8913

Diag. Cht. No. 8551-3.

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-5-2-66 Office No. H-8913

LOCALITY

State Alaska

General locality Prince William Sound

Locality Sawmill Bay

19 66

CHIEF OF PARTY

J. B. Watkins, Jr.

LIBRARY & ARCHIVES

DATE 12/10/68

USCOMM-DC 37022-P66

8913

FORM C&GS-537
(5-66)

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

HYDROGRAPHIC TITLE SHEET

REGISTER NO.
H-8913

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 5-2-66

State ALASKA

General locality PRINCE WILLIAM SOUND

Locality SAWMILL BAY

Scale 1:5,000 Date of survey Aug. 22 to Aug. 29, 1966

Instructions dated Dec. 16, 1965 Project No. OPR-453

Vessel USC&GS HODGSON

Chief of party JOHN B. WATKINS, JR.

Surveyed by JOHN B. WATKINS, JR., W.F. FORSTER, G.M. ENSIGN & F.L. ROSARIO

Soundings taken by echo sounder, hand lead, pole

Graphic record scaled by SHIP PERSONNEL

Graphic record checked by SHIP PERSONNEL & PROCESSING BRANCH, AMC

Protracted by GERBER DIGITAL PLOTTER Automated plot by PACIFIC MARINE CENTER

Soundings ~~penciled~~ plotted by GERBER DIGITAL PLOTTER

Soundings in fathoms feet at MLW MLLW

REMARKS: VERIFICATION BY HYDROGRAPHIC PROCESSING BRANCH, AMC

9.7.G.

K.W.W. 6-17-91

USCOMM-DC 37009-P66

DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SURVEY H-8913

SCALE: 1:5,000

USC&GSS HODGSON

CDR J. B. Watkins, Jr., Commanding

A. PROJECT

This project was accomplished as part of Project OPR-453 in accordance with instructions dated December 16, 1965 which superseded instructions assigned to the USC&GSS LESTER JONES dated April 26, 1965.

B. AREA SURVEYED

The area surveyed includes the portion from Longitude 147° 57' 30" W to Longitude 158° 04' 00" W and from Latitude 60° 02' 45" N to Latitude 60° 04' 15" N.

No effort was made to form a junction with prior surveys as this was not required in the instructions.

The assigned project limits extended considerably southward from the main approaches into Sawmill Bay; the limits were altered to include only the above-mentioned area (see Section L).

The survey commenced on 22 August 1966 and was terminated on 29 August 1966.

The area covered by this survey had been previously surveyed in 1927, H-4723, Scale: 1:10,000.

C. SOUNDING VESSEL

Soundings were obtained with the Ship HODGSON and Launch 1192. MWB #1 was used to obtain bottom samples only.

Ship positions and day letters were recorded in the sounding volumes in upper case red, Launch 1192 in lower case red, and MWB #1 in lower case green.

When the positions and soundings were logged for automated plotting, an arbitrary system of position numbering was used as follows:

1. All ship positions numbered from 1 to 640.
2. All Launch 1192 positions numbered from 1000 to 2263.
3. All MWB #1 positions numbered from 3000 to 3064.

D. SOUNDING EQUIPMENT

DE-723 fathometers were used; Serial Number 534 was used for all Ship HODGSON hydrography, Serial Number 554 for all Motor Launch hydrography, and Serial Number 146 for all MWB #1 hydrography. ✓

Echo sounding corrections are accounted for under separate cover in "Corrections to Echo Sounder, HODGSON, 1966, Sawmill Bay". An abstract of velocity corrections is appended to this report. ✓

E. SMOOTH SHEET

The signal and position overlay were plotted on the Gerber Digital Plotter at Pacific Marine Center and verified by ship personnel. The sounding overlay and final smooth sheet will be plotted and verified by personnel at PMC. Final verification done at AMC

F. CONTROL

All hydrography was accomplished by visual fix methods. Control was based on recovered triangulation stations and photo-identified stations found on manuscripts T-12802 and T-12803. Two signals were located by sextant fix. Geographic positions for the latter two were scaled from the advance manuscripts for use in the Gerber Plotter. ✓

The main system of lines was run generally normal to or diagonally across the depth curves; inshore lines were run parallel to the shoreline. ✓

G. SHORELINE

Shoreline was transferred directly to the boat sheet from 1:5,000 scale advance manuscripts T-12802 and T-12803. ✓

Field inspection of the shoreline revealed excellent agreement with the manuscripts in so far as the high water line is concerned. ✓

In areas where the zero-fathom curve was not determined, it is due either to the near-vertical shore, or to the existence of foul areas at the low waterline. Not in all cases See Par. 3 Review

Smooth sheet shoreline will come from the same manuscripts and ~~will be~~ was applied b by ~~PMC~~ AMC Personnel during final verification processes.

H. CROSSLINES

Crosslines, consisting of about 10% of the regular system of sounding lines, were in satisfactory agreement. ~~except in areas of steeply sloping grades.~~

I. JUNCTIONS

No requirements were made to junction with any previous or contemporary surveys. ✓

J. COMPARISON WITH PRIOR SURVEYS

Comparison with prior surveys in general tend to confirm preliminary tide data of 1964, indicating upheaval of six to eight feet in the area. See Par. 6 Review

A comparison with prior survey H-4723, 1927, Scale: 1:10,000 reveals that in depths of ten fathoms or more the bottom has risen three to four fathoms. In shoaler areas, particularly near river or stream deltas, the upheaval is approximately one fathom.

PRESURVEY REVIEW ITEMS

✓ #35 Sunken rocks on pre-survey review now a reef bare at MLLW.
~~Both rocks sunken and located by fix, sounded with leadline. A least depth of -3.4 feet was found to exist.~~ Volume ~~VI~~ V, position #3049. Rock reef bare 6 ft. @ MLLW

✓ #37(a)
The two piles in the vicinity of Latitude 60° 03.89' N, Longitude 148° 01.35'W are non-existent and should be deleted. CONCUR DEW

✓ #37 (b) & (c)
The three dolphins in the vicinity of San Juan are shown on shoreline manuscript T-12802 and have been located and/or used as signals SAM, SIN, and OFF. CONCUR DEW

✓ #37 (d)
The row of piles in Latitude 60° 02.70', Longitude 148° 03.20' are non-existent and have been replaced by a marine railway. A number of other clustered dolphins have been located and/or used as a signal - BER - as noted on T-12802. CONCUR DEW

#38
✓ The rock awash shown as a hand correction in Latitude 60° 03.13' N, Longitude 148° 01.35' W ~~was found to be submerged at MLLW. Least depth of 4.8 feet.~~ was located and found to uncover 4 ft. @ MLLW. See Vol. V, Pos. 644

#39
The fish trap originating with T-4316 (1927) no longer exists and should be deleted. Concur DEW

K. COMPARISON WITH THE CHART

In comparison with the C&GS Chart Number 8523, corrected to Notice to Mariners Number 44, 1966, this survey reveals the 3 - 4 fathom difference in deeper areas, but due to the scale differences of chart and smooth sheet, the difference noted above is not so apparent. See Par. 7 Review

L. ADEQUACY OF SURVEY

This survey is considered complete and adequate for charting purposes. However, it should be noted again that the project limits were altered due to lack of time left in the 1966 Season. Furthermore, it was considered that the southern limits of the sheet were relatively unimportant as far as navigable traffic was concerned and would be surveyed as Project OPR-453 was continued to the South through Elrington Passage. See Par. 7 Review

M. AIDS TO NAVIGATION

The location of fixed aids to navigation that were describe in the light list checked correctly, were plotted directly from the advance manuscripts, and used as signal control. ✓

The locations of four floating aids to navigation, C"1", N"2", C"3" and N"4", were determined by sextant fixes and plotted on the smooth sheet. ✓

N. STATISTICS

	SHIP	ML#1192	MWB#1	TOTAL
Positions	641	1265	52	1958
Nautical Miles of Sounding Line	46.6	102.8	0	149.4
Square Nautical Miles	2.2	3.8	0	6.0
Bottom Samples	25	0	52	77

✓

O. MISCELLANEOUS

Tagline surveys were conducted off the faces of the San Juan Cannery Dock and the Standard Oil Company Dock. This data is submitted herewith. Plotted on smooth sheet

All soundings were logged in the same chronological order as the fix positions. Tide corrections were applied to the sounding tape as the raw sounding was logged. A separate tape of transducer corrections was logged and a velocity table is appended herewith for final reduction and plotting of soundings. ✓

During the course of the preliminary verification all fix positions that were obviously in error were investigated and corrected by means of pseudo-fixes, using existing control. All such corrections were noted in colored pencil in the sounding volume. The corrected positions were logged and position cards were plotted on a separate overlay which was re-verified. The corrected positions also include time corrections which were discovered when soundings were logged. The corrector cards (#2 cards) were hand-placed in the proper order in the position card deck and the erroneous cards removed. ✓

P. RECOMMENDATIONS

The small area omitted during the survey should be included in future plannings for surveys of Elrington Passage (refere to Section "L"). ✓

Q. REFERENCES TO REPORTS

1. Corrections to Echo Soundings - Sawmill Bay, 1966.
2. Tagline Survey (San Juan Cannery, Port Ashton, Standard Oil Dock). ✓

UNDER SEPARATE COVER: Coast Pilot Report - HODGSON, 1966

Respectfully submitted,

← No Signature

John B. Watkins, Jr.
CDR, USESSA
Commanding Officer
USC&GSS HODGSON

APPROVAL SHEET

PROJECT OPR-453
SAWMILL BAY, ALASKA

FIELD NUMBER: HO-05-02-66
REGISTER NUMBER: H-8913

Hydrographic survey H-8913 has been approved up to the commencement of smooth sheet digital plotting. The boat sheet and other records were examined at regular intervals.

See Par. 9 Review

This survey is considered complete and adequate to supersede prior surveys.

No signature

John B. Watkins, Jr.
CDR, USESSA
Commanding Officer
USC&GSS HODGSON

TIDE NOTE

Register Number: H-8913

Field Number: HO-05-2-66

Tide station used in this survey:

Cordova Tide Station served as a standard reference station (Latitude 60° 33.3'N, Longitude 145° 45.3'W):

However, a portable bubbler tide gage was installed at the San Juan Cannery, Sawmill Bay, utilizing the fixed staff established on May 20, 1964. The gage was in operation during the course of the survey (August 16, 1966 to August 29, 1966). Tide reducers used for smooth sheet values were extracted from marigrams obtained at this location (Latitude 60° 03.4'N, Longitude 148° 03.0'W).

Time Meridian: 150°W

MLLW on Staff: 4.0 feet

Date of Levels Run to Staff: August 16, 1966 and August 29, 1966.

LIST OF CONTROL STATIONS

H-8913

NAME	NUMBER	LATITUDE	LONGITUDE	ORIGIN OF STATION
ABE	002	60035709	148012680	T-12802, 12803
BAY	009	60042484	147594119	T-12803
BEE	022	60035231	148011332	T-12803
BER	027	60024684	148030695	T-12802
BIN	035	60035702	147581680	T-12803
AND	051	60030563	148002968	T-12803
BOX	069	60033175	148025693	T-12802
DER	127	60034872	148011946	T-12803
COL	164	60024300	148024947	T-12802
CON	165	60035029	148010113	T-12803
FIR	237	60022967	148015967	T-12802
ELL	244	60022160	148000715	T-12803 (ELL, 1965 TEMPORARY)*
EVA	280	60031520	148020586	EVANS BAY LIGHT, 1955
FUE	282	60024933	148005491	HYDRO SIGNAL, VOL. I, pp 4
GAB	300	60025546	148033180	T-12802
GUM	385	60024829	148013064	HYDRO SIGNAL, VOL.I, pp 3
KAY	409	60035813	148002240	T-12803
LES	427	60024843	147595546	T-12803(LES, 1965, TEMPORARY)*
LOW	469	60040816	147592683	T-12803
KRS	477	60034104	147593012	KRIS, 1966
LUF	482	60034986	147584591	T-12803
MAL	504	60030258	148013682	T-12802
MAY	509	60043326	147570220	MAY, 1966 — ON DOGEAR
MIL	534	60034125	148023767	MILL, ~~1965~~ 1955
NOR	567	60034540	148022673	T-12802
NUT	588	60035106	148015606	T-12802
OFF	622	60031040	148033948	T-12802
PIE	632	60030363	148034759	T-12802
PIN	635	60025596	147590298	T-12803
OLD	641	60030413	148020159	T-12802
OUT	688	60030707	148022137	T-12802
SAG	703	60034725	147591765	T-12803
SAM	705	60030728	148034927	T-12802
RED	721	60030412	147592354	RED 3, 1966
SEX	729	60025481	148022851	T-12802
RID	731	60042182	147573582	T-12803
RIG	733	60022012	148003200	ELRINGTON ISLAND DAYBEACON, ~~1965~~ 1955
SHN	735	60033903	147585518	SHUN, 1927
SOD	761	60040908	147592993	T-12803
SIN	765	60025751	148034454	T-12802
RUN	785	60041601	148000569	T-12803
RUS	787	60035883	148011687	T-12802, 12803
RUT	788	60040657	147580097	T-12803
TAN	805	60032464	148031092	T-12802
TEN	825	60035449	147580941	T-12803

* Plotted as a topographic station

TIP	836	60024792	147591864	T-12803
TOP	866	60021562	148021923	T-12802
TOO	896	60040265	148003074	T-12803
YEL	924	60031836	148033990	T-12802
WET	928	60035846	147592809	T-12803
WIN	935	60034813	147581808	WINTER, 1966

REPORT ON CORRECTIONS TO ECHO SOUNDINGS

PROJECT OPR 453

Sawmill Bay Sheet HO-5-2-66

VELOCITY CORRECTIONS

Velocity corrections for the Sawmill Bay Project Area were determined by standard methods. Water samples and temperatures of 9 layers were obtained from Nansen casts dated 21 August 1966. Serial temperatures were determined from protected reversing thermometers. Hydrometers were used to determine densities and salinities of each sample. A Bathythermograph observation, dated 21 August 1966, was used to check the accuracy of the reversing thermometers.

The Nansen casts and Bathythermograph observation (B.T.) were taken at Lat. 60° 03' 35" N, Long. 148° 00' 23" W. The B.T. temperatures were consistently about 1°c less than the serial temperature data. Due to the fact that more than one reversing thermometer was used, it is assumed that the B.T. may be slightly out of calibration. As such, the reversing thermometer data was used directly to compute velocity corrections.

The velocity corrections were computed on the basis of a calibration velocity of 800 fathoms per second and in accordance with the hydrographic manual. The velocity corrections to echo sounding depths are tabulated as follows:

Correction to Depth

Tabulated Velocity Corrections

Depth in Fathoms

Depth	Correction
0 to 5	0.0
16	+ 0.1
56	+ 0.2
100	+ 0.3*
Over 100	+ 0.4*

use 0.0 over 56 FATHS

The above corrections are to be applied to all hydrography accomplished in Sawmill Bay from 21 August to 29 August 1966.

* Corrections for depths greater than 56 fathoms are not applied as the correction is less than ½% of the depth.

Instrumental correction assumed to be -1 ft. as per memo from Chief, Instrument Division Oct. 1, 1962. Launch bar checks compare favorably with this assumption.

DEW

FORM 197
(3-16-55)

GEOGRAPHIC NAMES

Survey No. H-8913

	Name on Survey	On Chart No. A	On previous survey No. B	On U. S. quadrangle Maps C	From local information D	On local Maps E	P. O. Guide or Map F	Rand McNally Atlas G	U. S. Light List H	K	
✓	Bettles Island										1
✓	Crab Bay (bay)										2
✓	Crab Bay (town)										3
✓	Elrington Island										4
	Elrington Passage (not used on smooth sheet)										5
✓	Evans Island										6
✓	Johnson Cove										7
✓	Latouche Passage										8
✓	Port Ashton										9
	Port Benney										10
✓	Port San Juan										11
	Sawmill Bay										12
											13
			Names approved								14
			Dec. 31, 1968								15
			Frank W. Pickett								16
											17
											18
											19
											20
											21
											22
											23
											24
											25
											26
											27

FORM C&GS-712
(3-9-64)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

May 16, 1967

[redacted]: Pacific Marine Center

Plane of reference approved [redacted] for

HYDROGRAPHIC SHEET 8913

Locality: Sawmill Bay, Prince William Sound, Alaska

Chief of Party: J. B. Watkins, 1966

Plane of reference is mean lower low water

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

San Juan Cannery
Sawmill Bay

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

10.4 feet

Remarks

J. M. Symons
Chief, Tides and Currents Branch

USCOMM-DC 6680-P64

H-8913

A. Additions and corrections have been furnished the plotter center by the verification unit. Except those listed for submission by the Review Section.

Signed Lloyd L. Ruff

Date Dec. 4, 1968 Title Chief, Processing Branch, AMC

B. Additions and corrections have been added to the survey records and the final smooth sheet forwarded to the verification unit.

Signed _____

Date _____ Title _____

C. The smooth sheet has been inspected, is complete, and meets the requirements of the General Instructions for automated surveys and the Hydrographic Manual. (Note: All exceptions are listed in the verifier's report).

Signed Lloyd L. Ruff

Date Dec. 4, 1968 Title Chief, Processing Branch, AMC

D. Smooth sheet and records forwarded to Rockville, Maryland Office.

Date Dec. 5, 1968

Reg. No. H-8913 (1966)

The Computer and Excess Sounding Cards for this survey have not been corrected to reflect the changes made to the Computer Card and Excess Card Printouts at this time of the review.

When the cards have been updated to reflect the final results of the survey, the following shall be completed:

CARDS CORRECTED

DATE_____ TIME REQ'D_____ INITIALS_____

REMARKS:

FORM C&GS-946 (REV. 11-65) (PRESC. BY HYDROGRAPHIC MANUAL 20-2, 6-94, 7-13)

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

HYDROGRAPHIC SURVEY STATISTICS

HYDROGRAPHIC SURVEY NO. H-8913

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	BOAT SHEETS	1
DESCRIPTIVE REPORT	1	OVERLAYS	1

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES			2 xxf			
CAHIERS	1		1 x			1-Raw Data
VOLUMES	11					
BOXES						

T-SHEET PRINTS (List) T-12802 & T-12803

SPECIAL REPORTS (List)

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS			
	PRE-VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				1958
POSITIONS CHECKED	217	10		
POSITIONS REVISED	154	6	2	
DEPTH SOUNDINGS REVISED				
DEPTH SOUNDINGS ERRONEOUSLY SPACED				
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED				
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		26 hrs.		
JUNCTIONS				
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS	83 hrs.	12 hrs.		
SPECIAL ADJUSTMENTS Added LWL and Revised depth curves			24 hrs.	
ALL OTHER WORK	399 hrs.	100 hrs.	79 hrs.	
TOTALS	↓	↓	103 hrs.	

	BEGINNING DATE	ENDING DATE
PRE-VERIFICATION BY W. W. Teague	7/17/67	10/5/68
VERIFICATION BY Alan L. Schuyler	11/5/68	12/3/68
REVIEW BY Dale E. Westford	6/30/69	10/20/69

H-8913 (1966)

Information for Future Pre-Survey Reviews

Any future survey of this area should investigate the several features listed in Par. 3C of the Review to determine their least depth.

In addition, the area in the vicinity of the rock awash noted in Par. 2 of the review should be investigated to be sure no rock exists in that position.

Position index - lat. 600, long. 1480
Bottom change index - 2
Use index - 1
Resurvey cycle - 50 yrs.

Position index - lat. 600, long. 1481
Bottom change index - 2
Use index - 1
Resurvey cycle - 50 yrs.

OFFICE OF MARINE SURVEYS AND MAPS

MARINE CHART DIVISION

HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-8913 FIELD NO. HO-5-2-66

Alaska, Prince William Sound, Sawmill Bay

SURVEYED: August 1966

SCALE: 1:5,000 PROJECT NO.: OPR-453

SOUNDINGS: Raytheon DE-723 Depth Recorders CONTROL: Sextant fixes on shore signals

Chief of Party	J. B. Watkins, Jr.
Surveyed by	J. B. Watkins, Jr.
	W. F. Forster
	G. M. Ensign
	F. L. Rosario
Plotted by	Gerber Digital Plotter
Soundings plotted by	Gerber Digital Plotter
Verified by	A. K. Schugeld (AMC)
Reviewed by	D. E. Westbrook
	Date: October 20, 1969
Inspected by	R. H. Carstens

1. Description of the Area

This survey covers Sawmill Bay, Crab Bay, and Johnson Cove located on the southeast side of Evans Island, in the Prince William Sound area of Alaska's south coast.

Sawmill Bay is very irregular both in its shoreline and bottom configuration. Although depths in excess of 20 fathoms are available almost to the head of the bay, there are several reefs and pinnacle rocks scattered about the bay that are dangerous to navigation.

One such pinnacle is the unmarked 3.3-fm. rock on the present survey in lat. 60°03.47', long. 147°58.47'. This rock is located close to the center of the eastern entrance to the bay and is potentially dangerous to a deep draft vessel seeking shelter.

In March 1964, the Alaska Earthquake caused an uplift of land in the Sawmill Bay area. The uplift was 7.2 ft. as measured by 1964 and 1965 tidal observations.

The bottom is composed mostly of mud, pebbles, and broken shells, except for rock and reef areas. A few traces of coral were found near the head of the bay. The character of the foreshore alternates between rock ledge and sand and gravel beach.

2. Control and Shoreline

The source of the control is adequately described in the Descriptive Report. The shoreline originates with reviewed photogrammetric surveys T-12802 and T-12803 both of 1964-66.

Several sections of black dotted low-water line have been retained from the advance manuscripts of T-12802 and T-12803 in order to provide an approximate position of this feature where soundings or the reviewed manuscripts do not reveal it.

Attention is directed to the following:

The field editor of T-12802 identified a spot on the photographs in lat. 60°03'30", long. 148°02'49" as a rock which uncovers 5 ft. at MLLW. The hydrographic party located a rock on the present hydrographic survey about 50 meters inshore which also uncovers 5 ft. at MLLW, but did not locate a rock in the spot indicated by the field editor.

Although the hydrographer failed to disprove the field edit rock, a careful evaluation of the present and prior hydrography, and the position of the buoy marking the feature, has led this reviewer to believe that no rock exists in the position indicated by the field editor. The rock was probably misidentified; the buoy N"2" being the spot seen on the photographs.

On the recommendation of this reviewer, the field edit rock will be removed from the registered copy of T-12802 and consequently is not shown on the present hydrographic survey. (see Par. 9 Additional Field Work).

3. Hydrography

A. Depths at crossings are in good agreement.

B. The usual depth curves were adequately delineated over most of the survey. In some areas, however, inshore of 5-fathom depths, sounding lines were lacking and adequate delineation of the depth curves was not possible.

A few brown curves were drawn to emphasize certain soundings in accordance with Par. 6-64 of the Hydrographic Manual.

C. The development of the bottom configuration and investigation of least depths are considered just barely adequate.

Most of the important shoal soundings on this survey were not developed and investigated for least depth, as listed below:

Sounding	Lat.	Long.
1 fm.	60°02'59"	148°03'07"
7.3 fm.	60°02'58"	148°03'20"
2.5 fm.	60°02'56"	148°03'04"
1.7 fm.	60°02'57"	148°02'34"
2.9 fm.	60°02'59"	148°02'51"
3.2 fm.	60°02'55"	148°02'54"
9.2 fm.	60°03'13.5"	148°00'30"
1.1 fm.	60°03'57"	148°00'11"
3 fm.	60°04'03.3"	147°59'59"
3 fm.	60°03'50"	147°59'40"
8.4 fm.	60°03'36"	147°59'22"
5.1 fm.	60°03'42"	147°58'27"
6.3 fm.	60°03'37.5"	147°58'34"

4. Condition of the Survey

The sounding records, Atlantic Marine Center verification, and the Descriptive Report are adequate and conform to the requirements of the Hydrographic Manual and the Instruction Manual - Automated Hydrographic Surveys.

Several undesirable practices were followed on this survey, however, that are described below:

A. Numerous erroneous, weak, and swinger fixes were observed on this survey (154 found during verification) and had to be painstakingly and often arbitrarily adjusted during office processing. The positions of many soundings consequently may be questionable. Strong fixes, carefully observed, are a requirement for a 1:5,000 survey such as this, and more care should have been taken to ensure the quality of the original sextant observations.

B. Although the present survey did not seem to be appreciably affected by the following, many lines on the survey were begun near the shore with a standing start, without taking this factor into account in the automated records. The computer positions soundings by time between two positions assuming a constant speed. Where the speed is not constant between fixes some provision should be made at the time of the survey to prevent significant automated misplotting of the soundings. To help prevent the standing start problem, the portion of line between the first

two fixes could be run at half speed then on the second fix the speed could be increased to full.

C. In several instances depth curves were drawn inshore of the soundings where information did not exist to fix the position of the curves.

D. Bottom characteristics and rock elevations are not required to be lettered with a Leroy lettering set. Neat hand lettering is faster and entirely adequate for these notes.

E. Elevations of high water rocks and islets should have been drafted with slanted (not vertical) numerals.

5. Junctions

This survey does not join any contemporary surveys at the present time. Soundings in junctional areas, however, are in general harmony with the charted hydrography.

6. Comparison with Prior Surveys

A. H-2883 (1:40,000) 1906

This is the earliest survey of the Sawmill Bay area. Whereas only two lines of hydrography on this survey enter the present survey area, this prior survey can be considered reconnaissance and will not be discussed further. The present survey adequately supersedes this prior survey within the common area.

B. H-4723 (1:10,000) 1927

This survey represents the only complete prior hydrographic survey coverage of the Sawmill Bay area. General agreement between this prior survey and the present survey is apparent throughout most of the area taking into account the uplift caused by the 1964 earthquake.

In some areas, however, particularly in the deeper water, disagreement between the two surveys is obvious, the soundings on the prior survey being 4-5 fathoms deeper. The major part of these differences can be attributed to the wire not being vertical on the prior survey soundings in deep water. In addition, a small amount of sedimentation may have occurred in the area since 1927.

With the addition of a few bottom characteristics brought forward from the prior survey, the present surveys is adequate to supersede the prior survey within the common area.

C. H-4776 WD (1:10,000) 1927

This wire-drag survey covers most of the Sawmill Bay area. The bottom uplift that resulted from the 1964 earthquake renders this prior survey obsolete except for two soundings and a few bottom characteristics that have been brought forward to supplement the present survey. Before being brought forward, however, these two soundings were adjusted for the 7.2 ft. land uplift in the Sawmill Bay area, as determined by post-earthquake tidal observations in 1964 and 1965.

Although not superseded by the present survey, this wire-drag survey should no longer be used for charting.

7. Comparison with Chart 8523 (Chartlet) Issued in Notice to Mariners No. 34, August 24, 1968

A. Hydrography

The present charted hydrography originates with the previously discussed prior surveys which require no further consideration, supplemented by the boat sheet of the present survey. Because the bottom has changed considerably since the prior surveys, and the boat sheet soundings reflect only preliminary information, the chart should be recompiled in this area using the reviewed smooth sheet.

Attention is directed to the following:

The 6½-fm. sounding charted in lat. 60°03.36', long. 148°02.70', and the 9-fm. sounding charted in lat. 60°03.88', long. 148°00.20' are from H-4723 (1927). These soundings have been discredited by the present survey and should be removed from the chart.

B. Aids to Navigation

Four floating aids to navigation were located on the present survey. These buoys are in substantial agreement with their charted positions and adequately mark the features intended. As a matter of record, however, buoy C "1" was located on the present survey about 100 meters south-southwest of its charted position.

8. Compliance with Instructions

The survey adequately complies with the Project Instructions except that several bottom features were not developed or investigated for least depth. Also, more sounding lines should have been run in certain inshore areas to delineate the depth curves and provide complete sounding coverage (See Par. 3).

9. Additional Field Work

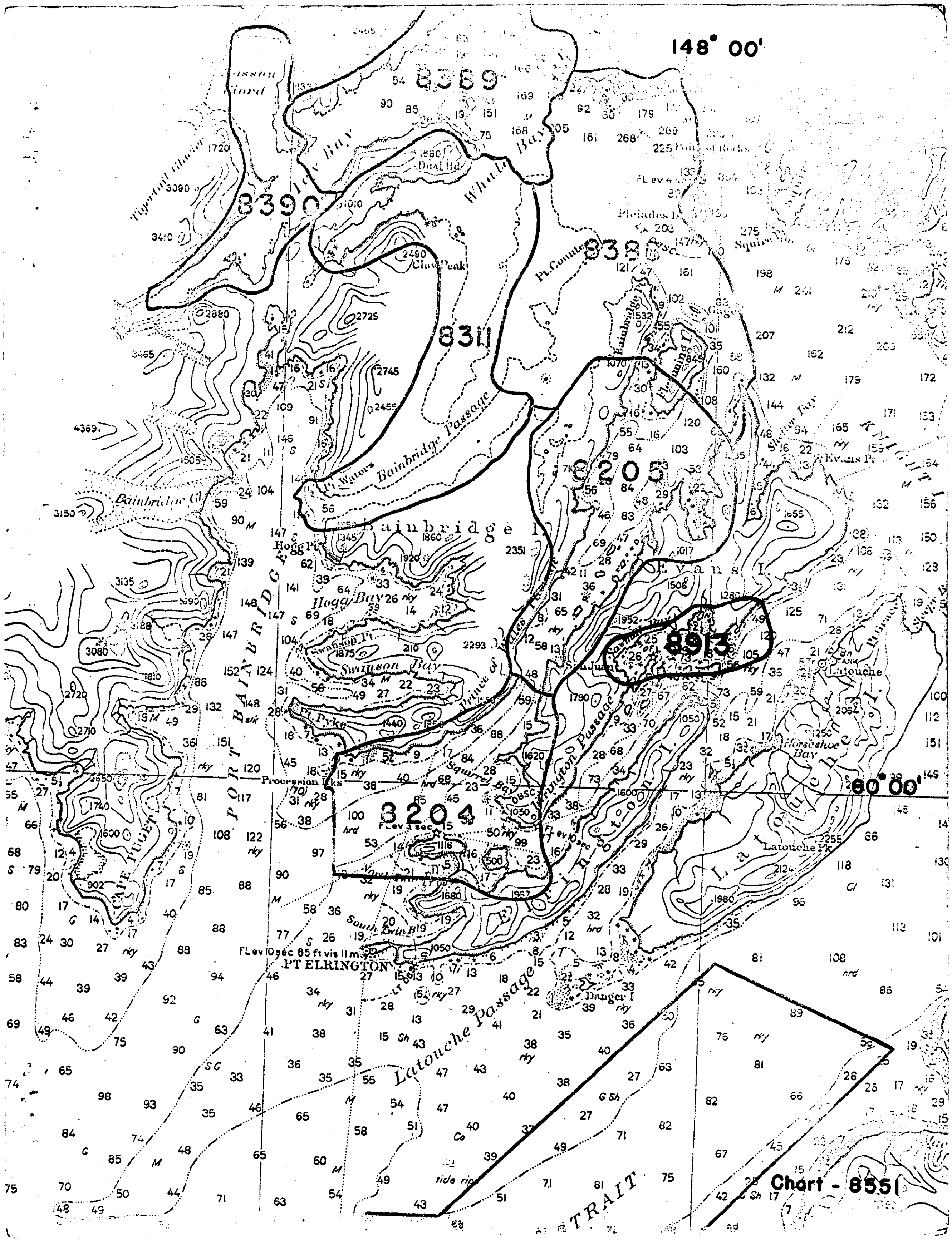
This survey is regarded as barely adequate for reasons discussed in Par. 3 and 8 above. Considering the remoteness of the area and the relatively small scale of the present chart of the bay, no additional hydrography is recommended.

However, if and when a field party is again in this area it would be well to assign it to verify that no rock awash exists in lat. 60°03'30", long. 148°02'49" near buoy N "2" in Sawmill Bay. (See previous discussion in Par. 2 of this review).

Examined and Approved:

John C. Boyer
Chief
Marine Chart Division

Robert C. Munson
Associate Director
Office of Marine Surveys and Maps


148° 00'
60° 00'
8389
8390
8311
8386
9205
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Whale Bay
Claw Peak
Point of Rocks
Pleiades Is
Bainbridge Passage
Pt Waters
Bainbridge Gl
Bainbridge I
Hogg Pt
Hogg Bay
Swanson Pt
Swanson Bay
Pt Pyke
PORT BAINBRIDGE
Procession Rks
Squirrel Bay
Prince of Wales
Elrington Passage
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Chart - 8551

FORM C&GS-8352
(3-25-63)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-8913

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.
1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
8523	8-18-69	FREY	~~Full~~ Part Before ~~After~~ Verification Review Inspection Signed Via
			Drawing No. 5 added 12 fathom sounding
			Critical corrections only
8515	8-20-69	FREY	~~Full~~ Part Before ~~After~~ Verification Review Inspection Signed Via
			Drawing No. 6 revised 4 soundings & depth curve
8523	7/70	Clarence Muzfeldt	~~Full Part~~ Before ~~After Verification Review~~ Inspection Signed Via
			Drawing No. Fully applied except for any changes made during inspection
8551	3/31/71	Charles S. Forbes	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 16
			Fully appd thru Dtg #5 8523 (except 50 Fm curve).
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
8523	6/20/74	Tammie Alexander	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No.
16701	16-15-83	Lori A. Summers	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 10 Fully app'd thru 16702 #7
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.