

8658

Diag. Cht. No. 8201-3.

FORM C&GS-504

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. HO-5-1-62 Office No. H-8658

LOCALITY

State Southeast Alaska

General locality Keku Strait

Locality Kake to Hamilton Island

19.62-68

CHIEF OF PARTY

E. W. Richards & K. W. Jeffers

LIBRARY & ARCHIVES

DATE May 15, 1970

USCOMM-DC 37022-P66

8658

HYDROGRAPHIC TITLE SHEET

H-8658

INSTRUCTIONS - The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

FIELD NO.

HO-05-1-62

State Southeast Alaska

General locality ~~Keke~~ Keke Strait

Locality ~~Portage Creek Boat Harbor~~ ~~Keke~~ Keke to Hamilton Island

Scale 1:5,000 Date of survey Aug. 4-31 (1962) & June 10-Aug. 12, (1968)
August 1962; June 1968

Instructions dated May 29, 1962 Project No. OPR-448

Vessel HODGSON Launch 1192 and Port Motor Whale Boat; DAVIDSON launch DA-2 in 1968

Chief of party CDR Eugene W. Richards, 1962; LCDR K. William Jeffers, 1968

Surveyed by H. E. McCall, B. E. Karwisch, D. E. Kimbell, 1962; D. F. Blanchard, 1968

Soundings taken by echo sounder, hand lead, pole Fathometer 808 in 1962; DE-723 in 1968

Graphic record scaled by Fathometer Operators

Graphic record checked by Ships Officers and Fathometer Operators

Protracted by A. M. Legako, B. L. McCartney, A. E. Eichelberger, 1962; C. A. J. Pauw, 1968

Soundings penciled by A. E. Eichelberger, C. A. J. Pauw

Soundings in fathoms ~~XXXX~~ at ~~MLW~~ MLLW

REMARKS:

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SURVEY H-8658
(Field No. HO-05-1-62)

Scale 1:5,000

1962

Ship HODGSON

CDR E. W. Richards, Comdg.

A. PROJECT

Project No. SP-9-62

Instructions:

Instructions - Special Project 9-62, Portage ^{Pass}~~Greek~~ Boat Harbor, Kake, Alaska, No. S-2-HO, dated 5/29/62.

B. AREA SURVEYED

The area surveyed included the approach to and the area of Portage ^{Pass}~~Greek~~ Boat Harbor North from Lat. 56°56.5'N to 56°58.5'N and westward from the shore of Kupreanof I. to Long. 133°59.0'W. ✓

Junctions with prior surveys:

H-8517 Scale 1:5,000 - Along a NW - SE line running from Lat. 56°57.7'N, Long. 133°55.25'W to Lat. 56°58.5'N, Long. 133°57.3'W. See Review ✓

C. SOUNDING VESSEL

All soundings were obtained with the HODGSON's port motor whale boat. Brown small case letters were used for day letters. ✓

D. SOUNDING EQUIPMENT

808 Fathometer, Serial No. 147, was used from "a" day through "j" day. ✓

808 Fathometer, Serial No. 625, was used from "k" day through "n" day. ✓

D. SOUNDING EQUIPMENT (cont'd.)

Three corrections were made to the recorded soundings. ✓

Index Correction: ✓

Scaled direct from the fathograms. ✓

Tide Corrections:

Tide reducers were taken from the curve of hourly heights for the Kake (Keku Cannery) Tide Gage. ✓

Echo Corrections:

The Bar Check, Velocity, and Phase Corrections, were combined into one correction. ✓

The corrections as determined by bar checks were used to a depth of 10 fathoms then the layer corrections, determined by temperature and salinity measurements, were added to the bar check values to give the correction at depth. The correction at depth values were plotted on Form J-100-5, then the Echo Corrections abstracted in accordance with 5-101 of Publication 20-2, and the phase corrections applied. ✓

E. SMOOTH SHEET

The projection was made by the Washington Office on the ruling machine. The remainder of the processing was done by the ship's officers and personnel. ✓

F. CONTROL

The main portion of the control was based upon recovered triangulation stations, for which data is published, and hydrographic stations established by sextant fixes (see Vol. 1). It was necessary to establish three (3) new triangulation stations to supplement the existing control (see attached list). All triangulation was done in accordance with Special Publication No. 247 - Manual of Geodetic Triangulation. ✓

Four (4) ⁷⁻⁷¹¹⁰ topographic stations were located on the topographic sheet (HO-A-62) by graphic triangulation, then transferred to the boat sheet. ~~as a control for the boat sheet~~ ✓

The three new triangulation stations were located on the topographic sheet by graphic triangulation and then transferred to the boat sheet. This was done to furnish preliminary

F. CONTROL (cont'd.)

positions and expedite the hydrographic work. The triangulation stations will be plotted on the smooth sheet from computed data. ✓

All hydrography was controlled by visual fixes, using the above mentioned signals. ✓

The main system of lines ^{was} ~~were~~ run in a NE - SW direction, with a series of lines parallel to the shoreline to provide maneuvering space. ✓

G. SHORELINE

The longer reefs and the main shoreline, in the vicinity of the State Float, was defined by a planetable survey (Topographic Sheet HO-A-62). The smaller reefs, islands, etc. were defined by use of sextant fixes. Considerable time was spent outlining reefs, ledges, etc. during the minus tides, which occurred during the period the ship was in the area. ✓

The low water line could not be defined by soundings in most areas due to the extremely foul areas found close to shore. The water line was walked at low water (-0²) and sextant fixes taken in order to define the mean lower low water line in the immediate vicinity of the State Float. ✓

Final smooth sheet shoreline was obtained from a photogrammetric compilation of T-^{12, 186}_{12, 187}. Shoreline was inspected and control identified as a part of Project SP-18-62. (See Review) ✓
also see T-6989 and T-7110

H. CROSSLINES

Crosslines consisted of 12% of the regular system of sounding lines, There was general agreement along all crosslines. ✓

I. JUNCTIONS

The junction with Survey H-8517 gave satisfactory results. ✓

J. COMPARISON WITH PRIOR SURVEY

The only prior survey in this area is H-2150 made in 1892 and is no longer considered an adequate survey. Therefore, any comparison is of little importance. ✓

K. COMPARISON WITH THE CHART

Due to the small scale of the chart in this area (Chart 8201), it is impractical to make a comparison of any value. ✓
 Reviewer's comparison with chart # 8201, 16th Ed., Nov. 7, 1970
 The following shoals were found and developed:

<u>Depth</u>	<u>Latitude N</u>	<u>Longitude W</u>	<u>Position Nos.</u>
21 22	56°56.57	133°54.3	127c-128c
24 26✓	56°56.80 ^v	133°54.21 ^v	109 - 110c (brown) { also 2 "m" (green)
✓ Rock Awash 0 ³	56°57.11 ^{0c} ^v	133°54.35 ^v	13a 1k (brown) { also 2 "e" (green)
07✓	56°57.07 ^v	133°56.51 ^v	16a✓ (brown)
Rocks Awash✓	56°57.21 ^x	133°57.21 ^v	12 - 13j ^v (brown)
08✓	56°57.35	133°57.61 ^v (brown)	60-61h { 2-3 "d" (green) 75 Meters SE
13✓	56°57.61 ⁵⁷	133°57.61	146-147h (brown)
98 ¹ ✓	56°57.49 ^v	133°58.07 ^v	58-59 "m" (brown) 60a mislabeled
Rock Awash✓	56°57.85 ⁹³	133°58.21 ¹⁸	10h ^v ✓ OK (brown)
* Foul Area✓	56°58.00 ^v	133°58.51 ^v	developed in 1968 by Davidson See pos. 46 "g" (green), pos. 124-125 "b" (brown) and pos. 154-155 "g" (brown)
* Not developed			

L. ADEQUACY OF SURVEY

This survey is considered complete and adequate in all respects to supersede prior surveys for charting purposes. No part of this survey is considered sub-standard. ✓
 See 1968 work, also.

All shoals are considered to be adequately developed. Some indications and shoals not well developed with additional soundings in 1968 were obtained. ✓

Fifty (50) meter line spacing was maintained in the Boat Harbor and the approach to the Boat Harbor under 10 fathoms. In greater depths and relatively unimportant areas the general spacing was increased to 100 meters as noted in the Commanding Officer letter to the Director dated September 4, 1962. ✓
 (Copy of letter attached.)

M. AIDS TO NAVIGATION

The following aids to navigation are within the limits of
 this survey: Portage Bay Daybeacon 3, 1968, on T-12187 $\left\{ \begin{array}{l} 56^{\circ}57.07' \\ 133^{\circ}54.28' \end{array} \right.$
 Portage Bay Light 5, 1968, established in 1963, # 3099 (T-12187)
 Kake Harbor Light Light List No. 2460 (1962) No. 3097 (1969)
 Kake Flats Buoy #7 Light List Pg. #234 (1962)
 Kake Harbor Lighted Buoy #3 Light List No. 2459.5 (1962) No. 3096 (1969)
 Kake Cannery Flats Buoy #5 Light List Pg. #234 (1962)
 Kake Harbor Day Beacon Light List Pg. #244 (1962)
 Portage Bay Light 2, 1968, established in 1963, # 3098 (T-12186)
 The location of the above aids agrees with the positions
 as shown on Survey H-8517.

N. STATISTICS

	<u>No. of Posits.</u>	<u>Miles</u>
Port Motor Whaleboat (Vis. Control)	1,879	123.8
Skiff, etc.	193	
Totals	<u>2,072</u>	<u>123.8</u>
Total Area (Sq. N. Miles)		2.9
No. of Tide Stations		1
No. of Bottom Samples		22
No. of Serial Temperature Observations		2

O. MISCELLANEOUS

Considerable time was spent searching for and locating rocks, reefs and other obstructions during the minus tides, which occurred during the ship's presence in the area. ✓

Several extremely foul (kelp covered) areas were discovered close to the shore of many of the islands. No attempt was made to develop these areas due to the numerous reefs, rocks, etc. located within them. The areas were outlined with the whaleboat and have been marked foul. ✓

most of these developed by Davidson in 1968

P. RECOMMENDATIONS

None

Q. REFERENCES TO REPORTS

Reports
 Fathometer Report 1962
 Coast Pilot Report 1962
 Geographic Names Report 1962

Date Fwd. Trans. ltr. #

Q. REFERENCES TO REPORTS (cont'd.)

<u>Records Forwarded Separately:</u>	<u>Date Fwd.</u>	<u>Trans. Ltr. #</u>
Kake Tide Mariagrams	8/22/62	HO-36-62
Kake (Keku Cannery) Tide Station	8/8/62	HO-31-62
	8/24/62	HO-37-62
Leveling Records		
Topographic Sheet HO-A-62	9/19/62	HO-53-62

Shoreline Inspection Notes and Photographs forwarded under Project SP-18-62.

Records Forwarded With Sheet:

1 Boat Sheet, HO-05-1-62
10 Sounding Volumes, HO-05-1-62
13 Fathograms (808)
Blue Line, T-
Ozolid Prints, T-
Cronoflex Prints, T-
Tide Curves and Abstracts of Tide Corrections

TIDE NOTE

Project SP-9-62

Kake, Southeast Alaska

Sheet No. H-8658

Field No. HO-05-1-62

Tide station used on this survey:

<u>Station</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Time Meridian</u>	<u>Height MLLW on Staff</u>
Kake	56°57.82'N	133°55.5'W	120°W	5.5

The Kake (Keku Cannery) gage was used throughout this survey. All hourly heights were scaled direct from the marigrams for the tide station.

ABSTRACT OF ECHO CORRECTIONS

SHEET HO-05-1-62

PORT MOTOR WHALEBOAT

808 Fathometer No. 147

<u>Depth</u> (fms)	<u>Correction</u> (fms)	
	A-Scale	B-Scale
0.00 - 7.6	+ 0.1	
7.8 ⁷ - 17.8	+ 0.2	
18.0 - 29.0	+ 0.3	
29.2 - 55.0	+ 0.4	- 4.2
55.5 - Limit	+ 0.6	- 4.0

Phase Correction #147:

B Scale = - 4.6

C & D Scales = -10.2

Apply - 8/6 thru 8/15/62

Based on Serial 7/26/62

808 Fathometer No. 62S

0.0 - 13.4	+ 0.3
13.6 - 24.6	+ 0.4
24.8 - 31.0	+ 0.5
31.5 - 36.5	+ 0.4
37.0 - Limit	+ 0.6

No Phase Correction

Apply - 8/17 thru 8/31/62

Based on Serial 7/26/62

LIST OF STATIONS
H-8658

<u>Name Used in Survey</u>	<u>Origin of Station</u>
ANN	Pg. 39, Vo. 1
BAD	Topographic Sheet HO-A-62 ^{T-7110}
BETH	BETH, 1927
BOX	Pg. 39, Vol. 1
CAN	CAN, 1927
CAROL	CAROL, 1962
CHAN	CHAN, 1927
FISH	Scaled from H-8517
GUN	GUNNOCK, 1960
ISL	Pg. 39, Vol. 1
IRENE	IRENE, 1962
JEAN	JEAN, 1962
KAKE	KAKE, 1927
LIGHT	Kake Harbor Light, 1960
LUBE	Scaled from H-8517
NOT	Topographic Sheet HO-A-62
POL	Pg. 39, Vol. 1
USE	Scaled from H-8517
WAS	Topographic Sheet HO-A-62
WHO	Topographic Sheet HO-A-62

NEW TRIANGULATION

SP-9-62

<u>Station</u>	<u>Latitude</u>	<u>Longitude</u>
CAROL, 1962	56°57'00.555"N	133°54'00.191"W
IRENE, 1962	56°56'37.342"N	133°54'34.315"W
JEAN, 1962	56°56'32.059"N	133°53'23.172"W

Respectfully submitted,

Dee E Kimbell

Dee E. Kimbell
LTJG, C&GS

Four new signals established in 1968.

#002	56°58'22.7"	133°56'38.5"
#007	56°57'34.7"	133°54'40.0"
#014	56°57'33.8"	133°56'56.1"
#016	56°56'50.6"	133°53'36.5"

APPROVAL SHEET

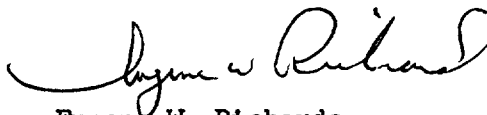
PROJECT SP-9-62

PORTAGE CREEK BOAT HARBOR
KAKE, SOUTHEAST ALASKA

The field work for this survey was done under the direct supervision of the Commanding Officer and inspected daily when work was in progress.

The survey was made to develop the Portage ~~Creek~~ Boat Harbor and to furnish sufficient information for the Coast Guard to mark the approaches with aids to navigation. It is considered adequate to serve the purpose intended. *Pass*
Sound
Project instructions specified basic hydrography.

The smooth sheet is to be plotted by officers and personnel aboard the HODGSON.



Eugene W. Richards
CDR, C&GS
Comdg., Ship HODGSON

TIDE NOTE FOR HYDROGRAPHIC SHEET

April 8, 1964

Nautical Chart Division: **Seattle Regional Officer**

Plane of reference approved in
10 volumes of sounding records for

HYDROGRAPHIC SHEET 8658

Locality **Kake, Keku Strait,
Southeast Alaska**

Chief of Party: **E. W. Richards, 1962**

Plane of reference is **mean lower low water reading**

5.5 ft. on tide staff at **Kake**

24.5 ft. below B. M. 1(1960)

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

year 1968 tide report claims 13.1 feet. See this D.R.

Condition of records satisfactory except as noted below:



Chief, Tides and Currents Branch

TIDE NOTE FOR HYDROGRAPHIC SHEET

April 15, 1969

~~Nautical Chart Division~~ Pacific Marine Center

Plane of reference approved
~~by the Hydrographic Office~~ for

HYDROGRAPHIC SHEET 8658

Locality: Keku Strait, Alaska

Chief of Party: K. W. Jeffers, 1968

Plane of reference is mean lower low water

Tide Station Used (Form C&GS-681):

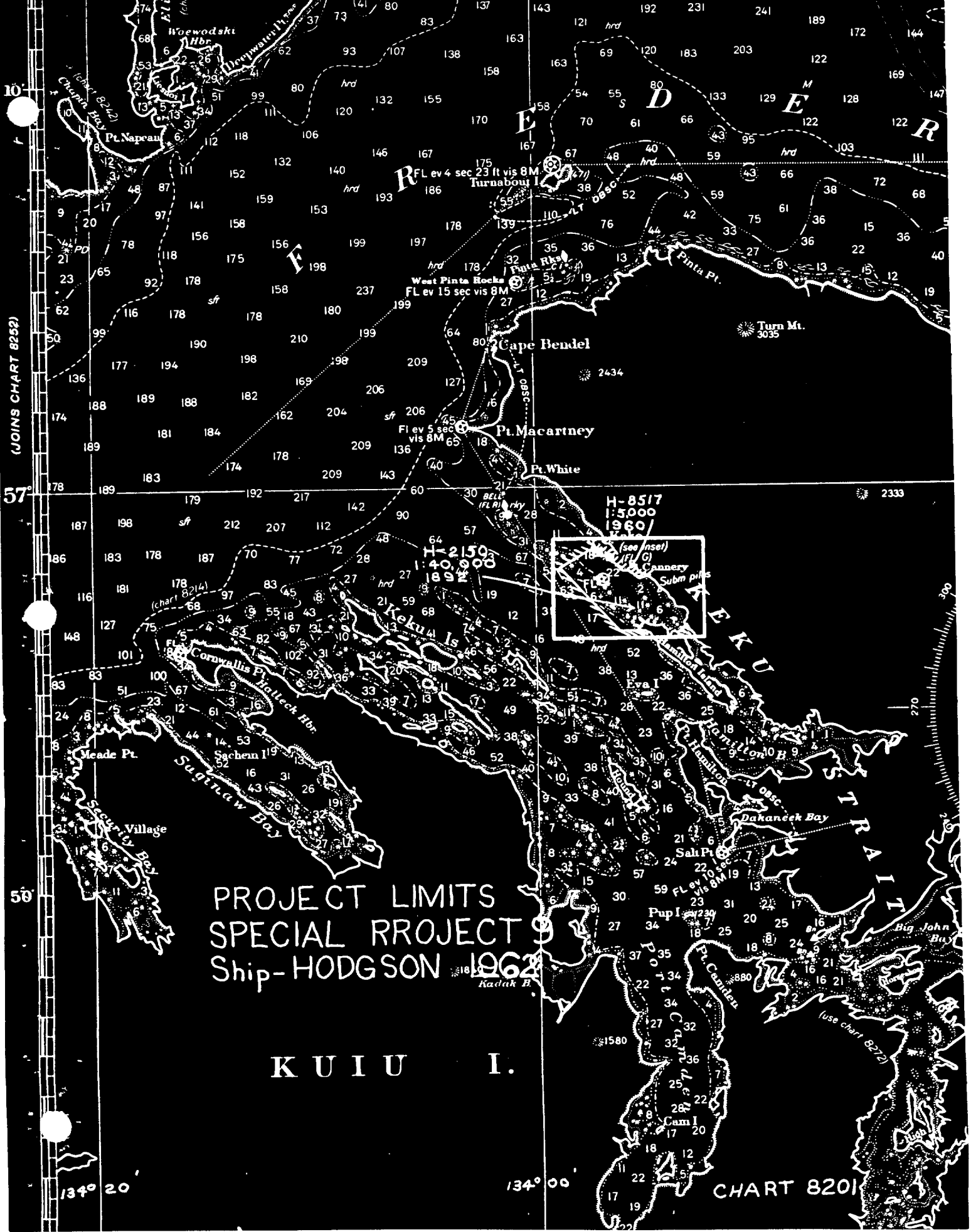
Kake, Keku Strait

Height of Mean High Water above Plane of Reference is as follows:

13.2 feet

Remarks


Chief, Tides and Currents Branch



NOTES TO ACCOMPANY DESCRIPTIVE REPORT

SHEET H-8658

The smooth sheet for Sheet H-8658 has been plotted through 1-day during the lay-up period by the Ship HODGSON. There was quite a bit of difficulty experienced in the plotting of positions on this sheet.

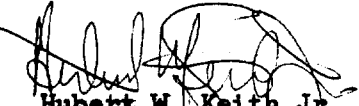
No courses were given in the sounding volumes, and no note made of anything but abrupt turns. In one instance the boat circled around an islet twice with no indication that the course was ever changed and nothing in the remarks column to indicate what was being done.

A large number of fixes were swingers, and had to be plotted on time. As before mentioned, no course information was given.

As indicated by the boat sheet plot, evidently turns were not necessarily made on fixes and immediately after. In one instance a deep S-curve was made between two successive positions, but nothing to indicate where the line went other than the boat sheet line.

Some of the boat sheet positions were misplotted - moving positions or entire lines one way or another.

Despite these troubles, I believe there is enough information that can be plotted to consider the survey adequate, considering the area and scale of the sheet. Final decision on this can be made only after the soundings are placed on the smooth sheet and the entire sheet reviewed.


Hubert W. Keith Jr.
CDR, USC&GS
Comdg., USC&GSS HODGSON

20
U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

Memorandum

TO : The Director

DATE: 7 July 1964

ATTN : Assistant Director for Oceanography *WOK*

FROM : Seattle Regional Officer

SUBJECT: Descriptive Report - H-8658, Portage Creek Boat Harbor, Kake, Alaska.

This is the survey that was discussed with ADM. Tison while he was in Seattle. Enclosed is a partial copy of the Descriptive Report. Also enclosed are notes made by CDR. Keith while he was still Commanding Officer of the HODGSON, notes by the smooth plotter, and notes by the verifier, as well as a list of the personnel aboard each vessel.

The position plotting on this survey has been verified and the soundings repenciled in the areas where plotting errors were found. The soundings have not been inked because we did not have the final verification of the tides at the time when the positions were verified.

It is believed that this survey, in its present condition, is adequate for charting. The errors that were found on the sheet were not in themselves unusual but rather the number of them was unusual. There were a great many swingers and split fixes. Because of this, it is believed that very little of the boat sheet plotting was done aboard the whale-boat while the work was in progress.

Ira R. Rubottom

Ira R. Rubottom

Enc.

20

Richards says he inspected this work daily, wouldn't he be able to answer this question? I think he should take a look at the smooth sheet, boat sheet and records as they now stand and discuss with Paw.

pr

The Director
Coast and Geodetic Survey
Washington, D. C.

4 September 1962

Commanding Officer
USC&GSS HODGSON
Petersburg, Alaska

Special Project 9-62, Portage Creek Boat Harbor
Kake, Alaska

A 1:5000 scale hydrographic survey of the subject boat harbor has been forwarded for copying under separate cover. Extensive searches were made for rocks and reefs at the time of all minus tides during our stay in the area, in addition to conventional hydrography. An inspection of the boat sheet indicates that several aids to navigation will probably be required to insure safe passage between Kake village and the Alaska State Float.

Rugged individualists →
Important areas in the approach to the float were surveyed at approximately 50-meter spacing. In relatively unimportant areas and flat bottom over 10 fathoms the spacing was increased to 100 meters. Further development of the rocky areas along the west project limit is of questionable value. Fishing boats using these shortcuts through the reef do so without the aid of any accurate means of navigation, depending solely on local knowledge. Two boats grounded during our stay and sustained serious damage. Any charting that would encourage further use of passes through the reef is not recommended.

No boats moored at the new float during the period of our survey. The owner of the crab cannery, close by, stated that little or no use had been made of the float since its construction.

Eugene W. Richards
CDR, C&GS
Comdg., Ship HODGSON

UNITED STATES GOVERNMENT
Memorandum

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

TO : Seattle Regional Officer
7/4

DATE: October 9, 1964

FROM : Commanding Officer
USC&GSS HODGSON

SUBJECT: Survey H-8658, Portage Creek Boat Harbor, Kake Alaska

Reference: Your letter to the Director dated July 7, 1964, with accompanying marginal notes by RADM. J. C. Tison

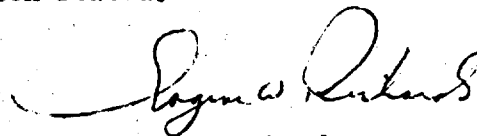
The subject survey has been discussed with both Mr. Pauw and Mr. Martin of the Seattle Processing Office. I am at a loss to fully answer RADM Tison's question regarding the closing sentence of your memorandum of July 7th. It appears to me that most of the plotting difficulty was due to insufficient notes, failure to reject positions in the sounding volume when they were not plotted, and the inexperience of the smooth plotters to resolve the resulting uncertainties, which served to compound the problems. The overlay of the smooth sheet prepared in the Processing Office, showing lines moved in red, does not in my mind indicate an unreasonable amount of change in most cases, nor in numbers of significant changes, when compared with the boat sheet. If the boat sheet was entirely free of errors and inaccuracies there would be no need for a smooth sheet.

My field examinations of the boat sheet gave me no reason to question the accuracy nor ethics involved in LT Kimbell's plotting. He worked on the sheet aboard the HODGSON each night. To the best of my knowledge, it was only for the purpose of resolving questionable fixes, applying soundings, inking position numbers, etc., which has always been customary on any hydrographic vessel to which I have been assigned.

Before, going further in this matter, I would like to obtain LT Kimbell's statements and reactions to your letter. He may be able to contribute information that will clarify the issue. In the meantime, I suggest that the verification of soundings be completed and the records forwarded to Mr. Carstens in the Nautical Chart Division for review. A ship is tentatively scheduled to work out of Kake, Alaska next season and this will be an excellent time to obtain any additional information needed for charting or to resolve discrepancies.

I am anxious to discuss the planning, execution and processing of this survey with RADM Tison in more detail. Possibly, this can be arranged, if I am ordered to Washington as was originally planned. I do not deny that there were errors in the survey, but I do feel that they were honest errors made through in-experience on my part, the hydrographers, the smooth plotters, and others involved in the survey. Furthermore, I sincerely believe that there has been a tendency to over-exaggerate the errors, particularly, if the final results are considered adequate for charting as has been stated.

cc: LT D. E. Kimball
Deputy Director



Eugene W. Richards

U. S. COAST AND GEODETIC SURVEY

Director

October 13, 1964

Attn : WSC-20

Seattle Regional Officer

Hydrographic Sheet H-8658, Portage ^{Pass} Creek Boat Harbor, Kake, Alaska

Referencing our memo of July 7, 1964 on above subject and enclosure from Cdr. E. W. Richards. A mylar overlay was made by the verifier showing by red lines and green squares the sounding lines and/or positions changed by the verifier on the smooth sheet.

The boat sheet, verified smooth sheet and overlay were compared and examined by Cdr. Taylor, Cdr. Richards and Mr. Martin and the following comments are submitted:

1. There was an excessive amount of changes necessary by the verifier on the smooth sheet as originally plotted.
2. There are insufficient notes and comments in the sounding volumes.
3. Comparing the mylar overlay and the boat sheet indicates more changes than would normally be expected between boat sheet and smooth sheet.
4. The Survey was adequately done and the survey is adequate for charting.

It is believed that inexperience on the part of the hydrographer and the three (3) different smooth plotters resulted in a smooth sheet requiring numerous changes by an experienced plotter who verified this sheet.

The following recommendations are suggested:

1. Several crosslines be run on this sheet by the first available vessel. The crosslines to be furnished by Seattle Regional Office processing.
2. If and when the area to the south of this sheet is done, the reef areas on the south side be included for resurvey.
3. The smooth sheet as now verified be inked by Seattle Processing Branch and forwarded to Washington Headquarters.

Ira R. Rubottom

cc: Martin
Cdr Richards

NETaylor/low 10/13/64

CODE	SURNAME	DATE	CODE	SURNAME	DATE
	Taylor	10/13			
	Rubottom	10/13			
	Mailed	✓		Mailed	10/13

FILE COPY

DESCRIPTIVE REPORT

HYDROGRAPHIC SURVEY

HO-05-1-62

SOUTHEAST ALASKA

USC&GSS DAVIDSON

K. William Jeffers
LCDR USESSA
Commanding Officer

1968

A. PROJECT

Work for the 1968 Field Season was accomplished in accordance with PROJECT INSTRUCTIONS OPR-448, KEKU STRAITS, ALASKA dated 30 April 1968 and CHANGE NUMBER 1: AMENDMENT TO INSTRUCTIONS dated 13 June 1968.

This Report will deal primarily with work accomplished by the DAVIDSON and her Launches.

B. AREA SURVEYED

The survey covered an area in the immediate vicinity of Kake, Alaska. It extends approximately 1.25 miles out from the shore between Lat. 56°56'30" N. and Lat. 56°58'15" N. Kake Harbor is not included in this survey. The DAVIDSON ran several developments primarily along the western limits of the sheet, and numerous splits. Work was accomplished between 10 June and 12 August 1968. Junction was made with HO-05-1-60. (H-8517) ✓

C. SOUNDING VESSEL

Hydrography was performed by Launch DA-II. ✓

D. SOUNDING EQUIPMENT

Launch DA-II used a Raytheon DE-723 Fathometer, serial number 1286. Corrector to Echo Soundings were determined from daily Bar Checks by the Launch. ✓

Depths were measured in Fathoms and were in very good agreement with the work of the HODGSON. ✓

E. SMOOTH SHEET

The Smooth Sheet ~~will be constructed and plotted automatically~~ was plotted on, and incorporated within the 1962 survey, by the Processing Division, Pacific Marine Center. ✓

F. CONTROL

Positions were established by visual three point fixes using control established and transferred by the Ship HODGSON, and four additional signals established in 1968. ✓

G. SHORELINE

Shoreline was delineated by the Ship HODGSON. ✓
SEE REVIEW *Am. ?*

H. CROSSLINES

Sufficient crosslines were run by the Ship HODGSON. Soundings at intersections were very good. ✓

I. JUNCTIONS

The DAVIDSON's work ~~did not junction with any other survey~~: See Review
H-9039 (1968), H-9040 (1968) & H-9000 (1966)

J. COMPARISON WITH PRIOR SURVEYS

No pre-survey review was supplied. ✓

K. COMPARISON WITH CHART

Comparison with C&GS Chart #8201, 13TH. EDITION dated Dec. 4, 1967 is unwarrented, due to the scale differences of the sheets. ✓
Reviewer's comparison with chart # 8201, 16th Ed., Nov. 7, 1970 ✓

L. ADEQUACY OF SURVEY

This survey is adequate and complete. ok ✓

M. AIDS TO NAVIGATION

All Aids to Navigation were located by the HODGSON. A visual check showed no discrepancies. Light No. 2 is not mentioned in the present survey. ✓
Portage Bay Light 2, 1968, established in 1963. See T-12186
Light 5, 1968, established in 1963. See T-12187
Day beacon 3, 1968, see T-12187 ✓

N. STATISTICS

Statistics of Launch DA-II of the USC&GSS DAVIDSON:

No. Positions

No. Miles Sounding Lines

~~589~~ 524

39.3

O. MISCELLANEOUS

The majority of this survey was accomplished by the HODGSON. Sounding Volumes and Descriptive Report from their work were not available to the DAVIDSON in 1968. ✓

P. RECOMMENDATIONS

No Recommendations.

Q. REFERENCES TO REPORTS

Reports to Consult are:

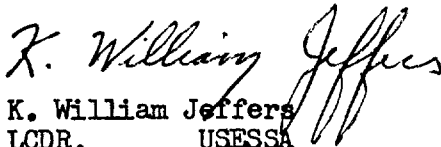
1. SPECIAL REPORT ON CORRECTORS TO ECHO SOUNDINGS OPR-448
2. DESCRIPTIVE REPORT of the HODGSON's Work. ✓

APPROVAL SHEET

OPR-448 SOUTHEAST ALASKA

HO-05-1-62

The field work was accomplished under my immediate supervision. Continuous inspections were made of the Boat Sheet and records.


K. William Jeffers
LCDR, USESSA
Commanding Officer
USC&GSS DAVIDSON

UNITED STATES GOVERNMENT

Memorandum

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
COAST AND GEODETIC SURVEY

TO : Processing Division
Pacific Marine Center

DATE: 04-24-69

THRU : C. O. Ship DAVIDSON *REM*

In reply refer to:

FROM : Field Works Officer

CFS231-13/DA-69-68

SUBJECT: Corrections to OPR-148 Keku Straits, Alaska 1969

<u>SHEET</u>	<u>CORRECTION</u>
--------------	-------------------

HO-05-1-62	The Time Meridian of the Tide Gage is 105 W.
------------	--

PA-10-3-66	The Time Meridian of the Tide Gage is 105 W.
------------	--

DA-10-3-68	The Time Meridian of the Tide Gage is 105 W.
------------	--

DA-10-4-68 and	
-------------------	--

DA-10-5-68	The Time Meridian of the Tide Gage is 105 W., from 26 June to 30 September, and 120 W. from 1 October to 20 October.
------------	--

The Time Meridian for the Sounding Volumes is
105 W. from 26 June to 19 September and 120 W.
from 20 September to 20 October. The Tide Tape
has been adjusted to agree with the Sounding
Volumes.

Velocity corrections for all vessels are incorrect from zero to
10 fathoms. (The Range of the Bar Checks). The draft of the
vessels was not added to the Bar Check Readings, consequently
the correction used is the sum of the draft and velocity
corrections. The draft of the launches is 0.3 fathoms.

*Corrections 0-10 fms in volumes are
in adequate agreement with
bar check corrections.*

Kanezo A. Domoto,
LT, USESSA

Kanezo A. Domoto

TIDE NOTE FOR HYDROGRAPHIC SHEET

May 22, 1969

~~XXXXXXXXXXXX~~ Pacific Marine Center

Plane of reference approved
~~XXXXXXXXXXXX~~ for

HYDROGRAPHIC SHEET 8658, 9000, 9039 & 9040

Locality: Keku Straits, Alaska

~~XXXXXX~~ Year: 1968

Plane of reference is mean lower low water

Tide Station Used (Form C&GS-681):

Kake, Keku Strait, Alaska

Height of Mean High Water above Plane of Reference is as follows:

13.1 feet

year 1962 tide report claims 13.2 feet. See this D.R.

Remarks

J. M. Lyons
Chief, Tides and Currents Branch

ABSTRACT OF CORRECTIONS TO

ECHO SOUNDINGS

HQ-05-1-62 H-8658

CORRECTION fathoms	TO DEPTH fathoms
-0.1	9.2
0.0	13.0
-0.1	28.9
0.0	33.8
+0.2	39.0 ***
+0.4	44.2
+0.6	49.6
+0.8	56.3

*** Correctors for depths greater than 33.8 fms.
extended from H-9039. (Same time period, same
season)

Draft (✓ initial) Corrections

<u>Day</u>	<u>Time</u>	<u>Corr.</u>
a	124500-132700	✓0.3
	132800-141500	✓0.4
	141600-141900	✓0.3
b	103800-113445	✓0.3
	113500-140100	✓0.2
	140200-141200	✓0.3
	141300-142300	✓0.4
c	124000-131745	✓0.2
	131800-133700	✓0.3
	133800-141600	✓0.4
d	100100-105600	✓0.5
	105700-112700	✓0.3
	112800-135900	✓0.4
	140000-143500	✓0.3
e	120500-142200	✓0.4
f	094100-102800	✓0.4
	102900-123100	✓0.5
	123200-130000	✓0.4
g	090000-155600	✓0.3
h	105500-112300	✓0.2
j	094830-142400	✓0.2
	142500-150900	✓0.3
k	121515-130830	✓0.4
	130845-140000	✓0.3
l	084500-090700	✓0.2
	090800-100100	✓0.3
	100200-111100	✓0.2
	111145-131200	✓0.4
m	100500-112700	✓0.3

TIDE NOTE

HO - 05 - 1 - 62

Tide Station	Kake, Alaska Lat. 56° 57.8' N. Long. 133° 55.5' W.
Plane of Reference	M L L W
Time Meridian of Gage	105° 120 ° W.

Tide Gage is a Portable Bubble Gage installed on
the Kake Cannery Pier.

LIST OF GEOGRAPHIC NAMES

H-8658 (HO-05-1-62)

Burnt Island
Grave Island
Gunnuk Creek
Hamilton Island
Kake
Keku Strait
Kupreanof Island
Little Gunnuk Creek
Mosquito Island
Portage ~~Bay Sound~~ Pass
~~Portage Creek Boat Harbor~~
Sound
Pass

Smooth Plotter's Notes

E. Smooth Sheet:

The projection was made by the Washington Office and checked by Ship's personnel. All control, and about 80% of the smooth plotting, was done by Ship's personnel before transferring the smooth sheet to the Seattle Hydrographic Processing Unit for completion. Many erratic, apparently misplotted, sounding lines and poor crossing are unresolved. See verifier's report, 1970, and review ✓

G. Shorelines:

The shorelines were only partially completed. Those from T-12186 and T-12187 were inked. Shoreline completed. See review. ✓

The numerous differences in shape and location of shorelines and reefs were left in pencil in the hope that the Washington Office would help to resolve the discrepancies. Note Review. ✓

K. Comparison with the Chart:

The comparison is not very meaningful because of the scale difference and limited information shown on the chart. Inserts on chart B201 for KAKE and PORTAGE ~~Sound~~ Pass are at large scale. See Review

O. Miscellaneous:

The tide gage was in-operable on "a" day, August 4. To obtain corrections for this day the tide curve ~~was retarded from~~ the 6th of August ^{was adjusted for time and tide} with appropriate corrections from the tides as observed at Ketchikan, Alaska. ✓

Respectfully submitted,

A. E. Eichelberger

A. E. Eichelberger

GEOGRAPHIC NAMES
Survey No. H-8658

Name on Survey												
	A	B	C	D	E	F	G	H	K			
Burnt Island												1
Grave Island												2
Gunnuk Creek												3
Hamilton Island												4
Kake												5
Kake Harbor												6
Keku Strait												7
Little Gunnuk Creek												8
Mosquito Island												9
Portage Bay ^{Pass}												10
Portage Creek Boat Harbor												11
Portage Bay (part of Portage Pass)												12
												13
												14
												15
												16
												17
												18
												19
												20
												21
												22
												23
												24
												25
												26
												27

PORTAGE BAY IS 20 Miles Eastward.
Dr. Wright says this should be Portage ~~Bay~~ ^{Pass}

CEN 11-20-75

No such name; if anything, it
should be PORTAGE ~~Bay~~ ^{Pass} BOAT HARBOR

PREPARED BY

Frank W. Fiddell
CARTOGRAPHIC TECHNICIAN

APPROVED BY

A. J. Wright
CHIEF GEOGRAPHER

H-8658

VERIFICATION REPORT

On the boat sheet, the hydrographer apparently took great pains in the production of a neat and legible survey. There are, however, numerous instances where the recorded position fixes as shown in the sounding volumes have no discernable relationship with their corresponding positions as plotted on the boat sheet. Time intervals and recorded speed in the sounding records frequently fail to agree with the time-distance between boat sheet positions. ✓

A conservative estimate of the percentage of "swingers" is 8 to 10%; many swingers are on successive positions. Such lines would be extremely difficult to plot on the boat sheet while underway and "keep-up" as the hydro survey line proceeded. ✓

There are numerous "split-fixes"; often split-fixes come on successive positions. See Volume IV, pages 16-19 for a specific example of successive split fixes. Such lines would be practically impossible to plot on the boat sheet while underway. ✓

There are a goodly number of position fixes recorded in the sounding volumes which do not appear at all on the boat sheet. The hydrographer did not attempt to plot these - nor did he reject these fixes at any time at or after the hydro lines were run. ✓

From the above observations, it appears that much of the boat sheet plotting was accomplished at a later time than that at which the hydrographic lines were actually run. Had the hydrographer been aware of successive "swingers" and/or "split-fixes", he would normally have rejected immediately hydro lines after a third successive irregular fix, and re-run the line on more suitable signals. Where the boat sheet plotting did not proceed simultaneously with the running of the hydrographic lines, the hydrographer obviously could not be aware of the numerous poor quality fixes he was obtaining. The conclusion hence becomes: first, that this boat sheet is at the very best, only a general guide; second, this boat sheet is not very valuable in checking incidental errors or individual positions. ✓

The sounding volumes leave much to be desired. The following enumerated instances for example: Vol. I, a day shows no stamps, no statistics, no statement that sextants have been checked. In other volumes there are statements at the beginning of days that sextants had +5 minutes or minus 4 minutes correction. Why not adjust sextants to read "zero" at beginning of each day?! No "line begins" stamps used throughout this survey - and no latitude and longitudes entered at start of lines. (Here and there, latitude and longitude was entered by smooth plotters and verifier.) No compass headings shown anywhere in the sounding records. Turns (not even 90° turns) were never indicated. ✓

For "a", "b" and "j" days, no indications of weather, wind or sea wave conditions, etc. No remarks when entering or leaving kelp patches. No remarks regarding currents in any of the restricted passages through which hydro lines proceeded, often with apparent speed changes. The consecutive position numbering system failed several times (see Vol. II page 42-46 for example). ✓

Smooth plotting was done by several members of the Ship HODGSON and completed by processing office personnel. Numerous unresolved problems remained on the survey when the smooth sheet was turned over to the verifier. Verification of this survey commenced in January 1964. When the previously described short comings were discovered and tabulated, they became the subject of extensive discussion by the several parties involved in the production of this survey and this smooth plot. Refer to letters written by Mr. W. M. Martin, CDR H. W. Keith, Jr., CAPT Ira R. Rubottom, CDR Richards, and others. All the records, the boat and smooth sheets were sent to Washington and examined by several members of the review section. After having analyzed the numerous unresolved problems, it was decided that: additional field hydrographic work needed to be done in order to resolve the various discrepancies and problems encountered. ✓

Additional hydrographic field work was done in 1968 by the Ship DAVIDSON, CDR K. William Jeffers, Commanding. ✓

The Processing and Verification was resumed February 12, 1970. The following four new and additional signals were used by DAVIDSON's personnel to strengthen the hydrography:

- #002 SW corner of Pier and float
- #007 SE gable Boat house
- #014 Relocation of old signal ANN
- #016 End of small boat pier

These new signals were transferred to the smooth sheet by C.A.J.P. and checked by A.E.E. 524 visual position fixes were plotted and of these 262 were checked by graphic comparison against the 1968 field plotted (boat sheet) positions. The sounding volumes were completed, correctors and reducers entered and checked. Soundings were reduced and checked. The soundings were then entered upon the smooth sheet directly in ink. This 1968 hydrography is distinguished on the smooth sheet by green position numbers and green day letters. ✓

A rock, located by 3 pt fix plus check angle is shown on the 1968 boat sheet to fall in an area of average depth of 10 fathoms; not plausible. The detached position locating this rock is recorded in Volume XIII, Page 7, Pos. 15j. By changing the right angle by an even 10 degrees, the position of this rock shifts about 100 meters to the southwest and falls near the western tip of a reef as shown from the topography. The check angle 93°06' very nearly checks signal 014 to station BETH, 1927. This is the probable location shown for this rock on the smooth sheet. This rock is at latitude 56°57'14" and longitude 133°57'15". The probable location corrected on the boat sheet is shown in orange ink. Reviewer agrees and ✓

recommended position accepted

The junction soundings from H-9000 (1966) were transferred by use of the Salzman projector. They are shown in red ink. The junction soundings from H-9039 (1968) were transferred in purple ink. In this instance, most of the H-9039 hydrography was actually plotted on this survey, and compared with enlargements attained by use of the Salzman projector. To do this, the following eleven signals were plotted from G.P.s: 113, 114, 115, 116, and 151, 152, 153, 154, 155, 156, and 157. Signals 115 and 116 were plotted on a temporary dog ear. These signals were checked and are now shown on the smooth sheet in pencil circles and labelled with pencil numbers. *Signals not inked as they are not part of present survey control.*

Must mean
113 and 114

Station JEAN, 1962 at latitude $56^{\circ}56'32.07''$ and longitude $133^{\circ}53'23''18$ was found to be misplotted; the error being about 1/2 millimeter. The correct position falls due east-southeast. Twelve hydrographic positions were rechecked at random using the corrected location of Station JEAN, and it was concluded that the error in the location of hydrographic positions introduced by the erroneous location of JEAN is negligible. The corrected position of Station JEAN was used to plot all positions from H-9039 as needed in the junction transfer. ✓

The 1968 hydrography is of very good quality; the fixes are strong and progression and speed uniform along the sounding line. The times recorded and the fathometer fix marks fit the plotted positions well. There are no questionable soundings and no soundings on uncontrolled turns. ✓

After having inked all junction soundings excepting those from H-9040 (1968) and all 1968 additional (Ship DAVIDSON's) soundings, verification of the 1962 (HODGSON's) hydrography was resumed. Wherever the soundings on the 1962 lines did not agree with the 1968 hydrography, the positions of the 1962 survey were rechecked and replotted to fit. Most of this replotting occurred where 1962 hydrography was controlled by swingers, weak-fixes and time and course plotting. For typical examples see Vol III Page 15, Pos. 198c (brown) and see Vol VII Page 25, Pos. 145 and 146k (brown) and others as noted in the sounding volumes. Most of these discrepancies occurred in the area immediately north of Hamilton Island 1/4 miles north of Station BETH, 1927 to Station Jean 1962. The verifier has satisfied himself that the adjustments on the 1962 hydrography are plausible and that the 1962 hydrography complements and checks the 1968 hydrography. The recommendation is that this survey be considered complete and acceptable. *Verifier accomplished a commendable "job" of rearranging the 1962 survey to have it reasonable with the survey of 1968.*

JUNCTIONS: Junctions were inked by the verifier, but not made identical. Reviewer erased all junctions and inked them identical.

To the northwest and southwest this survey joins with H-9000 (1966) scale 1:10,000. A satisfactory junction has been made; sounding transferred from this survey are shown in red. ✓

To the west this survey joins with H-9040 (1968). This survey has not yet been processed at this date, April 24, 1970. *(Not available in Rockville as of date of Review.)* ✓

To the south this survey joins with H-9039 (1968). This junction fully described elsewhere in this report. This junction is completed. ✓

To the northeast this survey joins H-8517 (1960). This junction remains to be done - no records available in Seattle. Preliminary comparison to a print of H-8517 indicates no serious differences are anticipated. True; but to ink the junction identical required 17 hours of the reviewer's time. ✓

SHORELINES:

The shorelines, rocks and reefs and other topographic features shown on this survey originate ~~from~~ from several frequently conflicting sources of doubtful accuracy. These problems were discussed by telephone April 8 and 20 with Mr. D. E. Westbrook and Mr. R. H. Carstens. Mr. Carstens instructions were: Use the 1968 photogrammetric compilation. This was followed so far as feasible. See Note T-12187 - 68 which reads: "The photogrammetric location and delineation of features offshore from the mean highwaterline on this survey may not be complete or final. The contemporary reviewed hydrographic survey of the area where available should be consulted for the final delineation." See Review ✓

T-6989 - T-7110
T-12186 & T-12187
Advance Manuscripts
and "walking the
shoreline of islets".
Not doubtful ✓

On T-12187 at latitude $56^{\circ}56'37''$ and longitude $133^{\circ}54'19''$ is shown on a rock bare 5 feet at MLLW. The present hydrography disproves this rock and hence this rock is not shown on the smooth sheet. In about 5 feet of water about 50 meters NE of a reef. Not observed at minus tide - submerged feature of this position. ✓

The shorelines on the northeast portion of this survey (Kupreanof Island) originate from 1:5,000 blow ups blue line prints of T-12186 and T-12187. This topography was partially based upon planetable surveys. Only this much of the shoreline had been inked by the smooth plotter (see smooth plotter's notes elsewhere in this report). One small section was revised by the verifier using T-12187 compilation of 1968. This section was enlarged from 1:10,000 to 1:5,000 scale on the salzman projector. This section shows a boat launching ramp which was built after the initial photography was accomplished. This ramp is at latitude $56^{\circ}57'18''$ and longitude $133^{\circ}54'05''$. The reefs along this shore were also updated. ✓

Note T-12187 ✓

The shorelines on the southern portion of this survey (Hamilton Island) originate from the 1968 photographic compilation, enlarged from 1:10,000 to 1:5,000 scales using the salzman projector. Where necessary the reef lines were adjusted to fit the hydrography. The small islets along this shore also originate from the 1968 compilation. The islets northwestward from triangulation station BETH, 1927 are mostly shown by red shorelines. These red shorelines originate from the HODGSON's field surveys. These shorelines were walked, 3 pt fixes taken at regular intervals, and the sections between fixes sketched in on the boat sheet. On the smooth sheet the positions were first plotted and the sections between fixes transferred from the boat sheet suitably adjusted to pass through the 3 pt fixes. ✓

There are numerous instances where the elevations above MLLW for individual rocks as shown on the topographic compilations differ from the heights of these rocks as determined by the hydrographer. Wherever available the hydrographic determinations of the heights of rocks ^{were} ~~was~~ shown on the smooth sheet in preference to topographically established elevations. ✓

The shorelines as now shown on the smooth sheet originate from several sources; the shorelines are basically correct, minor variation in detail and slight displacements ^{are} ~~excepted~~. See Review ✓

Respectfully submitted,

Cornelius A. J. Pauw

Cornelius A. J. Pauw

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. H-8658 (40-05-1-62)

RECORDS ACCOMPANYING SURVEY: To be completed when survey is registered.

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1 2	BOAT SHEETS <i>Destroyed 10/12/71</i>	2
DESCRIPTIVE REPORT	/	OVERLAYS	

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES						
CAHIERS	1					
VOLUMES		14				
BOXES						

T-SHEET PRINTS (List)
T-12186, T-12187 of 1963 (5 sheets)

SPECIAL REPORTS (List)

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS			TOTALS
	PRE-VERIFICATION	VERIFICATION	REVIEW	
POSITIONS ON SHEET				2619 2577
POSITIONS CHECKED		1732	39	
POSITIONS REVISED		281	0	
DEPTH SOUNDINGS REVISED		<i>about</i> 200	3	
DEPTH SOUNDINGS ERRONEOUSLY SPACED		<i>about</i> 75	0	
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED ¹ ⁴ ⁺¹¹		16	0	

PROCESSING ACTIVITY	TIME (MANHOURS)		
	PRE-VERIFICATION	VERIFICATION	REVIEW
TOPOGRAPHIC DETAILS		10	3 hrs.
JUNCTIONS <i>The junctions were inked identical by the reviewer</i>		53	37 hrs
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		12	5 hrs.
SPECIAL ADJUSTMENTS (junctions) ←		43	0
ALL OTHER WORK		401	121 hrs.
TOTALS		525	166 hrs

PRE-VERIFICATION BY <i>none</i>	BEGINNING DATE	ENDING DATE
VERIFICATION BY <i>Kornelius A.J. Paun</i>	BEGINNING DATE <i>Jan 30, 1964</i>	ENDING DATE <i>April 28, 1970</i>
REVIEW BY <i>S. Rose</i>	BEGINNING DATE <i>April 22, 1971</i>	ENDING DATE <i>May 26, 1971</i>

Suspect. EHC Carstens 27 hrs 3/18/71

OFFICE OF MARINE SURVEYS AND MAPS

MARINE CHART DIVISION

HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-8658

FIELD NO. HO-05-1-62

Southeast Alaska, Keku Strait, Kake to Hamilton Island

SURVEYED: August 4 through 31, 1962
June 10 through August 12, 1968

SCALE: 1:5,000

PROJECT NO.: OPR-448
(Special Project 9-62)

SOUNDINGS: 808 Fathometers
Raytheon DE-723
Depth Recorder

CONTROL: Sextant fixes
on shore signals

Chief of Party.....	E. W. Richards in 1962 (Ship HODGSON)
.....	K. W. Jeffers in 1968 (Ship DAVIDSON)
Surveyed by.....	H. E. McCall in 1962
.....	B. F. Karwisch in 1962
.....	D. E. Kimbell in 1962
.....	D. F. Blanchard in 1968
Protracted by.....	A. M. Legako
.....	B. L. McCartney
.....	A. E. Eichelberger
.....	C. A. J. Pauw
Soundings Plotted by.....	A. E. Eichelberger
.....	C. A. J. Pauw
Verified and Inked by.....	C. A. J. Pauw
Reviewed by.....	S. Rose
.....	Date: May 26, 1971
Inspected by.....	R. H. Carstens

1. Description of the Area

This is a survey in the northern portion of Keku Strait, covering the pass between Kake and the offlying reefs. The shoreline is fringed largely by ledge except for the extensive flats off Gunnock Creek. Offlying islets and reefs rise abruptly from 5 to 10 fm. depths. Sand and mud sediments are found in the smoother portions of the bottom.

A ridge extends northwesterly of Hamilton Island. Between this ridge and the shore of Kupreanof Island the general depth of the water is about 22 fathoms.

In recent years substantial piers have been constructed in the area by commercial interests.

2. Control and Shoreline

The control is adequately described in the Descriptive Report.

The ^{reviewed} ~~shoreline~~ ^{applied} originates with advance manuscripts T-12186 and T-12187 which are based upon 1961 and 1965 photography and were field edited in 1968. The shoreline of the islets shown in red is from field observations by the hydrographer and is considered reliable. *Topo. vicinity kate may be from T-6989(1960)*

3. Hydrography

- A. Depths at crossings are in good agreement.
- B. The standard depth curves are adequately delineated.
- C. The development of the bottom configuration and the determination of least depths are adequate. The additional hydrography of 1968 for the most part eliminated the deficiencies of the original survey.

4. Condition of the Survey

The field plotting, sounding records and the Descriptive Report are adequate, and conform to the requirements of the Hydrographic Manual, except that a number of minus sounding close to ledge or reef symbols were not shown as part of the ledge or reef features. No latitudes or longitudes were entered at the beginning or ending of the lines of the 1962 work and other stamps were often omitted. Sextants were not adjusted to zero correction at the times of sextant check and residual corrections of as much as 5 minutes remained. The verifier accomplished a commendable task reconciling the surveys of two separate field seasons; however, he did not ink the adjoining survey's junctional information identical and bring common depth curves into agreement. Many problems were encountered in smooth plotting and verifying the survey because of lack of experience of party members in making the survey and the improper selection of

fixes. As a result the positioning of many fixes is weak and may be somewhat approximate because of the extensive adjustments required. On lines in the vicinity of two prominent piers significant adjustments were made during review to eliminate conflicts in plotted data.

5. Junctions

Adequate junctions were affected with the following surveys:

H-8517 (1960) on the northeast
 H-9000 (1966-70) on the west and northwest
H-9039 (1968) on the southeast

A number of junctional soundings from the records of H-9039 have been plotted in color on the present survey and do not appear on H-9039 because of the scale of that survey.

The junction with H-9040 (1968) on the southwest will be considered in the review of that survey.

5. Comparison with Prior Surveys

H-2150 (1892) 1:40,000

A portion of this survey covers the area of the present survey. The scale ratio of 1:8 between these surveys, the age of the older survey and its sparse development make it impracticable to compare the two surveys in detail. It is of interest to note that the geographic location of the islands agree between the two surveys. However, Eva Island on the older survey is now named Grave Island, and the name "Point Hamilton" is misplaced on the older survey.

The present survey supersedes the older survey in the common area.

7. Comparison with Chart No. 8201, Sixteenth Ed., Nov. 7, 1970

A. Hydrography

The charted hydrography in the area of the present survey is from the old survey mentioned above which needs no further consideration and from the boat sheet of the present survey. Information is charted, also, from T-7110 (1962) and from Notice to Mariners No. 28 (1963).

Attention is directed to the following:

(1) The inset titled "Portage Bay Anchorage" should be renamed "Portage Pass Anchorage" in order to have it agree with name changes on this chart on file in the office of the Board of Geographic Names. (Portage Bay is some 22 miles eastward.)

(2) The subm. piles charted at lat. $56^{\circ}57'24''$, long. $133^{\circ}54'24''$ are from Chart Letter 605 (1960) which states that piles submerged at MLLW exist here. Inasmuch as these piles were not investigated or disproved by the present survey they should be retained on the chart. *added symbol and subm. piles*

(3) An uncharted mooring buoy is at each of the following positions in the Portage Pass area:

(a) Lat. $56^{\circ}57.54'$ - Long. $133^{\circ}55.00'$

(b) Lat. $56^{\circ}57.72'$ - Long. $133^{\circ}55.37'$

The second position (b) also falls in the Kake area. *8175*

(4) The $\frac{1}{4}$ -fm. sounding charted at lat. $56^{\circ}57.40'$, long. $133^{\circ}54.48'$ on the Portage Bay inset originates with the boat sheet of the present survey on which it is an error. The correct sounding is 3 fathoms. *8175*
cert to 9175
selected diff. here

(5) The submerged rock symbol charted in lat. $56^{\circ}56.71'$, long. $133^{\circ}54.74'$ on the Portage Bay inset from T-12187 was found to be covered by a least depth of 1.5 fms. *8175*

(6) The $\frac{3}{4}$ -fm. sounding charted on the Portage Bay inset at lat. $56^{\circ}57.26'$, long. $133^{\circ}55.35'$ originates with the boat sheet of the present survey. The correct depth in this position is 2.8 fathoms. *8175*

(7) The 7-fm. sounding charted on the Portage Bay inset at lat. $56^{\circ}56.98'$, long. $133^{\circ}55.23'$ from the boat sheet of the present survey has been revised to 10.7 fathoms on the smooth sheet. *8175*

(8) The $1\frac{1}{2}$ -fm. sounding charted on the Portage Bay inset at lat. $56^{\circ}57.13'$, long. $133^{\circ}55.31'$ originates *8175*

with the boat sheet of the present survey. This sounding should be charted 35 meters southwest of its present position, and the curve readjusted to reflect the information represented on the smooth sheet of the present survey.

(9) Several charted elevations of reefs on the Portage Bay inset originate with the boat sheet of the present survey where the values are incorrectly shown. These elevations should be charted as shown on the smooth sheet of the present survey. ✓ 8175

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

✓ B. Aids to Navigation

The charted positions of aids to navigation adequately mark the features intended. White beacon No. 3 in lat. $56^{\circ}57.07'$, long. $133^{\circ}54.29'$ is charted as a black beacon on the main portion of Chart 8214 and should be corrected.

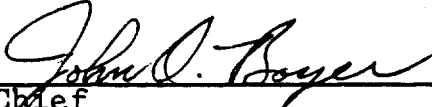
8. Compliance with Project Instructions

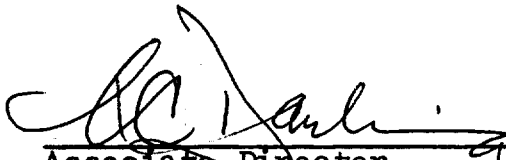
The present survey adequately complies with project instructions.

9. Additional Field Work

The present survey is a good basic survey and no additional hydrography is required.

Examined and Approved:


 Chief
 Marine Chart Division


 Associate Director
 Office of Marine Surveys
 and Maps

Approval Sheet

The smooth sheet has been inspected and meets the requirements of the Hydrographic Manual. (Note: Exceptions are noted in the verifier's report.)

Examined and Approved

Cornelius A. J. Pauw
Cornelius A. J. Pauw
Cartograph Technician

Approved for Forwarding

William M. Martin
William M. Martin
Superv. Cartograph Tech.

Approved and Forwarded

K. William Jeffers
K. William Jeffers, CDR, USESSA
Chief, Processing Division, PMC



Pass
"portage road" per
order of br. Wraight¹²
(Chart # 8201)

H9658

PORT ALEXANDER D-11

H-8658
INSERT OF CHART 8201

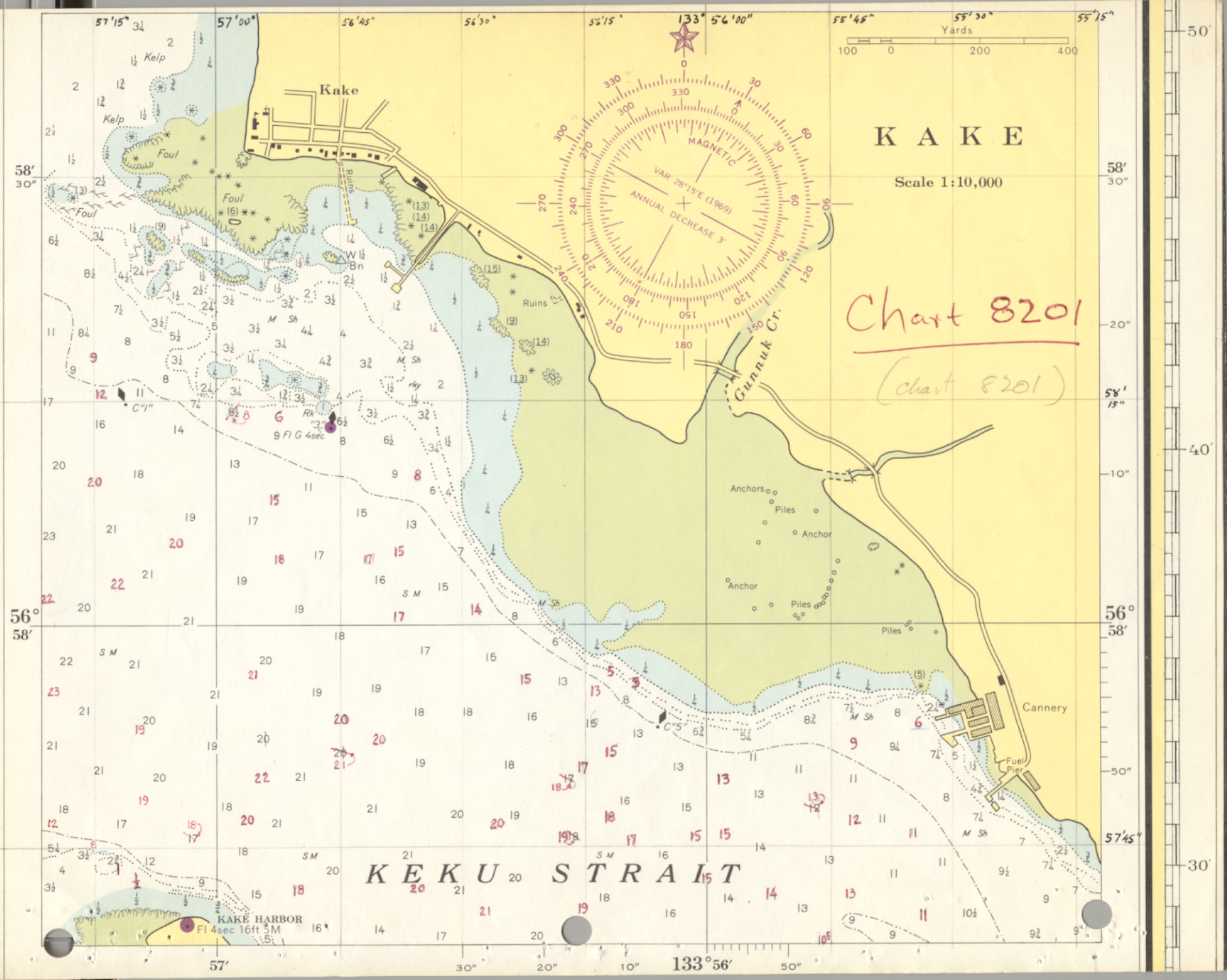


Chart 8201
(chart 8201)

KEKU STRAIT

(JOINS CHART 8252)



8658

KUIU I.

Chart - 8201

