

9054

Diag. Cht. No. 8252-2.

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. **FA-10-3-69** Office No. **H-9054**

LOCALITY

State **Alaska**

General locality **Hoonah Sound**

Locality **Vicinity of Broad Island**

19 69

CHIEF OF PARTY

J. B. Watkins, Jr.

LIBRARY & ARCHIVES

DATE **10-30-70**

9054

HYDROGRAPHIC TITLE SHEET

H - 9054

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.

FA-10-3-69

State Alaska

General locality Hoonah Sound
~~Southeast Alaska~~

Locality Vicinity of Broad Island
~~Hoonah Sound~~

Scale 1:10,000 Date of survey Aug. - Sept. 1969

Instructions dated 27 January 1969 Project No. OPR - 488

Vessel USC&GSS FAIRWEATHER & Launches 3 and 4

Chief of party John B. Watkins, Jr., CAPTAIN, USESSA

Surveyed by A. F. Divis, J.J. Lenart, J. B. Watkins, Jr., F. S. Ito

Soundings taken by echo sounder, ~~hand lead, pole~~ DE-723 (#558,559), ROSS 400 (Prototype)

Graphic record scaled by FAIRWEATHER Personnel

Graphic record checked by FAIRWEATHER Personnel

Protracted by Digital Plotter Automated plot by PMC

Soundings penciled by Digital Plotter

Soundings in fathoms ~~XXX~~ at ~~MLLW~~ MLLW

REMARKS:

TIDE NOTE FOR OPR-488, HOONAH SOUND, ALASKA

Tide corrections for OPR-488 were determined from data obtained from the bubbler tide gage at Nismeni Point (57°33.7'N, 135°24.7'W). Hourly heights were scaled by the ship's personnel.

SIGNAL LIST
HYDROGRAPHIC SHEET H-9054
FA-10-3-69

Signal Number	Latitude Longitude	Origin of Station
001	57° 34' 1816 m 135° 20' 0315 m	T-13190
002	57° 35' 0780 m 135° 21' 0984 m	T-13190
003	57° 36' 0061 m 135° 23' 0282 m	T-13190
004	57° 36' 1552 m 135° 25' 0678 m	T-13189
005	57° 37' 0151 m 135° 26' 0016 m	T-13189
006	57° 37' 1706 m 135° 28' 0568 m	Vol. 1 FA-10-4-69
101	57° 35' 1392 m 135° 22' 0634 m	T-13190
102	57° 36' 0305 m 135° 23' 0699 m	T-13190
103	57° 36' 0852 m 135° 24' 0252 m	T-13190
104	57° 36' 1129 m 135° 24' 0575 m	Vol. 2 FA-10-3-69
105	57° 36' 1371 m 135° 24' 0818 m	T-13190
106	57° 36' 1675 m 135° 25' 0702 m	T-13189

HYDROGRAPHIC SHEET H-9054

FA-10-3-69

Signal Number	Latitude Longitude	Origin of Station
107	57° 37' 0418 m 135° 26' 0421 m	T-13189
108	57° 37' 0705 m 135° 26' 0832 m	T-13189
109	57° 37' 0959 m 135° 27' 0162 m	T-13186
110	57° 37' 1260 m 135° 27' 0539 m	T-13186
203	57° 35' 0503 m 135° 23' 0265 m	T-13190
205	57° 33' 1818 m 135° 27' 0956 m	T-13189
206	57° 33' 1706 m 135° 27' 0992 m	ELOVOI, 1952
207	57° 35' 1372 m 135° 30' 0534 m	JOG 2, 1952
233	57° 35' 0312 m 135° 23' 0299 m	T-13190
402	57° 33' 1514 m 135° 24' 0600 m	COVE, 1952
403	57° 33' 0857 m 135° 26' 0640 m	MAN, 1952
601	57° 35' 0439 m 135° 23' 0062 m	T-13190
602	57° 35' 0292 m 135° 23' 0478 m	BROAD, 1952
701	57° 32' 1793 m 135° 20' 0650 m	MAY 2, 1966

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HYDRO - SIGNAL CARDS

9054

EDP NO.	NO.	LATITUDE	LONGITUDE	NAME
20019	104	57363649	135243463	104
09054	004	57365017	135254084	004
20019	003	57360197	135231698	003
20019	102	57360986	135234209	102
20019	103	57362754	135241518	103
20019	105	57364432	135244927	105
20019	109	57373100	135270976	109
20019	110	57374073	135273248	110
20019	205	57335877	135275751	205
20019	108	57372279	135265012	108
20019	107	57371351	135262536	107
20019	005	57370488	135260096	005
20019	106	57365414	135254228	106
20019	233	57351009	135231800	233
20019	203	57351626	135231595	203
20019	601	57351419	135230373	601
20019	001	57345870	135201896	001
20019	002	57352521	135215923	002
20019	101	57354500	135223817	101
20019	006	57375514	135283423	006
20019	206	57335515	135275967	206
20019	403	57332770	135263849	403
20019	402	57334894	135243609	402
20019	701	57325796	135203908	701
20019	602	57350944	135232877	602
20019	207	57354435	135303215	207

00000

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VELOCITY CORRECTIONS

HOONAH SOUND - 1969

Corrections to be Applied to FA-10-3-69

1. <u>Applicable Depths</u>	<u>Corrections</u>
0 - 15 fms	+0.1 fms
15 - 55 fms	+0.2 fms
55 - 110 fms	+0.3 fms
110 - 140 fms	+0.4 fms

Instrumental ~~DATA~~ CORRECTIONS

HOONAH SOUND 1969

Corrections to be Applied to FA-10-3-69

1. FA-3

<u>Date</u>	<u>Corrections</u>
21 Aug.	+0.2 fms
22 Aug.	+0.2 fms
24 Aug.	+0.2 fms
27 Aug.	+0.3 fms
23 Sept.	+0.3 fms

2. FA-4

<u>Date</u>	<u>Corrections</u>
23 Aug.	+0.4 fms
25 Aug.	+0.4 fms
26 Aug.	+0.4 fms

USC&GSS FAIRWEATHER

MSS - 20

John B. Watkins, Jr., Comdg.

INITIAL CHECK CORRECTIONS
Hoonah Sound - 1969

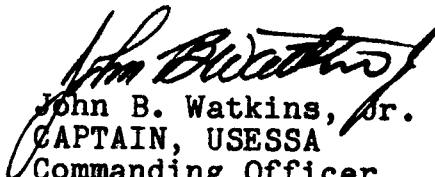
Sheet Number	Position Number	Corrections (fms)
FA-10-3-69	0001-0039	-0.1
	0106-0174	+0.1
	0175-0204	-0.2
	2008-2016	-0.1
	2207-2243	-0.1
FA-10-4-69	0020-0082	-0.2
	2001-2050	+0.1
	2268-2277	-0.1
	2283-2323	+0.1
	2347-2352	+0.3
	2353-2391	+0.1
	2429-2497	+0.1
	2557-2563	-0.1
	2579-2581	+0.1
	2668-2706	+0.1
	2863-2865	+0.1
	2880-2885	+0.1
	2930-2940	+0.1
	2949-2961	+0.1
	3000-3014	-0.2
	3018-3020	+0.2
	3037-3132	+0.1
	3245-3279	-0.1
	3280-3289	-0.5
	3290-3299	+0.2
3384-3388	+0.2	
6095-6118	+0.1	
6126-6129	+0.1	
6145-6152	+0.1	
6163-6169	+0.1	
6175-6242	+0.1	

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TRANSMITTAL SHEET

H-9054

FA-10-3-69

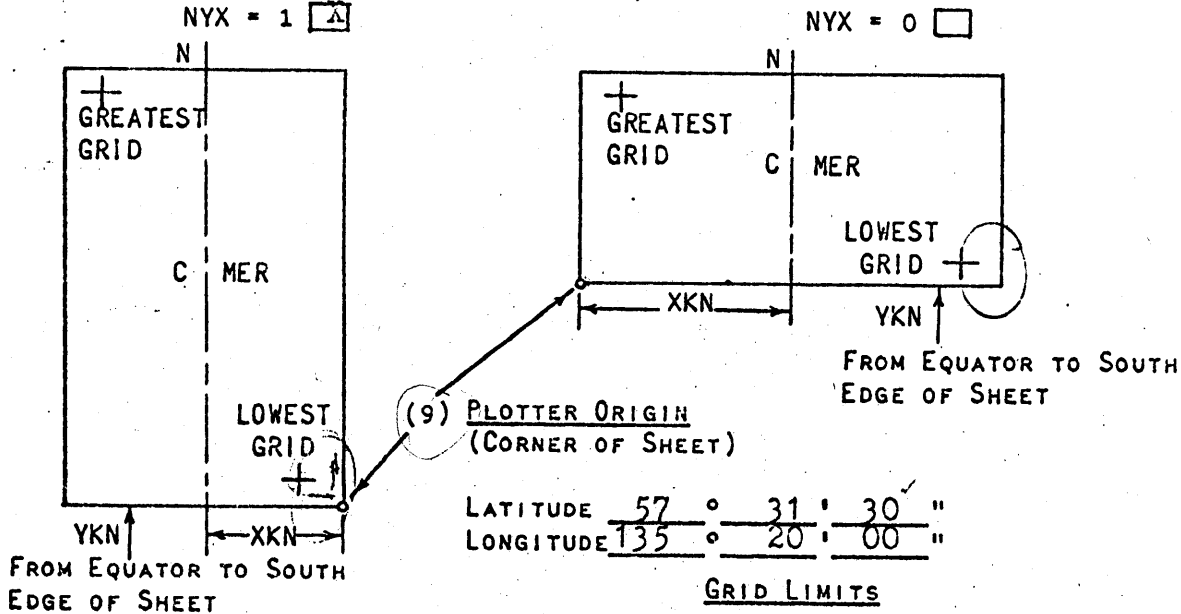
The field work and examination of records was accomplished under the supervision of this command. The boatsheet was inspected daily for completeness and accuracy. The survey is considered complete and adequate and no additional field work is considered necessary.


John B. Watkins, Jr.
CAPTAIN, USESSA
Commanding Officer
USC&GSS FAIRWEATHER

20019

PARAMETERS FOR DIGITAL COMPUTING
POLYCONIC PROJECTION

- (1) PROJECT NO. OPR-488
- (2) H No. H-9054 ✓
- (3) FIELD No. FA-10-3-69 ✓
- (7) VISUAL Fathoms (1)
- (8) ELECTRONIC (FILL OUT FORM #3)
- (10) XKN (SP 5) DISTANCE FROM CMER TO EAST EDGE (NYX = 1) OR WEST EDGE (NYX = 0). 5492.3 ✓ METERS
- (11) YKN (SP 241) DISTANCE FROM EQUATOR TO SOUTH EDGE OF SHEET. 6,378,168.7 ✓ METERS
- (12) CENTRAL MERIDIAN 135 ° 25 ' 30 "
- (13) SURVEY SCALE 1: 10,000
- (14) SIZE OF SHEET (CHECK ONE) 36x54 42x60 OTHER
- (15) NYX, ORIENTATION OF SHEET (CHECK ONE) NYX = 1 NYX = 0



LATITUDE 57 ° 31 ' 30 ''
LONGITUDE 135 ° 20 ' 00 ''

GRID LIMITS

- (16) GREATEST LATITUDE 57 ° 39 ' 30 '' (PROJECTION LINE
- (17) LOWEST LATITUDE 57 ° 32 ' 00 '' INTERVAL, PAGE 4
- (18) DIFFERENCE ° 07 ' 30 '' HYDRO MANUAL)
- (19) 00 ° 30 ''
- (20) 15 YSN
- (21) GREATEST LONGITUDE 135 ° 30 ' 30 ''
- (22) LOWEST LONGITUDE 135 ° 20 ' 30 ''
- (23) DIFFERENCE ° 10 ' 00 ''
- (24) 00 ° 30 ''
- (25) 20 XSN

LIST G.P. OF ALL STATIONS TO BE PLOTTED ON THIS PROJECTION ON THE BACK OF THIS FORM. (DEG., MIN., SEC.)

*REVISOR
1-8-70*

*25 30
135-20-00
5-30
3*

*16,6435
330
499305
499305
54923550*

- ATTACHMENT -
PORTION OF
VERIFIER'S REPORT

H-9054

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	<u>Object</u>	<u>Pos. No.</u>	<u>Location</u>	<u>Height</u>
Lat 57°33'47" Long 135°24'18"	rock	4098	H-9054	2 ft

*H-9054
of the
survey
P. 18*

Rocks no. 2142 and 4098 with a height of (.0) also appear on previous survey H-7988 (1952).

12. Additional soundings at 15 second intervals were inserted by the verifier for days 233, 234, 235, and 236. Several peaks and deeps were added or adjusted for time during verification. In-between soundings were scaled manually from the Ross fathograms with the aid of a template adjusted to compensate for the difference between the analog display and the digital readout. On this survey 50 ft scale paper was used instead of 100; all depths in feet were doubled. Soundings were scaled in feet and converted to fathoms. The difference between the analog and readout varied with the scaled: zero on 0-100 ft, +1 fm 100-200 ft, +1.5 fm 200-300 ft, +2 fm 300-400 ft, +2.5 fm 400-500 ft, +3 fm 500-600 ft, +4 fm 600-700 ft. The analog display was consistently shoaler than indicated on the readout. (See Season Fathometer Report, FAIRWEATHER 1969).

In general the depths obtained by the Ross fathometer agreed satisfactorily with the DE-723. In a few areas soundings were deeper and were excessed by the edit program as well as by the verifier. (DE-723 - pos. 001-2362, Ross - pos. 4001-4295). One erroneous depth on digital readout of Ross fathometer: Sndg. No. 410003, no sample mark.

GEOGRAPHIC NAMES
Survey No. H-9054

Name on Survey	Source										
	A	B	C	D	E	F	G	H	K		
✓ Baranof Island											1
✓ Broad Island											2
✓ Chichagof Island											3
✓ Elovoi Island											4
✓ Hoonah Sound											5
✓ Nismeni Point											6
✓ Peril Strait											7
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											29
											30

PREPARED BY

Frank W. Sackett
CARTOGRAPHIC TECHNICIAN

APPROVED BY

A. Joseph Wright
CHIEF GEOGRAPHER

TIDE NOTE FOR HYDROGRAPHIC SHEET

May 5, 1970

~~Nautical Chart Division~~ Pacific Marine Center

Plane of reference approved in ~~XXXXXX~~ for Tide tape printout

HYDROGRAPHIC SHEET 9054, 9055, 9056, 9057, 9058

Locality: Hoonah Sound, Alaska

Year ~~XXXXXX~~ 1969

Plane of reference is mean lower low water

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

Nesmeni Cove
Hoonah Sound, Alaska

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

13.7 feet

Remarks

J. M. Simmons
Chief, Tides and Currents Branch

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. H-9054

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET & PNO		1	BOAT SHEETS		2	
DESCRIPTIVE REPORT		1	OVERLAYS		2	
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES			3 ea. 1			
CAHIERS	1					
VOLUMES	4					
BOXES						
T-SHEET PRINTS (List)						
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				872
POSITIONS CHECKED		872 (P)	15	
POSITIONS REVISED		59	15	614
DEPTH SOUNDINGS REVISED		186	8	194
DEPTH SOUNDINGS ERRONEOUSLY SPACED		0	0	0
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		0	0	0
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		0	4	4
JUNCTIONS		2	1	3
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		45	40	85
SPECIAL ADJUSTMENTS		0	9	9
ALL OTHER WORK		238	6	244
TOTALS		285	56-66	341-51
PRE-VERIFICATION BY	BEGINNING DATE		ENDING DATE	
VERIFICATION BY <i>A. E. Eichelberger</i>	3/5/70		10/22/70	
REVIEW BY <i>George K. Myers</i>	Dec 7, 1971		Dec 16, 1971	

Insp. by *D. S. Westbrooke* 2/1/73 18 hrs.

OFFICE OF MARINE SURVEYS AND MAPS

MARINE CHART DIVISION

HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-9054

FIELD NO. FA-10-3-69

Alaska, Hoonah Sound, Vicinity of Broad Island

SURVEYED: August 21, 1969 through September 23, 1969

SCALE: 1:10,000

PROJECT NO.: OPR-488

SOUNDINGS: Ross 400 Depth Recorder
(digital), Raytheon DE723
Depth Recorders, Leadline

CONTROL: Sextant fixes on
shore signals

Chief of Party	J. B. Watkins, Jr.
Surveyed by	M. R. Mulhern
.....	J. E. Thomasson
.....	A. F. Divis
.....	D. C. Suva
.....	J. J. Lenart
.....	B. L. Keck
Protracted by	Gerber Digital Plotter
Soundings plotted by	Gerber Digital Plotter
Verified and inked by	A. E. Eichelberger
Reviewed by	G. K. Myers
.....	Date: December 16, 1971
Inspected by	D. E. Westbrook

1. Description of the Area

This is a survey of the entrance to Hoonah Sound in the vicinity of Broad Island.

The bottom in this area is characterized by steep slopes which drop off to depths of up to 150 fathoms. Two sand and gravel deltas extending about 1/4 mile from shore are located within the survey area.

Broad Island and the 23-fm. ridge to the northwest are the two more significant offlying features on the survey.

Predominant bottom characteristics in this area are green mud and sand.

2. Shoreline and Control

The source of the control is adequately described in Part F of the Descriptive Report.

The shoreline is from photogrammetric advanced manuscripts T-13186 (Bp 78799), T-13189 (Bp 78802), and T-13190 (Bp 79130) based on 1967 air photography and a 1969-1970 field edit.

Several foreshore characteristics shown as "ROCKY," "rky," or "Rky" on the above manuscripts were described by the more appropriate "Boulders" on the smooth sheet of the present survey.

3. Hydrography

A. Depths at crossings are in good agreement.

B. The usual depth curves are adequately delineated except along steep slopes in close proximity to the shore. Dashed and brown depth curves have been added to emphasize important bottom features.

C. The development of the bottom configuration and the investigation of least depths are considered adequate except in the vicinity of the 1.9-fm. sounding located at lat. $57^{\circ}35.28'$, long. $135^{\circ}23.00'$. Fathometer development and/or leadline should have been utilized to obtain the least depth over this feature.

4. Condition of the Survey

The plotting, sounding records, Descriptive Report, and various sounding printouts are adequate and conform to the requirements of the Hydrographic Manual supplemented by the Instruction Manual-Automated Hydrographic Survey, except that the position numbers on the position number overlay were too dimly printed by the Gerber Plotter.

It was necessary for the verifier to rescan the fathograms in some areas and select additional soundings at 15 second intervals to provide a more complete portrayal of the bottom. Also, several peaks and deeps were added or adjusted for time by the verifier.

5. Junctions

Adequate junctions were effected with H-7988 (1952) on the south and H-9055 (1969) on the west.

6. Comparison with Prior Survey

H-2238 (1895) 1:40,000

This small scale reconnaissance survey provides only general depths in the area. The lack of development on H-2238 precludes a detailed comparison with the present survey. General depths are in good agreement, however, a shoaling trend is noticed on the edge of the inshore flats.

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

7. Comparison with Chart

Chart 8248 (latest print date July 29, 1968)
Chart 8283 (latest print date July 17, 1971)

A. Hydrography

The charted hydrography originates with the previously discussed prior survey which requires no further consideration and by partial application of verified depths from the present survey.

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

B. Aids to Navigation

The position of the aid to navigation located on the western end of Broad Island on the present survey is in agreement with the chart.


8. Compliance with Project Instructions


The survey adequately complies with the Project Instructions.

9. Additional Field Work

This is an excellent basic survey and no additional field work is recommended.

Examined and Approved:


Chief
Marine Chart Division


Associate Director
Office of Marine Surveys and Maps

H-9054

Items for Future Pre-Survey Review

No significant changes in the bottom were noticed since the prior survey of 1895 in the area at the entrance of Hoonah Sound.

Any new survey should determine the least depth on the 1.9-fm. shoal in lat. $57^{\circ}35.28'$, long. $135^{\circ}23.00'$.

Position index - lat. 573, long. 1353

Bottom change index - 1

Use index - 1

Resurvey cycle - 50 yrs.

Reg. No. 9054

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:

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-9054

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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
8252	1-21-71	Y E Moss	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>Critical corr's only</i>
8283	4-9-71	E. Frey	Full Part Before After Verification ^{before} Review Inspection Signed Via Drawing No. <i>6 Critical corr's only</i>
8248	8-5-72	L. A. Bach	Full Part Before After Verification ^{Review} Review Inspection Signed Via Drawing No. <i>10 Applied misc. hydro-</i>
8252	11/3/72	E Frey	Full Part Before After Verification ^{before} Review Inspection Signed Via Drawing No. <i>App'd hydro corr's via chit 8242 + R i chit 8283 + B</i>
8248	7/10/73	C. A. White D. J. Kemmer	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>Reconstruction - part</i>
8283	2/11/77	Rator	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>13 Minor revision Considered fully applied till reconstruction</i>
17338	5/3/89	P. Hunt	<u>Full</u> Part Before After Verification Review Inspection Signed Via Drawing No. <i>12E. Considered fully applied.</i>
17320	10/30/90	Don Black	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>24 APPL'D THRU 17338.</i>
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.

DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SURVEY H-9054 (FIELD NO. FA-10-3-69)

1:10,000 1969

U. S. C. & G. S. S. FAIRWEATHER
CAPTAIN John B. Watkins, Jr., Comdg.

A. PROJECT

Hydrographic Survey H-9054 (FA-10-3-69) was accomplished under OPR-488 according to project instructions dated 18 February 1969.

B. AREA SURVEYED

This survey was performed on the southeast corner of Hoonah Sound near Broad Island during the period of August 21 thru September 23. Limits are as follows:

North 57°-37.7' N
South 57°-34.3' N
East 135°-22.0' W
West 135°-28.0' W

This survey junctions with the following surveys:

<u>Reg.</u>	<u>Field</u>	<u>Scale</u>	<u>Date</u>
H-7988	Pa-1252	1:10,000	1952
H-9055	FA-10-4-69	1:10,000	1969
H-9122	(1970)		

C. SOUNDING VESSELS

The vessels used to obtain soundings along with their color codes are listed below:

FAIRWEATHER Violet
FA-3 Green
FA-4 Blue

D. SOUNDING EQUIPMENT

<u>Vessel</u>	<u>Type</u>	<u>Model</u>	<u>Recorder #</u>	<u>Depth (fms)</u>
FAIRWEATHER	Echo	Raytheon DE-723	558	40 - 150 fms
FA-3	Echo	Raytheon DE-723	559	1 - 150 fms
FA-4	Echo	Ross 400	Prototype	1 - 120 fms

The velocity and instrument corrections were determined from Nansen casts and bar checks, and are listed in the appendix. ✓

In deep water (greater than 80 fathoms) FA-3 was run below normal speed due to the fact that the Raytheon DE-723 would not sound at normal speeds. This problem was not encountered with the FAIRWEATHER or FA-4. ✓

The only difficulty with the Ross 400 fathometer in FA-4 was the small range of each scale (17 fathoms). In areas with steep relief it was difficult to keep up with the scale changes unless the launch was run at very slow speed. (SEE ATTACHED PORTION OF VERIFIER'S REPORT) ✓

E. SMOOTH SHEET

To be completed by smooth plotter.

NOTE THIS!
ACTUALLY PAPER ✓
SCALE WAS IN
MULTIPLES OF 100 FT.

F. CONTROL

This survey was conducted entirely with visual control. The signals (listed in the appendix) were of three types which are listed below: ✓

Photo-hydro
Triangulation
Hydrographic

The photo-hydro signals were photo-identified on the aerial photographs and then transferred to ^{Incomplete} Advance Manuscripts T-13186, T-13189, T-13190 using the radial plot method. The signals were then transferred directly from the manuscripts to the boatsheet. ✓

The triangulation stations, with the exception of Sta. MAN, 1952, were plotted on the boatsheet by PMC, EDAT. MAN, 1952, was plotted by FAIRWEATHER personnel. ✓

Hydrographic signals were located by taking sextant fixes on triangulation and photo-hydro signals and then plotted directly to the boatsheet or manuscript where possible. ✓

G. SHORELINE

The source of shoreline detail was the Advance Manuscripts described in section F and are correct as shown. ✓

H. CROSSLINES

The Crosslines amounted to about 8% of the sounding lines. The following discrepancies were noted. ✓

<u>Latitude</u>	<u>Longitude</u>	<u>Difference (fms)</u>
57°-34.98' N	135°-23.38' W	⁹ 13 fms Pos. 2156-2157
57°-35.07' N	135°-23 ²⁰ .44' W	14 fms Pos. 2322-2323

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Both discrepancies are probably due to the extremely steep relief of the area. In both cases one of the soundings may have been a side echo, while the other was the actual bottom.

I. JUNCTIONS

The junctions made with prior survey H-7988 and contemporary survey H-9055 were found to be in satisfactory agreement.

J. COMPARISON WITH PRIOR SURVEYS

There was no presurvey review. A comparison of soundings with the only prior survey, No. 2238 done in 1895 at a scale of 1:40,000, resulted in generally good agreement.

K. COMPARISON WITH THE CHARTS

A comparison was made with C&GS chart 8248 (July 1969) scale 1:40,000 and with C&GS chart 8283 (December 1965) scale 1:40,000. The discrepancies are listed below:

<u>Latitude</u>	<u>Longitude</u>	<u>Survey Depth</u>	<u>Chart #</u>	<u>Depth (fms)</u>
57°-36. ⁴⁵ 6' N	135°-27.0' W	50 fms ^{No Sndg.}	8248	66 fms
57°-35.7' N	135°-25.8' W	120 fms ^{Sndg. No.}	8283	116 fms
57°-35.3' N	135°-26.3' W	115 fms ⁰¹⁰¹⁰⁰	8248	112 fms
57°-35.9' N	135°-26.6' W	127 fms ⁰⁰⁶²⁰²	8248	122 122 fms

These discrepancies are probably due to inaccuracy of transfer to the boatsheet and the steep relief of the area.

L. ADEQUACY

This survey is complete and adequate to supersede prior surveys for charting.

M. AIDS TO NAVIGATION

The positions calculated by triangulation intersection for Broad Island Light, the only navigational aid in the area surveyed, corresponded to the 1969 Light List position.

N. STATISTICS

<u>Vessel</u>	<u>No. Positions</u>	<u>Miles of Sounding Lines</u>
FAIRWEATHER	¹⁵ 209	44.5
FA-3	362	52.9
FA-4	295	39.3

The total area surveyed was 5.5 square nautical miles.

5

O. MISCELLANEOUS

In many instances the fathogram was difficult to interpret because of the side echoes. In most of these cases the least depth was taken to be the bottom.

A ³2~~5~~ fathom submarine mound was found at Latitude 57°-35.8' N; Longitude 135°-24.1' W. A ⁶4~~5~~ fathom mound was found at Latitude 57°-36.4₃' N; Longitude 135°-27.0' W.
6.8

P. RECOMMENDATIONS

No additional work is recommended in the area covered by this survey. ✓

Q. REFERENCED TO REPORTS

The following reports may be referred to for additional information: ✓

1. Season's Report, Ship FAIRWEATHER, 1969 (to be forwarded) ✓
2. Fathometer Report, Ship FAIRWEATHER, 1969 Field Season (to be forwarded) ✓
3. Field Edit Report, OPR-488, Ship FAIRWEATHER (to be forwarded)
4. Report on Landmarks for Charts And Fixed Aids to Navigation, Ship FAIRWEATHER, 1969 (included in appendix)
5. Ross Fathometer Evaluation Report, 1969 (forwarded Dec. 1969) ✓

Respectfully Submitted,

Donald C. Suva

Donald C. Suva, ENS., USESSA



Date: December 11, 1969

Reply to
Attn of: C331W-218-CSS

Subject: Tidal Data, OPR-488, Hoonah Sound, Alaska

To: Commanding Officer
USC&GSS FAIRWEATHER

In response to your memorandum of September 26, 1969, there are enclosed verified tide reducers and Form 712 for Nismeni Point, Alaska.

Listed below are the mean lower low water plane on the mari-gram and the respective time and height relationships between the two locations:

<u>Location</u>	<u>MLLW Plane (Ft.)</u>	<u>Time of Tide</u>	<u>Diurnal Range (Ft.)</u>
Nismeni Point	5.5	0	15.0
Patterson Bay	9.2	-010 Min.	15.2

For all practical purposes either gage can be used for obtaining tide reducers. However, it might be better to use Nismeni Point since this record is of longer duration.

L. C. Wharton
Tides and Currents Branch
Oceanography Division

2 Enclosures

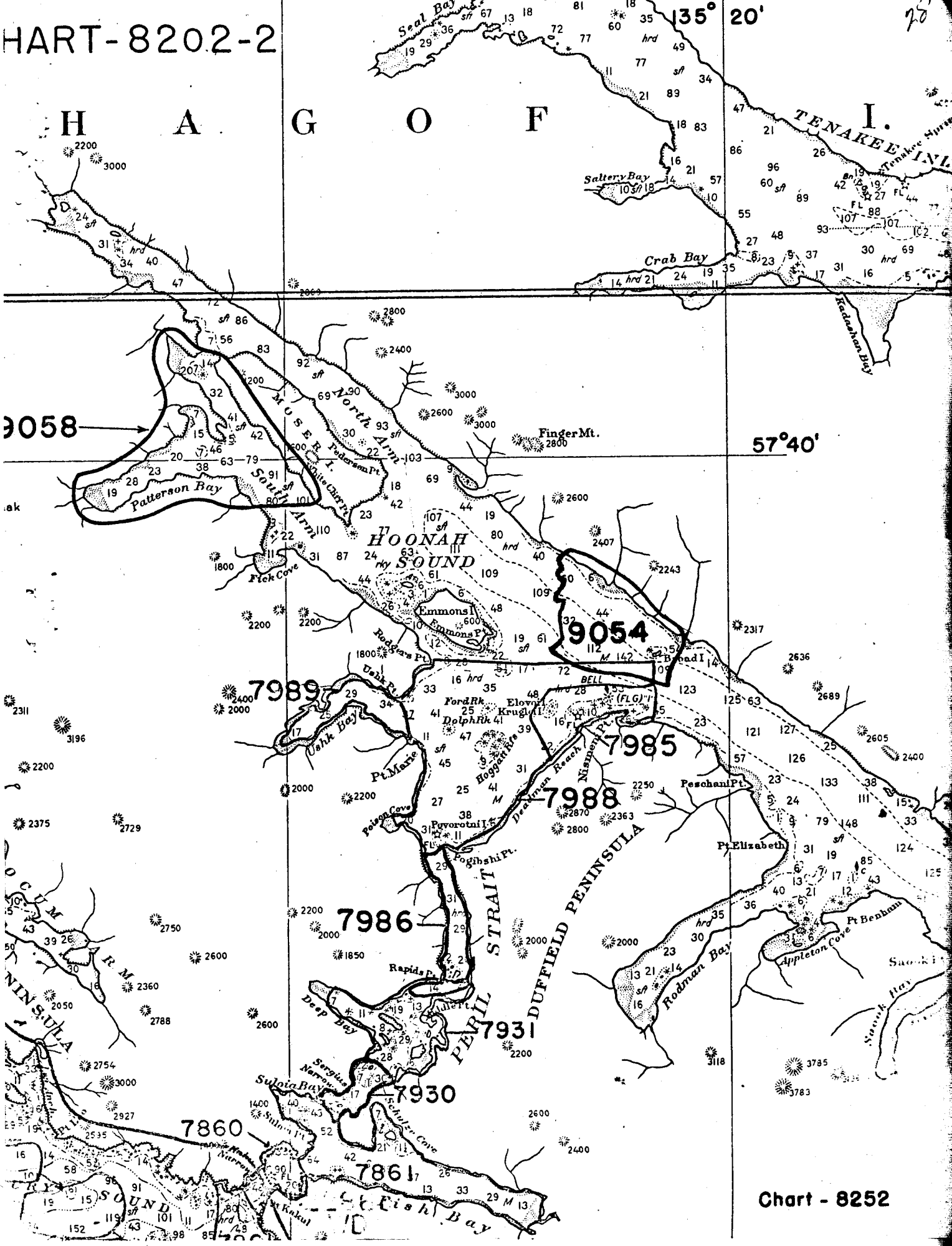
cc:
PMC

HART-8202-2

28

H A G O F

TENAKEE INL



9058

57°40'

9054

7989

7985

7988

7986

7931

7930

7860

7861

Chart - 8252