKS: velocity of sound of 800 fms./sec.

DESCRIPTIVE REPORT

TO ACCOMPANY

HYDROGRAPHIC SURVEY H-8064 (FIELD NO. HO-2153)

CORDOVA BAY, SOUTHEAST ALASKA

1953

SCALE 1:20,000

F. R. GOSSETT, CHIEF OF PARTY

U.S.C.&G.S. SHIP HODGSON

SURVEYED BY: F. R. GOSSETT

A. PROJECT. - CS-357, Instructions 2¹/₄ MEK, S-2-HO dated 17 March 1953. ✓

B. SURVEY LIMITS AND DATES. - This survey covers the offshore areas of the southern part of Cordova Bay from Lat. 54° 43' N to Lat. 54° 51.5' N and from Long. 132° 21' W to Long. 132° 37' W. ✓

Field work began on 27 May 1953 and ended on 17 Sept. 1953. ✓

This survey joins prior survey H-4535, dated 1925, scale 1:20,000 on the west (along the eastern shore of Long Island) and H-4536 dated 1925, scale 1:40,000 on the southwest. Non-modern prior surveys H-3042 and H-3043, dated 1909, scale 1:20,000, cover the area of this survey and also form the southern, northern and eastern junctions with prior surveys. Contemporary surveys H-8065 (HO-1153), H-8066 (HO-1253), and H-8067 (HO-1353), all scale 1:10,000 form the eastern and northeastern junctions with this survey. - H-8134 (1954) - 1:20,000
N.W. Junction

C. VESSEL AND EQUIPMENT. - All sounding on this sheet was done by the Ship HODGSON. At standard speed of 11.4 knots using both engines the turning radius of the ship using 15 degrees rudder is 130 meters. ✓

All courses were hand steered using gyro compass directions. ✓

Fathometers used were as follows: 808 fathometer No. 62 usually in depths of less than 100 fathoms and NMC-1 fathometer No. 289 usually in depths of over 50 fathoms. A pair of keel mounted transducers were used with the 808 fathometer. A standard hull mounted oscillator on the port side was used with the NMC unit. ✓

D. TIDE AND CURRENT STATIONS. - Portable automatic tide gages were located at Minnie Bay, Lat. 54° 43.6', Long. 132° 18.2; Tah Bay, Lat. 54° 49.70', Long. 132° 19.98; Elbow Bay, Lat. 54° 54.0', Long. 132° 39.2. By letters dated 11 Aug. 1953 and 3 Nov. 1953, the Office stated that the time and heights differences between these gages were so small that they could be used interchangeably for hydrographic records in the area. Since the Tah Bay gage was the only gage that was operated continuously throughout the season, it was used exclusively for reduction of sounding records on this sheet. ✓

* Fg 16 beyond
s/s Limits

A current station with 72 hours of pole observations was located at Lat. $54^{\circ} 48' 85''$, Long. $132^{\circ} 22' 92''$ within the area surveyed on sheet H-8066 (HO-1253).

E. SMOOTH SHEET. - Smooth sheet projection has been made by the Seattle Processing Office. Shoreline will be transferred when shoreline manuscripts are received from Washington. This report is written from the boat sheet. It is expected that appropriate smooth plotting notes will be added when the smooth sheet is completed at the Processing Office.

F. CONTROL STATIONS. - Basic control was obtained from 1909 and 1925 triangulation Vol. G-609. A few additional triangulation stations were established by this party this season. (See Triangulation Report - Cordova Bay, 1953). Remaining hydrographic signals were located by graphic control methods on HODGSON 1953 sheets A, B, C, and D.

All signals used are listed in the front of the first sounding record volume for this sheet. The source of each signal is indicated on the list.

G. SHORELINE AND TOPOGRAPHY. - This is an offshore sheet and none of the hydrography is immediately adjacent to any shoreline. The dashed red shorelines shown on the boat sheet were transferred from the 1909 survey sheets Nos. H-3042 and H-3043. It is expected that shoreline for the smooth sheet will be furnished from manuscripts compiled from 1953 nine lens photographs.
T-4183 (1925) - 7-11302-05, 7-11320-11321 - (Ad. Prints) 1954

Since this is an offshore sheet no low water line was surveyed.

H. SOUNDINGS. - All soundings, except wire soundings for bottom samples and comparisons were obtained by fathometer (See section "C" above). Fathometers were calibrated for a velocity of 800 fms. per second. Corrections to these soundings are discussed in "Fathometer Report, Ship HODGSON, 1953."

I. CONTROL OF HYDROGRAPHY. - Standard visual 3 point fix methods of simultaneous sextant angles on shore signals (usually at two minute intervals) were used throughout the sheet for control of hydrography.

J. ADEQUACY OF SURVEY. - The survey is complete and adequate to supersede prior surveys for charting. Junctions with adjoining surveys are satisfactory. There are no holidays. Depth curves can be adequately drawn at junctions.

K. CROSSLINES. - There are approximately 53 nautical miles of crosslines or 8.3 percent of lines run. Crossings on the boat sheet appear to be satisfactory and minor discrepancies may be explained by rough irregular bottom.

L. COMPARISON WITH PRIOR SURVEYS. - Boat sheet was compared with prior surveys H-4535 dated 1925, scale 1:20,000; H-4536 dated 1925, scale 1:40,000; H-3042 dated 1909, scale 1:20,000 and H-3043 dated 1909, scale 1:20,000. The soundings shown on these prior surveys are in good general agreement in depth and position with this boat sheet. However, with the continuous graphic record and closer spaced lines of the new survey, many shoaler depths (not dangers to navigation) were obtained between the old soundings. A more detailed comparison should be made after the smooth plotting is completed.

M. COMPARISON WITH CHART. - Comparison was made with Charts 8145 (print date 5/14/51) and 8146 (print date 7/16/51). Depths shown on these charts agree

P6 Review

well in general in position with similiar depths on the boat sheet. The closer development of the new survey shows many shoaler soundings near and between deeper charted soundings, especially in the area south of the Barrier Islands.

N. DANGERS AND SHOALS. - There are no dangers to normal surface navigation in the area sounded on this sheet.

Least depths found on shoals of 10 fathoms or less are listed below:

DEPTH	LAT. 4	<i>Smooth</i> (BOAT SHEET)	LONG. 5	POS.
6.5'	54° 44:18 $\frac{1}{2}$		132° 25.3 $\frac{1}{2}$	29-30E ✓
7.3 $\frac{1}{2}$	54° 45:01 ✓		132° 26:47 ✓	6E & 151L ✓
10.2	54° 44:35 $\frac{1}{2}$		132° 24:58 $\frac{1}{2}$	119-120H ✓

O. COAST PILOT INFORMATION. - See Coast Pilot Notes, Ship HODGSON, 1953.

This is an offshore sheet. There are no recommended anchorages in the area surveyed. The area is exposed to sea and swell of Dixon Entrance. Prevailing swell during period of the survey was from the southwest. The worst storms blew from the southeast. The greatest percentages of smooth seas and calm were in July and August.

The principal dangers to be avoided in navigating the area lie just outside of the area surveyed. They are namely: The rocks awash off Marsh Point, Dewey Rocks, the rocks awash off Round Islands Light and South Rocks. The Coast Pilot course recommended in Table 3 is unnecessarily close to the dangerous rocks awash off Round Islands.

P. AIDS TO NAVIGATION. - The following fixed aids to navigation fall outside the offshore area sounded but within the limits of the sheet: Point Marsh Light, Round Islands Light, Eureka Pass Daybeacon, Center Island Reef Daybeacon, and Guide Rocks Daybeacon. Their positions are listed on Form 567, copy of which is attached.

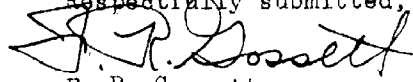
Q. LANDMARKS FOR CHARTS. - There are no definite landmarks. Charted named offshore rocks and tangents to islands and points serve as best landmarks available. Dewey Rocks, Round Islands, Boat Rock, and Black Rock are the most useful natural objects for the area covered by hydrography of this sheet.

R. GEOGRAPHIC NAMES. - See special "Geographic Names" Report, Ship HODGSON, 1953.

Z. TABULATION OF APPLICABLE DATA: - The following have been forwarded to Washington Office and copies have been furnished the Seattle Processing Office.

- Fathometer Report.
- Triangulation Report - Cordova Bay.
- Coast Pilot Notes ✓
- Geographic Names Report
- Photogrammetric Report
- Graphic Control Sheets A, B, & C.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "F. R. Gossett". The signature is written in dark ink and is positioned over the typed name below it.

F. R. Gossett,
CDR, USC&GS.

STATISTICS FOR HYDROGRAPHIC SURVEY H-8064(1953)

SHIP HODGSON

PROJECT CS-357

VOL.	DATE	DAY	VESSEL	POSITIONS	NAUT. MI.	STAT. MI.	EX. RUN
1.	27 May	A	HODGSON	150	54.3	62.0	20.0
1	28 May	B	"	176	62.1	71.1	15.0
2	29 May	C	"	178	65.0	74.3	9.5
2	30 May	D	"	161	58.8	67.2)	--
3	30 May	D	"	5	0.7	0.8)	14.5
3	31 May	E	"	148	52.6	60.1	10.4
3	10 June	G	"	177	61.3	70.5	11.4
4	9 June	F	"	101	34.2	39.1	15.0
4	11 June	H	"	178	55.1	62.8	15.0
4	12 June	J	"	45	14.2	16.5	19.0
5	13 June	K	"	90	31.0	35.4	21.0
5	14 June	L	"	192	62.0	71.3	12.2
5	23 June	M	"	20	--	--	44.0
5	24 June	N	"	26	--	--	51.0
5	25 June	P	"	36	13.0	14.8)	--
6	25 June	P	"	129	45.0	51.5)	6.0
6	17 Sept.	Q	"	71	24.6	28.3	10.0
			TOTAL	1883	633.9	725.7	274.0

Area Sq. Stat. Miles = 47.2

TIDE NOTE

Portable automatic tide gages were operated in the following locations:

Minnie Bay

Lat. $54^{\circ} 43:57$, Long. $132^{\circ} 18:20$
MLLW = 4.6 ft. on tide staff

Tah Bay

Lat. $54^{\circ} 49:70$, Long. $132^{\circ} 19:98$
MLLW = 3.1 ft. on tide staff

Elbow Bay

Lat. $54^{\circ} 54:10$, Long. $132^{\circ} 39:12$ } *off Smooth Sheet*
MLLW = 4.8 ft. on tide staff } *limits*

All sounding records were reduced from observed tides at Tah Bay gage.
Hourly heights were scaled from the marigrams by the field party.

Director's letters of 11 Aug. 1953 and 3 Nov. 1953 stated that time and heights difference between above gages were so small that they could be used interchangeably.

GEOGRAPHIC NAMES LIST

(See special report on "Geographic Names" - HODGSON, 1953).

The following names are penciled on the boat sheet.

CHARTED NAMES

Point Marsh
Minnie Bay
Eureka Channel
Center Island
Leading Pt.
The Narrows
Tah Bay
Barrier Islands
Guide Rks.
Anchor Island
Boat Rks.
Egg Rk.
Round Islands
Dewey Rks.
Mexico Pt.
South Rks.
Cordova Bay

RECOMMENDED NAMES

Minnie Cutoff
Thompson Passage
Range Pt.
Rocky Pass
Kelp Pass
Middle Island
Rhea Rks.
Little Pass
Poe Island
Black Rock
Egg Passage

APPROVAL SHEET

Records for sheet H-8064 have been examined and are approved. Descriptive report has been written from the boat sheet. Sheet and records are forwarded to the Seattle Processing Office for smooth plotting.

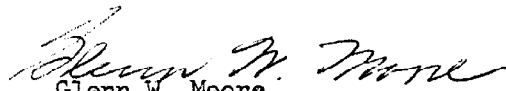


F. R. Gossett,
CDR, USC&GS
Chief of Party

PROCESSING OFFICE NOTES

The smooth sheet projection was made by hand by Mr. Parsons of the Seattle Processing Office. It is made of paper #D117. The detailed comparison with previous surveys as suggested by the Descriptive Report, paragraph L, has not been made since the previous surveys were not furnished and they are not on file in the Processing Office.

The sheet was plotted by Mr. A. O. Buchanan, Coxswain, Ship PATHFINDER, who, because of illness is on temporary duty to the office. The plotting was thoroughly supervised by Mr. Martin who carefully inspected the details of the sheet and drew the depth curves. No excessive crossings were noted. The work has been compared with contemporary survey H-8065 on the east.


Glenn W. Moore
OIC, Seattle Processing Office

GEOGRAPHIC NAMES ON H- 8064

<u>Anchor Id.</u>	<u>Leading Point</u>
<u>Barrier Islands</u>	<u>Little Pass</u>
<u>Black Rocks</u>	<u>Long Island</u>
<u>Boat Rocks</u>	<u>Mexico Point</u>
<u>Center Id.</u>	<u>Middle Island</u>
<u>Coning Inlet</u>	<u>Minnie Bay</u>
<u>Coning Pt.</u>	<u>Minnie Cutoff</u>
<u>Cordova Bay</u>	<u>Ning Bay</u>
<u>Dewey Rocks</u>	<u>Point Marsh</u>
<u>Egg Pass</u>	<u>Prince of Wales Island</u>
<u>Egg Rock</u>	<u>Rocky Pass</u>
<u>Eureka Channel</u>	<u>Round Islands</u>
<u>Far Point</u>	<u>South Rocks</u>
<u>Guide Rocks</u>	<u>The Narrows</u>
<u>Kaigani Point</u>	<u>Thompson Passage</u>
<u>Kaigani Strait</u>	<u>Wallace Rock</u>
<u>Kelp Pass</u>	

Names approved

10-15-54

a.f.w.

GEOGRAPHIC NAMES

Survey No. H-8064

Name on Survey	Source										
	A	B	C	D	E	F	G	H	K		
	On Chart No.	On previous survey No.	On U. S. quadrangle Maps	From local information	On local Maps	P. O. Guide or Map	Rand McNally Atlas	U. S. Light List			
<u>Anchor Island</u>					Rocky Pass						1
<u>Barrier Islands</u>					Round Islands						2
<u>Black Rocks</u>					South Rocks						3
<u>Boat Rocks</u>					The Narrows						4
<u>Center Island</u>					Thompson Passage						5
<u>Coning Inlet</u>					Wallace Rock						6
<u>Coning Point</u>											7
<u>Cordova Bay</u>											8
<u>Dewey Rocks</u>											9
<u>Egg Pass</u>					Names approved						10
<u>Egg Rock</u>					10-15-54						11
<u>Eureka Channel</u>					A. J. W.						12
<u>Far Point</u>											13
<u>Guide Rocks</u>											14
<u>Kaigani Point</u>											15
<u>Kaigani Strait</u>											16
<u>Kelp Pass</u>											17
<u>Leading Point</u>											18
<u>Little Pass</u>											19
<u>Long Island</u>											20
<u>Mexico Point</u>											21
<u>Middle Island</u>											22
<u>Minnie Bay</u>											23
<u>Minnie Cutoff</u>											24
<u>Ning Bay</u>											25
<u>Point Marsh</u>											26
<u>Prince of Wales Island</u>											27

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-8064...

Records accompanying survey:

Boat sheets ..1..; sounding vols. 6....; wire drag vols.;
 bomb vols.; graphic recorder rolls 1 Eny;
 special reports, etc. 1 Smooth Sheet; 1 Descriptive Report; 1 Cahier-
 fathometer report;.....

The following statistics will be submitted with the cartog-
 rapher's report on the sheet:

Number of positions on sheet	1883
Number of positions checked	72
Number of positions revised	1
Number of soundings revised (refers to depth only)	* 350
Number of soundings erroneously spaced	0
Number of signals erroneously plotted or transferred	0
Topographic details	Time 16
Junctions	Time 24
Verification of soundings from graphic record	Time 48

Verification by F.P. SAULSBURY..... Total time 384 Date 9-16-58

Reviewed by J.W. Jeske..... Time 41 Date 4/3/59

* Includes phase corrections, edg's from NMC when echo on 80B was either weak or non-existent or when NMC edg's, improved hydrog.

DIVISION OF CHARTS

Review Section - Nautical Chart Branch

Review of Hydrographic Survey

Registry No. H-8064

S.E. Alaska, Cordova Bay,
Southern Part

Field No. HO-2153

Surveyed - May-Sept. 1953

Scale: 1:20,000

Project No. CS-357

Soundings:

Control:

808 Depth Recorder
NMC-1 Depth Recorder

Sextant fixes on
shore signals

Chief of Party - F. R. Gossett
Surveyed by F. R. Gossett and D. L. Campbell
Protracted by - A. O. Buchanan
Soundings plotted by - A. O. Buchanan (Seattle P.O.)
Verified and inked by - F. R. Saulsbury
Reviewed by - I. M. Zeskind 4/3/59
Inspected by - R. H. Carstens

1. Shoreline and Control

The shoreline originates with plane table survey T-4183 (1925) and unreviewed air-photographic surveys T-11302, T-11304, T-11305, T-11320 and T-11321 of 1953-54.

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

2. Sounding Line Crossings

Depths at crossings are in good agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves were adequately delineated.

The bottom is very irregular in depths less than 100 fms. and fairly irregular in greater depths.

H-8064 (1953)-2

Submarine features such as shoals, pinnacles, ridges and deeps contribute to the bottom irregularity.

4. Junctions with Contemporary and Prior Surveys

Adequate junctions were effected with contemporary surveys H-8134 (1954) and H-8067 (1953-54) on the north-west. A junction was also effected with prior survey H-4535 (1935) on the west where differences in depths on the outer ends of some lines of as much as 14 fms. between the prior and present surveys were noted. The present survey depths were retained wherever these differences occurred. Present survey depth curves in the junctional area supersede those of H-4535 wherever difference in delineation of depth curves occurred. Junctions with contemporary surveys H-8066 (1953) west of Round Island and H-8065 a & b (1953-54) south of Black Rock and east of Point Marsh will be considered in the reviews of those surveys. The present survey extends to the limits of the Project on the south where charted depths are in adequate agreement with depths on the present survey.

5. Comparison with Prior Surveys

H-2331 (1897) 1:80,000	H-3042 (1909) 1:20,000
H-2787 (1905) 1:40,000	H-3043 (1909) 1:20,000
	H-4536 (1925) 1:40,000

A comparison between these early reconnaissance surveys and the present survey generally reveals minor differences of 2-5 fms. in depths. In several areas, however, greater differences in depths are noted, as for example in lat. $54^{\circ}46.80'$, long. $132^{\circ}32.80'$ where a prior depth of 158 fms. falls in present depths of 168 fms. A 49-fm. sounding on H-3042 was erroneously charted as 29 fms. in lat. $54^{\circ}44.12'$, long. $132^{\circ}27.76'$.

A number of bottom characteristics have been carried forward to the present survey from the prior surveys. With the addition of these bottom characteristics, the present survey is adequate to supersede the prior surveys within the common area.

6. Comparison with Chart 8145 (Latest print date 7-29-57)
Chart 8146 (Latest print date 8-11-58)

A. Hydrography

The charted hydrography originates with the previously discussed prior surveys which need no further consideration, supplemented by soundings from the boat sheet (Bp 51037) of the present survey. The 18 fms. charted

H-8064 (1953)-3

in lat. $54^{\circ}45.43'$ long. $132^{\circ}34.96'$ from the boat sheet was subsequently reread 7 fms. deeper and should be disregarded. Minor differences of 2-3 fms. in other soundings were noted between the charted and present depths. However, attention is directed to the following uncharted present survey depths falling in areas of greater charted depths:

<u>Present Survey</u> <u>Depth-fms.</u>	<u>Location</u>		<u>Charted</u> <u>Depth-fms.</u>
	<u>lat.</u>	<u>long.</u>	
67	$54^{\circ}47.87'$	$132^{\circ}31.50'$	81-100
25	$54^{\circ}43.52'$	$132^{\circ}23.88'$	30-35

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

B. Aids to Navigation

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

7. Condition of Survey

a. The sounding records and Descriptive Report are complete and comprehensive, except that it was necessary to add about 230 soundings to the recorded depths to better delineate the bottom configuration.

b. The smooth plotting was accurately done.


8. Compliance with Project Instructions

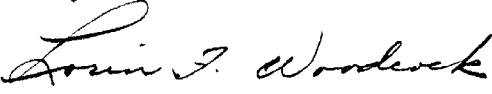
The survey adequately complies with the Project Instructions.


9. Additional Field Work Recommended

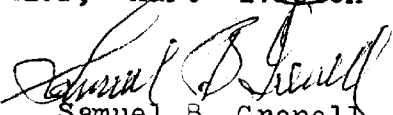
This survey is considered basic and no additional field work is recommended.

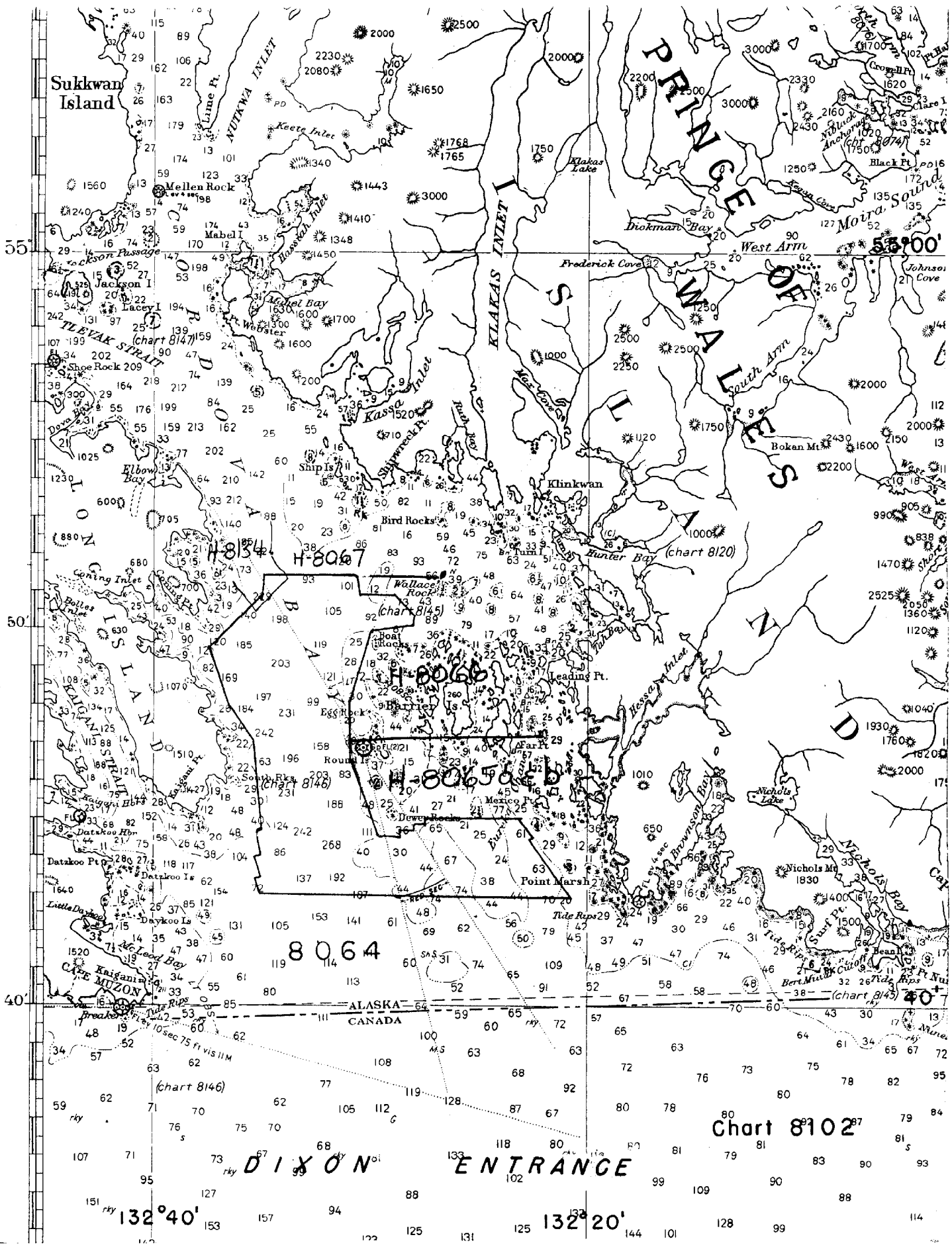
Examined and Approved:


Max G. Ricketts
Chief, Nautical Chart Branch


Lorin F. Woodcock
Chief, Hydrography Branch


Ernest B. Lewey
Chief, Chart Division


Samuel B. Grenell
Chief, Coastal Surveys Div.



RHC

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Hydrography and Topography~~

21 October 1954

Division of Charts: R. H. Carstens

Plane of reference approved in
6 volumes of sounding records for

HYDROGRAPHIC SHEET 8064

Locality Cordova Bay, Alaska

Chief of Party: F. R. Gossett in 1953
Plane of reference is mean lower low water, reading
3.1 ft. on tide staff at Tah Bay
14.2 ft. below B. M. 1 (1909)
4.8 ft. on tide staff at Elbow Bay
15.9 ft. below B.M. 1 (1925)

Height of mean high water above plane of reference is 11.9 feet.

Condition of records satisfactory except as noted below:

E. C. McKay
Tides Branch

Chief, Division of Tides and Currents.

NAUTICAL CHARTS BRANCH

SURVEY NO. H-8064

Reviewed 4-3-59

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
12-10-54	8152	<i>Earl M. Proganj</i>	Before After Verification and Review <i>Partial application</i>
4/11/55	8102	<i>J. J. Walby</i>	Before After Verification and Review <i>Partially</i>
6/4/57	8145	<i>C.P. Wittman</i>	Before After Verification and Review <i>Partially</i>
10-28-59	8102	<i>R.K. DeLander</i>	<i>Completely good</i> Before After Verification and Review <i>without going thru larger scale charts</i>
10-25-60	8152	<i>R.E. Elkins</i>	Before After Verification and Review <i>Completely Applied thru chart 8102 diag #13.</i>
2/7/61	8145	<i>Helmert</i>	Before After Verification and Review <i>Completely applied Exam. chart 8152, diag. 12 and 3 edges disagree in overlap</i>
11 Mar 61	8002	<i>Earl M. Proganj</i>	Before After Verification and Review <i>Completely good Thru 8152 diag #12</i>
6/13/61	8146	<i>Helmert</i>	Before After Verification and Review <i>Completely applied Exam. chart 8152, diag #2</i>
5/22/75	8145	<i>M.D. Karis</i>	<i>Fully Applied</i> Before After Verification and Review <i>-signature only for items in conjunction with reviewed T-1804</i>
			Before After Verification and Review

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.