

8133

Diag. Cht. No. 8102-3.

Form 504

U. S. COAST AND GEODETIC SURVEY  
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. HQ-1954 Office No. H-8133

LOCALITY

State S. E. Alaska

General locality Cordova Bay

Locality Nutkwa Inlet

194 54

CHIEF OF PARTY

John Bowie

LIBRARY & ARCHIVES

DATE November 23, 1957

B-1870-1 (1)

8133

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-8133

Field No. HO-1954

State S. E. Alaska

General locality Cordova Bay

Locality Nutkwa Inlet

Scale 1:10,000 Date of survey Sept. 1954

Instructions dated 17 March 1953

Vessel Launch No. 98

Chief of party J. Bowie

Surveyed by R. C. Munson

Soundings taken by fathometer, ~~graphic recorder~~ 808 - 628

Fathograms scaled by Ship's personnel

Fathograms checked by " "

Protracted by L. W. Eason & V. F. Flor

Soundings penciled by V. F. Flor

Soundings in fathoms ~~xxx~~ at ~~MLLW~~ based on a velocity of sound of 800 fms./sec.

REMARKS: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

*ix WB*

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SURVEY NO. H-8133 (FIELD NO. HO-1954)

Scale 1:10,000

SHIP HODGSON

J. BOWIE, COMMANDING

SURVEYED BY R. C. MUNSON

A. PROJECT

This survey was executed as part of Project CS-357 under instructions 22/MEK, S-2-HO, dated 17 March 1953 and Supplemental Instructions 22/MEK, S-2-HO, dated 8 January 1954.

B. SURVEY LIMITS AND DATES

This survey covers Nutkwa Inlet between parallel 55° 06' 10" and the entrance to Nutkwa Lagoon.

Field work on this survey began on 15 September 1954 and was completed 28 September 1954.

This survey is joined on the south by contemporary survey H-8132 (Field No. HO-1854) <sup>(1954)</sup>.

Nutkwa Lagoon was intended to be surveyed on this sheet. Lacking air photographic control, the hydrography has been deferred.

C. VESSEL AND EQUIPMENT

This survey was executed with standard 30 foot hydrographic launch No. 98 which has a turning radius of approximately 25 meters at standard speed.

808 fathomster No. 62S with reeds calibrated for a velocity of 800 fathoms per second was used for all hydrography.

D. TIDE AND CURRENT STATIONS

A portable automatic tide gage was maintained at Nutkwa Inlet, Lat. 54° 02' 50.4" N, Long. 132° 34' 39.0" W during entire period of this survey and was used without time or range correction for reduction of all soundings. <sup>5' off SURVEY</sup>

No current stations were occupied within the limits of this survey.

E. SMOOTH SHEET

All work on the smooth sheet will be done by the Seattle Processing Office and will be covered by their report which will be an addenda to this report.

F. CONTROL STATIONS

There are no triangulation stations within the limits of this survey.

All control stations were located from air photographs on manuscript T-9903, except those located by sextant fixes.

Where stations were needed and there were no identifiable picture points nearby, the stations were located by sextant fixes at the station using objects located by photogrammetric methods. ✓

A list of all signals and method of location appear in the cover page of Volume No. 1 of the sounding records. ✓

#### G. SHORELINE AND TOPOGRAPHY

All shoreline is from manuscript T-9903<sup>(1953-54)</sup> furnished by the Washington Office. This shoreline was found to be very good. A few isolated shoals and rocks were found which did not appear on the manuscript and are noted on the boat sheet and field photographs. ✓

Because of the steep to rocky coast, it was impractical to delineate the low water line in all cases. ✓

#### H. SOUNDINGS

All soundings except a few hand lead soundings on isolated rocks or shoals were made with 808 fathometer No. 62S. ✓

The fathometer initial was set so that with the bar at two fathoms the fathometer would read two fathoms eliminating any index correction. Since the fathometer was calibrated for a velocity of 800 fathoms per second no velocity correction was made. ✓

Bar checks were made three times daily at two fathoms in accordance with letter 22/MEK, S-1-HO, dated 15 June 1953 to Commanding Officer, Ship HODGSON. ✓

Phase corrections were made and corrections applied. Details of the phase comparisons and corrections applied are given in Table 2 following this report. ✓

Eleven bottom samples were taken in this area. ✓

#### I. CONTROL OF HYDROGRAPHY

All hydrography was controlled by visual sextant angles on shore signals. ✓

#### J. ADEQUACY OF SURVEY

This survey is complete and adequate for charting purposes. Junction with the adjoining sheet is satisfactory and no holidays exist. Depth curves can be adequately drawn at the junctions. ✓

#### K. CROSSLINES

There are approximately 15 miles of crosslines or better than 8% of all lines run are crosslines. All crossings appear to be satisfactory. ✓

#### L. COMPARISON WITH PRIOR SURVEYS

No prior surveys exist in this area. ✓

#### M. COMPARISON WITH CHART

There are no soundings or features charted in this area. ✓

*See review*

N. DANGERS AND SHOALS

Listed in table below are uncharted dangers, shoals and significant soundings found.

<u>LOCATION</u>	<u>DEPTH</u>	<u>POS.</u>	<u>REMARKS</u>
55-06.00 <sub>1</sub> 132-34.19 <sub>20</sub>	6 <sup>1</sup> fms. ✓	<del>40-41e</del> 36-37e ✓	Shoal sounding.
55-06.44 ✓ 132-34.07 <sub>5</sub>	5 <sup>1</sup> fms. ✓	<del>36-37e</del> 54-55e ✓	Shoal sounding.
55-06.91 <sup>2</sup> ✓ 132-33.97 <sub>4</sub>	1 <sup>1</sup> fm. ✓	10f ✓	Hand lead sounding. Sunken rock.
55-06.44 ✓ 132-33.05 ✓	<del>1</del> <sup>1</sup> fm. ✓ 0 <sup>1</sup> ✓	15f ✓ 137-138d ✓	Hand lead sounding. Sunken rock. Shoal sounding
55-06.79 ✓ 132-31.94 ✓	<del>1</del> <sup>2</sup> fm. ✓ 2 <sup>3</sup> ✓	157-158e ✓ 23f ✓	Shoal sounding, on sunken rock Handlead sounding

There are numerous other rocks close along the beach and at the heads of the bays, coves and inlets which are not tabulated but are shown either on the boat sheet or manuscript.

O. COAST PILOT INFORMATION (See Section O in Descriptive Report for H-8132)

Nutkwa Inlet is at the head of Cordova Bay eastward of Lime Point.

Nutkwa Inlet is 1½ miles wide at its entrance and extends about 5 miles north-northeastward. Depths vary from 90 fathoms at the entrance to 10 fathoms at its head with several shoals of 4 to 6 fathoms in between.

Nutkwa Lagoon is a narrow body of water about 3 miles in length with midchannel depths from 40 fathoms at the southwest end to 20 fathoms at the northeastern part. Nutkwa Lagoon has several good salmon streams at its head. Mining and lumber activities are in evidence but no work has been done since World War II.

Nutkwa Falls, at the head of Nutkwa Inlet, obstructs passage into Nutkwa Lagoon. Several dangerous rocks are in the channel at and directly below the falls. Rapids exist above and below the falls except at high water slack. The water levels off at the falls at a tide elevation of 10 feet above MLLW. On the higher water slacks, a draft of 3 to 4 feet can be carried into Nutkwa Lagoon but passage should not be attempted without local knowledge.

Incorporated in Supplement of 2/9/57, Coast Pilot 8

P. AIDS TO NAVIGATION

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

Q. LANDMARKS FOR CHARTS

There are no landmarks for charts within the limits of this survey.

R. GEOGRAPHIC NAMES

See special report on Geographic Names submitted by this party.

The existing charted names within the limits of this survey are:

NUTKWA INLET and NUTKWA LAGOON.

It is recommended that the falls between NUTKWA INLET and NUTKWA LAGOON be named NUTKWA FALLS. *Approved by Geo. Names Section - see attached list.*

S. SILTED AREAS

No significant silted areas in this survey. ✓

T. BY-PRODUCT INFORMATION

No significant by-product information in the area. ✓

U. UNMARKED STATION

Station PEAR was marked with a standard topographic disk. ✓

Z. TABULATION OF APPLICABLE DATA

Tide Data

Air Photographs

Respectfully submitted,

*R. C. Munson*

R. C. Munson,  
Ens., USC&GS

Approved and forwarded:

*J. Bowie*

J. Bowie,  
CDR, USC&GS

Comdg., Ship HODGSON

STATISTICS

FOR

HYDROGRAPHIC SURVEY H-8133 (1954)

USC&GSS HODGSON PROJECT CS-357

VOL.	DAY	DATE	VESSEL	POS.	STAT. MI.	H. L.
1	a	15 Sept.	Launch 98	16	4.9	
1	b	16 Sept.	" "	172	33.7	
1	c	23 Sept.	" "	86	16.3	
2	c	23 Sept.	" "	<del>104</del>	<del>19.9</del>	
2	d	24 Sept.	" "	196	31.2	
2	e	26 Sept.	" "	166	24.5	
3	e	26 Sept.	" "	33	10.0	
3	f	27 Sept.	" "	198	32.8	
3	g	28 Sept.	" "	139	18.6	11
Total - - - - -				1110	191.9	11
				024	175.6	

Area = 3.4 sq. stat. miles

TABLE 2

FATHOMETER CORRECTIONS - (PHASE)

808 FATHOMETER NO. 62S

Feet		Fathoms		Fathoms	
A	B	A	B	A	B
44.9	44.5	39.5	39.1	37.3	37.0
45.0	44.5	39.0	39.0	38.2	37.8
45.0	44.3	38.0	38.3	39.0	38.5
44.6	44.0	37.3	37.7	39.9	39.2
44.3	44.0	36.6	36.8	39.9	39.7
44.2	44.0	35.8	36.0	39.5	39.3
44.3	44.0	35.0	35.1	37.0	39.1
44.4	44.0	Mean	<u>37.3</u>	<u>37.4</u>	37.0
44.2	44.0				36.9
<u>44.0</u>	<u>43.6</u>				37.0
Mean	<u>44.5</u>				Mean <u>38.3</u>

Fathoms		Fathoms	
B	C	C	D
78.9	77.2	111.0	109.5
79.0	77.2	111.0	109.5
79.0	77.2	110.0	108.5
79.1	77.3	109.0	107.0
79.2	77.4	107.5	106.0
79.1	77.2	107.0	105.0
79.0	77.1	107.0	105.0
78.9	77.0	107.0	105.0
78.9	77.0	107.0	106.0
<u>78.6</u>	<u>76.9</u>	107.0	105.0
Mean	<u>79.0</u>	Mean	<u>108.4</u>
	<u>77.2</u>		<u>106.6</u>

A-B	+0.4
	-0.1
	<u>0.0</u>
Mean	<u>+0.1</u>

B-C +1.8

C-D +1.8

Correction	A Scale	0.0
	B Scale	+0.1
	C Scale	+1.9
	D Scale	+3.7



TIDE NOTE

FOR

HYDROGRAPHIC SURVEY H-8133 (FIELD NO. HO-1954)

NUTKWA INLET

Lat.  $54^{\circ} 02' 50.4''$  N  
Long.  $132^{\circ} 34' 39.0''$  W

MLLW = 3.4 ft. on staff

PROCESSING OFFICE NOTES H-8133

SMOOTH SHEET

The smooth sheet was hand constructed in the Seattle Hydrographic Processing Unit using standard methods of construction and checking. ✓

CONTROL STATIONS

Photo topo station DUG was relocated by resection and put in with a blue circle. The change of location resulted in straighter sounding lines and better crossings. ✓

Considerable time was spent because of this signal and others in order to determine which one was out. Also it was necessary to replot a lot of positions. This was because a new man was on the job and being unfamiliar with the work, did not realize that he was in trouble until he had plotted a rather large number of positions. ✓

ADEQUACY OF SURVEY

This survey appears to be complete and adequate for charting. The junction with contemporary survey H-8132 has been compared and found to be in agreement. The depth curves have been correlated at the junction. ✓

COMPARISON WITH CHART

A comparison was made with chart 8147, 4th Ed., which was compiled from the boat sheet.

A sounding of 2.9 fathoms at Lat.  $55^{\circ} 06'.5$ , Long.  $132^{\circ} 34'.0$ , shown on the smooth sheet should be added to the chart. This sounding was not shown on the boat sheet.

DANGERS AND SHOALS

Items under this heading listed in the field report have been checked or corrected in ink. ✓

One additional shoal sounding of 2.9 fm pos. 68 to 69c, Lat.  $55^{\circ} 06'.5$ , Long.  $132^{\circ} 34'.0$ , was noted on the smooth sheet.

Disregard  
(error in  
scanning)  
See review

Respectfully submitted,

*William M. Martin*

WILLIAM M. MARTIN  
Suprv. Cartographer

APPROVED & FORWARDED:

*Curtis Le Fever*  
CURTIS LE FEVER, Capt., C&GS  
SEATTLE DISTRICT OFFICER

GEOGRAPHIC NAMES PENCILED ON H-8133

NUTKWA FALLS

NUTKWA INLET

NUTKWA FALLS

PRINCE OF WALES ISLAND

GEOGRAPHIC NAMES

Survey No. H-8133

Name on Survey	<div style="display: flex; justify-content: space-around;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">On Chart No.</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>									
	A	B	C	D	E	F	G	H	K	
<u>Southeast Alaska</u>				(for title)						1
<u>Cordova Bay</u>			"	"						2
<u>Prince of Wales Island</u>										3
<u>Nutkwa Inlet</u>				(tide station)						4
<u>Nutkwa Falls</u>										5
<u>Nutkwa Lagoon</u>										6
										7
										8
										9
										10
										11
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										27

Names approved 11-20-57.

HECK

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8133....

Records accompanying survey:

Boat sheets .1...; sounding vols. .3...; wire drag vols. ....; bomb vols. ....; graphic recorder rolls 1-Envelope 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		1024	
Number of positions checked		20	
Number of positions revised		0	
Number of soundings revised (refers to depth only)		5	{ merely to adjust curves
Number of soundings erroneously spaced		0	
Number of signals erroneously plotted or transferred		0	
Topographic details	Time	13	{ sketching shoals, rocks
Junctions	Time	0	{ visual comparison
Verification of soundings from graphic record	Time	34	{ 20% of inked depths on smooth sheet were omitted originally from volumes. These depths were scanned entered into the volumes and reduced.

Verification by *A. Rose* Total time *164 hr.* Date *2-6-'58*

Reviewed by *W. Evans* Time *22* Date *2/27/58*

PHC

TIDE NOTE FOR HYDROGRAPHIC SHEET

Chart Division: R. H. Carstens

21 November 1957

Plane of reference approved in  
3 volumes of sounding records for

HYDROGRAPHIC SHEET 8133

Locality Cordova Bay, Alaska

Chief of Party: J. Bowie in 1954

Plane of reference is mean lower low water, reading  
3.4 ft. on tide staff at Nutkwa Inlet  
15.2 ft. below B.M. 1 (1954)

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

Condition of records satisfactory except as noted below:



Signature

Chief, Tides Branch

DIVISION OF CHARTS  
REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8133

FIELD NO. HO-1954

S. E. Alaska - Cordova Bay - Nutkwa Inlet

Surveyed September 1954

Scale 1:10,000

Project No. CS-357

Soundings:

808 depth recorder  
hand lead

Control:

sextant fixes on  
shore signals

Chief of Party - J. Bowie  
Surveyed by - R. C. Munson  
Protracted by - L. W. Eason & V. F. Flor (Seattle P. O.)  
Soundings plotted by - V. F. Flor  
Verified and inked by - S. Rose  
Reviewed by - L. V. Evans III  
Inspected by - R. H. Carstens

Date: 2/27/58

1. Shoreline and Control

The shoreline originates with unreviewed photogrammetric survey T-9903 (1953-54).

The sources of control are given in the Descriptive Report.

2. Sounding Line Crossings

Depths are in satisfactory agreement at sounding line crossings.

3. Depth Curves and Bottom Configuration

The customary depth curves are adequately defined except for parts of the mean low-water line which could not be completely developed because of the steep, rocky foreshore. The bottom in the deep section of Nutkwa Inlet, along the westerly side, is relatively even. The bottom throughout the rest of the

area of this inshore survey is quite irregular, with steep slopes along the shoreline and the many small islands, islets, rocks, reefs, pinnacles and rocky shoals.

4. Junctions with Contemporary Surveys

The junction with H-8132 (1954) to the south, the only adjoining survey, will be considered in the review of that survey.

5. Comparison with Prior Surveys

There are no prior surveys in the area of the present survey.

6. Comparison with Chart 8147 (revised 10/7/57)

A. Hydrography

The charted hydrography, except for one sounding (see "1" below) from the penciled smooth sheet, originates entirely with the boat sheet of the present survey. Numerous charted soundings have been revised as much as 1 fathom on the smooth sheet.

Attention is called to the following items:

- (1) the 2.9-fm. sounding charted in lat.  $55^{\circ}06.51'$ , long.  $132^{\circ}34.00'$  should be expunged from the chart. It originated as a hand correction derived from the penciled smooth sheet of the present survey. The penciled sounding was found to have been incorrectly scaled from the fathogram. Actual depths in the vicinity of its charted position are 7.6 to 8.1 fms.
- (2) the rock awash in lat.  $55^{\circ}07.62'$ , long.  $132^{\circ}33.80'$  with a charted height of 5 ft. (MLLW) has been revised to 3 ft. (MLLW).
- (3) the 3-fm. sounding charted in lat.  $55^{\circ}05.94'$ , long.  $132^{\circ}32.77'$  originated through misreading an illegible sounding on the bromide copy (Bp. 52096) of the boat sheet and should be disregarded. The smooth sheet shows 7.5 fms. at the position of the erroneous 3 fms., and 4 fms. about 100 m. west of that position.

The present survey in its final form entirely supersedes the charted hydrography.



B. Aids to Navigation

There are no charted aids to navigation within the area of this survey.

7. Condition of Survey

- A. The field records are complete and comprehensive.
- B. The smooth plotting was satisfactory except that the spacing of soundings was too wide in areas of irregular bottom. Additional soundings amounting to about 20% of those originally smooth plotted were scaled from the fathograms, reduced and plotted by the verifier to define the depth curves and bottom configuration more accurately.


8. Compliance with Project Instructions


This survey adequately complies with the project instructions.

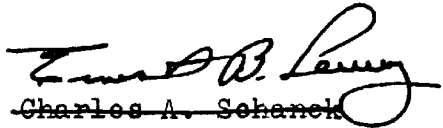
9. Additional Field Work Recommended

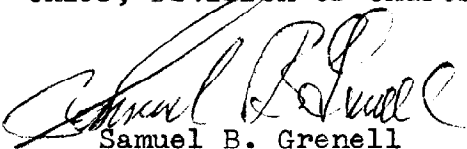
This is a good, basic survey and no additional field work is recommended.

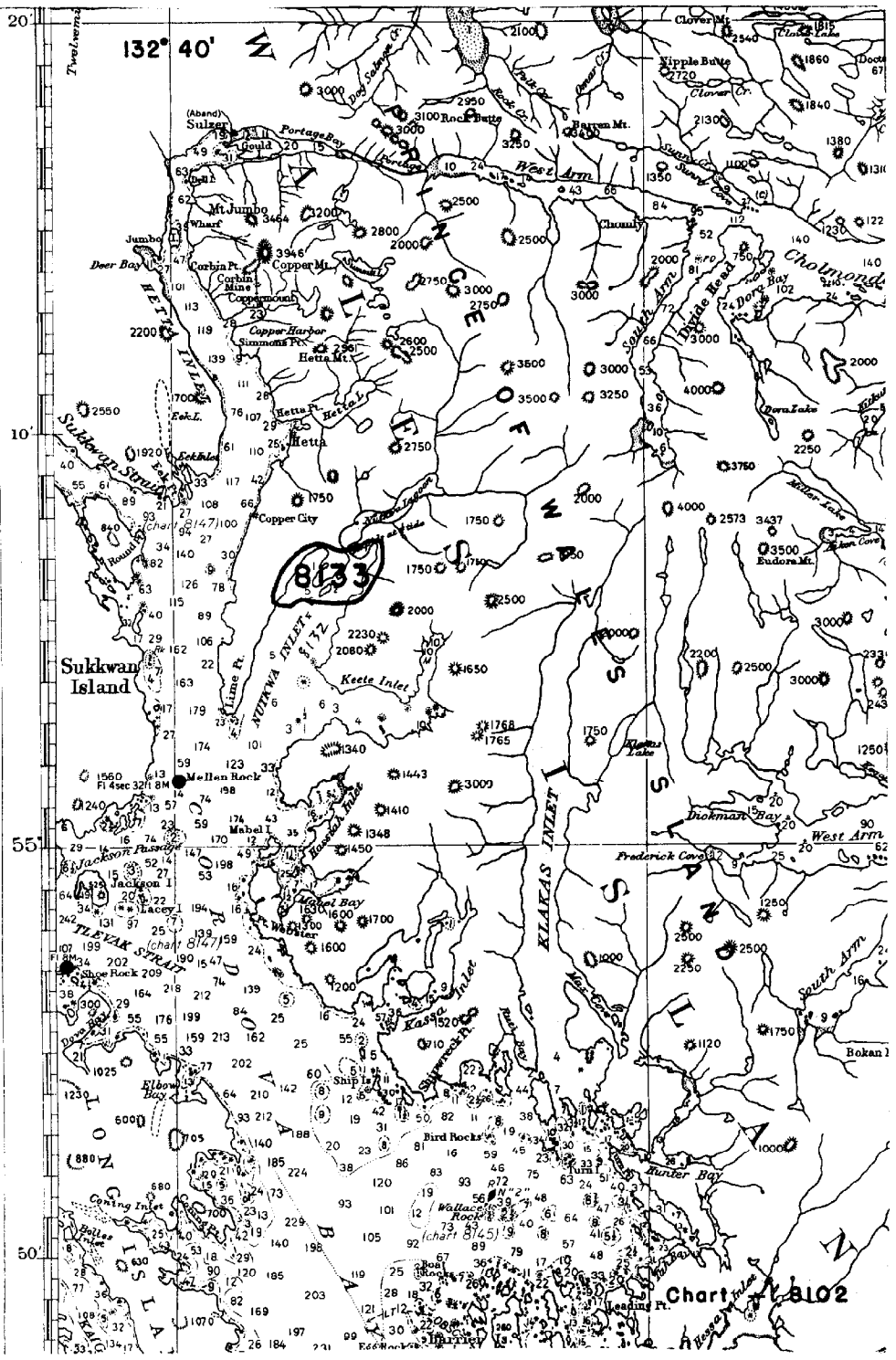
Examined and approved:

  
Max G. Ricketts  
Chief, Nautical Chart Branch

  
Karl B. Jeffers  
Chief, Hydrography Branch

  
~~Charles A. Schanck~~  
Chief, Division of Charts

  
Samuel B. Grenell  
Chief, Division of Coastal Surveys



# NAUTICAL CHARTS BRANCH

SURVEY NO. H-8133

## Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
10-15-58	8102	R.E. Elkins	<del>Before</del> After Verification and Review
10-17-58	8152	R.E. Elkins	<del>Before</del> After Verification and Review <i>app thru chrt 8102 dig 11.</i>
15/Mar 61	8002	<i>Est. M. Haggis</i>	<del>Before</del> After Verification and Review <i>No hydro at this scale consider as comp. appl</i>
6/19/62	8147	H. Radde	<del>Before</del> After Verification and Review <i>Fully Applied</i>
8-10-63	8147	h. Keeler	<del>Before</del> After Verification and Review <i>Appl. thru chrt. 8151</i>
2/4/75	8147	M. D. KANIS	<del>Before</del> After Verification and Review, <i>INSPECTION + SIGNATURE - RE-EXAMINED for critical corrections</i> Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
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			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.