

9318

Diag. Cht. No. 8202-2.

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. MA-20-4-72 Office No. H-9318

LOCALITY

State Alaska

General locality Glacier Bay

Locality Lower Portion of Muir Inlet and

Adams Inlet

1972

CHIEF OF PARTY

G. M. Poor

LIBRARY & ARCHIVES

DATE 6-20-73

USCOMM-DC 37022-P86

9318

①

HYDROGRAPHIC TITLE SHEET

H-9318

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.

MA-20-4-72

State ALASKA

General locality Glacier Bay
~~Southeast Alaska~~

Locality Glacier Bay, Lower Muir and Adams Inlets
Portion of Inlet

Scale 1:20,000 Date of survey 13-26 September 1972

Instructions dated 5 April 1972 Project No. OPR-460

Vessel NOAA Ship MCARTHUR, Launches AR-1 and AR-2

Chief of party George M. Poor, CDR, NOAA

Surveyed by MCARTHUR Personnel
F.L. Jeffries, O.F. Steffin, R.J. DeVivo, C.B. Lawrence, S.D. Whitaker, S.R. Bickey

Soundings taken by echo sounder, hand lead, pole Raytheon DE-723 Nos. 915, 920, 935

Graphic record scaled by MCARTHUR Personnel

Graphic record checked by MCARTHUR Personnel

Positions verified
Reviewed by Clarence R. Lehman Automated plot by PMC-BDP Branch
Gerber Digital Plotter
verified

Soundings ~~checked~~ by Clarence R. Lehman

Soundings in fathoms ~~xxx~~ at ~~MLLW~~ MLLW

REMARKS:

Applied to atlas 6/27/73
CAS

Descriptive Report

to Accompany

Hydrographic Sheet (MA-20-4-72/H-9318 (1972))

Glacier Bay, Alaska

Scale 1:20,000

NOAA Ship MCARTHUR CSS 30

CDR George M. Poor, NOAA, Commanding

A. PROJECT

This survey was part of OPR-460, Glacier Bay, Alaska. It was accomplished under Project Instructions dated 5 April 1972 and in accordance with the Pacific Marine Center OPORDER. A "Corridor" survey was conducted according to change No. 2, supplement to Project Instructions dated 15 June 1972.

B. AREA SURVEYED

The area surveyed was Lower Muir ^{Inlet} and Adams Inlet in Glacier Bay National Monument, Alaska. The area lies to the north of latitude 58° 48' 00" and south of latitude 58° 55' 00". The lower Muir Inlet area is confined by land on the west and by land and the entrance to Adams inlet on the east. Adams inlet area is confined on the north, south and east by land. A large island lies in the middle of Adams Inlet just ^{beyond} the entrance channel narrows.

The hydrographic control was established during September, 1972 and hydrography accomplished the same month.

The sheet joins contemporary survey H-9317 ⁽¹⁹⁷²⁾ (MA-20-3-72) on the north and ^{previous} survey H-6576, Scale 1:20,000, 20 June - 9 September, 1940 in lower Muir Inlet and the entrance channel to Adams Inlet.

C. SOUNDING VESSELS

MCARTHUR and its two launches were used to accomplish the hydrography. To expedite hydrography, two boat sheets were made. They were designated MA-20-4 -72 A and MA-20-4-72B. The applicable color codes and position numbers follows:

H-9318 (1972)

MCARTHUR	Violet	4000-4375 (A) ✓
Launch AR-1	Red	0001-0835 (A) ✓
Launch AR-2	Blue	2000-2118 (B) ✓ 2120-2287 (B) ✓ 2291-3388 (B) ✓
Detached Positions (Field Edit)	Green	9001-9011 (B) 9031 (B) 9071-9078 (B) 9100 (B) 9102-9106 (B) 9108-9109 (B) 9111-9115 (B) 9119-9134 (A,B) 9136 (B) 9145-9149 (B) 9151-9165 (B)
Detached Positions (Bottom Samples)	Green	⁵⁷⁸ 9604-9621 (A) 9612-9621 (B)

D. SOUNDING EQUIPMENT

The survey was accomplished using Raytheon DE-723 fathometers. ✓
Fathometer Serial No. 920 was used on launch AR-1. Fathometer
Serial No. 935 was used on launch AR-2. Fathometer Serial No.
915 was used on MCARTHUR. Depths ranged to 168 fathoms in the
area surveyed.

The echo sounder velocity corrections were determined by serial
temperature and salinity observations from Nansen bottles and
the MARTEK model TDC metering system. Observations were made at
the time that hydrography was being prosecuted. Velocity
corrections were computed and determined to be less than one-
half per cent of the sounded depths throughout the surveyed
area and, therefore, need not be applied. Corrections for ini-
tial error and corrections determined from the results of bar
checks were tabulated and are to be applied. A tabulation of
all corrections is appended to the body of this report. *See Review Para. 4*

E. SMOOTH SHEET

A signal overlay was plotted by the Gerber Digital Plotter and ✓
verified by MCARTHUR personnel. The position and sounding data
were logged by ship personnel with the final smooth sheet to be
plotted electronically and verified by personnel at Pacific
Marine Center.

F. CONTROL

All hydrography was accomplished by visual three-point sextant fix methods. The control signals were established on 2nd order traverse stations or were located by intersection with a Wild T-2 theodolite from the traverse stations. ~~Fourteen~~ Fifteen control signals were located by sextant fixes and thirty three signals were located by photolocation. All signals established by the latter method were in Adams Inlet. Geographic positions for hydrographic signals were determined by computation using the WANG Model 700 Calculator in conjunction with programs in the WANG Geodetic Program Library. A list of control signals is appended to this report.

G. SHORELINE

Shoreline was transferred to the boatsheet from Class 111 map *Sac Review Para. 2* manuscripts T-12748, T-12749, T-12750, T-12751, T-12752, T-12762, T-12763, T-12764, and T-12765. All shore line details were verified. Discrepancies that were found were noted on the field edit ozalids.

The mean lower low water line was not defined in some areas because of the steeply sloping and irregular rocky shore. Officers-in Charge of launches were instructed to parallel the shore at a distance of 20 meters or more and to operate in depths of no less than five fathoms when running the interior shoreline.

H. CROSSLINES

Crosslines, consisting of approximately seven per cent (21.7/333.2) of the principal system of sounding lines, were in good agreement with the main scheme sounding lines.

I. JUNCTIONS

There is a good agreement between this sheet and the adjacent contemporary survey (H-9317) (1972)

J. COMPARISON WITH PRIOR SURVEYS

There is a good agreement with prior survey (H-6576) ⁽¹⁹⁴⁰⁾ in the inshore area; however offshore in the central deep basin, there is a fairly consistent difference of 5 fathoms. This difference is due to sedimentation associated with Glacial deposition of two types; that which washes in from the creek, and that which is carried out with the ice and dropped as the ice melts. A formal pre-survey review was not provided.

K. COMPARISON WITH THE CHART

The few soundings on USC&GS Chart 8202, scale 1:209,978 17th Ed. 11/71, are indicative of the soundings that were observed in the course of hydrography, except in the deep ravines as previously described.

L. ADEQUACY OF SURVEY

The survey is considered complete and adequate for charting.

M. AIDS TO NAVIGATION

There are no aids to navigation in the area of the survey.

N. STATISTICS

	<u>MCARTHUR</u>	<u>AR-1</u>	<u>AR-2</u>
Positions	376	835	1385
Sounding Lines (n.m.)	82.6	100.7	171.6
Area Surveyed (s.n.m.)	6	7	7.7
Bottom Samples	8	----	10

O. MISCELLANEOUS

In general the lower Muir survey area has the characteristic configuration of a glaciated valley. Precipitous slopes along the sides give way to a relatively flat and featureless bottom. The extremely precipitous nature of the sides give rise to two phenomena which affect the reliability of the soundings in this area. 1) It generates a high incidence of "side echoes" and missed soundings. 2) While running ship hydrography, a difference of from 2 to 5 fathoms may be observed between soundings on the port and starboard transducers when sounding parallel to, and close by, the steep slopes. Such differences are an indication of errors inherent in the nature of echo soundings on steep slopes with wide beam transducers. Errors deriving from sources 1) or 2) will yield soundings on the fathometer that are probably less than the actual depth below the vessel. The entrance to Adams Inlet area has similar features as mentioned above only on a smaller scale. However, once past the entrance the inlet is lined with shoal areas and mud banks. The island in the center of the inlet forms two channels which join again in the bay at the head of the inlet. Another smaller bay branches off the south channel. Surveying in ice-laden waters demands frequent minor course changes. This will manifest itself in minor irregularities in spacing and course made good vs. course steered in some cases.

P. RECOMMENDATIONS

Since development of the shoreline in the western portion of the survey^{was} produced little additional data, it is recommended that all of the survey west of long. 136°-00' be processed entirely as a "Corridor" survey. This includes the following positions:

Ship MCARTHUR	(Purple Ink)	Positions	4000-4375
Launch AR-2	(Blue Ink)	Positions	2000-2654
			2772-2784
			3078-3388
Bottom Samples		Positions	9599-9610'

The balance of this survey east of 136°-00' is all inshore launch work and can be readily processed separately.

Both areas processed as Corridor survey

Q. REFERENCES TO REPORTS

- 1) Season's Report, NOAA Ship MCARTHUR, 1972
- 2) Coast Pilot Report OPR-460, 1972
- 3) Pre-Survey Review Report OPR-460, 1972
- 4) Geodesy Report OPR-460, 1972
- 5) Hydrographic Signal Location Report OPR-460, 1972
- 6) Field Edit Report OPR-460, 1972 - *unavailable at time of review*
- 7) Geographic Names Report OPR-460, 1972
- 8) Sounding Corrections Report OPR-460, 1972
- 9) Report on Corridor Survey

Approval Sheet For

(1972)

H-9318 MA-20-4-72

Field work on this survey was accomplished under my general supervision. Frequent inspection of the field data and boatsheet were made by me as the survey progressed. The sounding records have been inspected and are approved. This survey is complete and adequate and is hereby approved.



George M. Poor
CDR, NOAA
Commanding Officer
NOAA Ship MCARTHUR CSS 30

Appendix

Tide Note

Abstract of Corrections to Echo Soundings

List of Signals

Approval Sheet

Tide Note (MA-20-4-72) H-9318 (1972)

Tide correctors used for reduction of soundings plotted on boatsheet MA-20-4-72 (H-9318) were derived from data from a bubbler tide gage station at Muir Inlet, Glacier Bay (Lat. 58° 54.8' N., 136° 06.1' W). The predicted tides were based on 117 high waters and 118 low waters, 27 July to 29 September 1959

meridian 105° W

U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

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TIDE NOTE FOR HYDROGRAPHIC SHEET

2/28/73

Processing Division: Pacific Marine Center

Hourly heights are approved for 6 Form 362

Tide Station Used (NOAA form 71-12): Wachusett Inlet, and Muir Inlet

Period: August 8 - September 28, 1972

HYDROGRAPHIC SHEET: H-9317 (1972) & H-9318

OPR: 460

Locality: Glacier Bay, Alaska

Planes of reference (mean lower low water): Wachusett Inlet -3.1 ft.
Muir Inlet 1.8 ft.

Height of Mean High Water above Plane of Reference is

Wachusett Inlet: 15.7 ft.
Muir Inlet: 15.4 ft.

Remarks:

No time difference between stations

Hourly heights have been revised in red and verified as follows:

~~Dates Wachusett Inlet
August 31
Sept. 6-8
19-21
24-28~~

~~Dates Muir Inlet
Sept. 6
9-12
20
21-23
25
28~~

Field party recommendation for zoning dated 11/21/72 approved.

R. W. Curran

Chief, Tides Branch

U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

2/27/73

Processing Division: PACIFIC Marine Center

Hourly heights are approved for FORM 262

Tide Station Used (NOAA form 77-12): ADAMS INLET

Period: SEPT 6-28 1972

HYDROGRAPHIC SHEET: H 9218

OPR: 460

Locality: GLACIER BAY, ALASKA

Plane of reference (mean lower low water): -5.6 ft.

Height of Mean High Water above Plane of Reference is 16.6 ft.

Remarks: HOURLY HEIGHTS HAVE BEEN REVISED IN RED
AND VERIFIED AS FOLLOWS:

DATES

SEPT. 8-9 17, 19 22-28

FIELD PARTY RECOMMENDATION FOR ZONING
DATED 11/23/72 APPROVED.

Robert B. Cummings

Chief, Tides Branch

Abstract of Corrections
to Echo Soundings (MA-20-4-72)

As was previously noted, sounding velocity corrections are not to be applied to soundings because all correctors are less than one-half percent of the sounded depth. A tabulation of sounding correctors vs. depth determined by observations in the survey area while hydrography was in progress follows.

DEPTH (fm)	SOUNDING CORRECTOR (fm)	
	<u>Cast #8</u>	<u>Cast #9</u>
2	.00	-.01
7	.00	-.03
12	-.01	-.05
17	-.02	-.04
22	-.03	-.03
27	-.04	-.02
32	-.04	-.01
37	-.04	.00
42	-.03	+.01
47	-.01	+.03
52	.00	+.04
57	+.01	+.06
62	+.02	+.07
67	+.03	+.09
72	+.04	+.10
77	+.05	+.11
82	+.06	+.12
87	+.06	+.12
92	+.06	+.13
97	+.06	+.13
100	+.06	+.13
120	+.02	+.11
140	-.04	+.08
160	-.08	+.04
180	-.13	+.02

A compendium of the data that was employed to generate the following table has been submitted under separate cover.

TRA(TC/TE) PRINTOUT

MA-20-4-72 H-9318

FATHOMETER S/N 915

CORRECTIONS IN FATHOMS

CSS-30

30325772 ***

153800	0	1002	0004	257	000000	000000
185115	0	1003				
200430	0	1002				
124600	0	1002	0004	263	000000	000000
184100	0	1001				
191400	0	1002				
201330	0	1001				
113930	0	1002	0004	264	000000	000000

TRA(TC/TE) PRINTOUT

MA-20-A-72

H-938

FATHOMETER S/N 920

AR-1

CORRECTIONS IN FATHOMS

30326872

083800 0 0002 0004 268 000000 000000
 170900 0 0001
 173630 0 0002
 174630 0 0001
 175600 0 0002
 083600 0 0002 0004 269 000000 000000
 164530 0 0003
 165000 0 0002
 083830 0 0002 0004 270 000000 000000
 114800 0 0003
 115600 0 0002
 121530 0 0003
 132700 0 0002
 181030 0 0003
 181130 0 0002
 181230 0 0003

TRA(TC/TS) PRINTOUT
MA-20-4-72
FATHOMETER S/N 935
AR-2
CORRECTION IN FATHOMS

15

H-9318

30326472

175630 0 0002 0004 264 000000 000000
180530 0 0001
180730 0 0002
085000 0 0002 0004 267 000000 000000
085700 0 0001
101400 0 0002
110300 0 0003
112530 0 0002
113900 0 0003
122230 0 0002
131200 0 0000
135430 0 0002
084930 0 0002 0004 268 000000 000000
172100 0 0003
174430 0 0002
083330 0 0002 0004 269 000000 000000
083700 0 0001
101900 0 0002
111215 0 0003
112345 0 0002
112800 0 0001
123130 0 0002
131300 0 0001
131630 0 0002
145830 0 0003
150100 0 0002
163130 0 0003
171830 0 0002
174115 0 0001
083430 0 0002 0004 270 000000 000000
085930 0 0003
091630 0 0001
094530 0 0002
121130 0 0001
135730 0 0002
153430 0 0001
154900 0 0002
164830 0 0003
170200 0 0002
175030 0 0003
180030 0 0002

List of Signals

(MA-20-4-72)

I: Intersection

R: Resection

E: Eccentric

<u>Name Used in Hydrographic Survey</u>	<u>Number</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Origin</u>	
SNEEZY ✓	002 ✓	58°50'31.598"	136°01'34.451"	Sextant (R) ✓	
	004	58°50'50.064"	136°00'18.585"	SNEEZY, 1970 ✓	
	006	58°51'15.707"	135°59'07.830"	T-2 (I)	
	007 ✓	58°51'32.326"	135°58'35.748"	Sextant (R) ✓	
	008	58°51'51.737"	135°58'14.094"	T-2 (I)	
	ADAMS ✓	010	58°52'19.601"	135°57'10.091"	ADAMS, 1939 ✓
		012	58°52'33.998"	135°56'42.488"	Photo
014		58°52'48.185"	135°55'39.680"	Photo	
015		58°52'41.172"	135°55'01.872"	Photo	
016		58°52'34.192"	135°54'39.244"	Photo	
018		58°52'12.798"	135°54'49.725"	Photo	
020		58°52'22.687"	135°56'08.486"	Photo	
022		58°52'06.431"	135°57'00.686"	Photo	
024		58°51'27.470"	135°56'48.269"	Photo	
026 ✓		58°51'39.050"	135°55'54.254"	Sextant (R) ✓	
028 ✓		58°51'47.380"	135°55'17.400"	Sextant (R) ✓	
030 ✓		58°51'52.639"	135°54'19.273"	Sextant (R) ✓	
032 ✓		58°52'21.778"	135°53'17.220"	Sextant (R) ✓	
034 ✓		58°52'36.699"	135°51'45.078"	Sextant (E) ✓	
036		58°52'54.552"	135°49'56.464"	Photo	
038		58°53'06.431"	135°48'16.042"	Photo	
DOPEY ✓		040	58°54'01.590"	135°47'53.004"	DOPEY, 1970 ✓
XMAS ✓		052 ✓	58°51'13.998"	136°02'18.615"	Sextant (R) ✓
		054	58°51'27.660"	136°00'32.555"	XMAS, 1939 ✓
UPPER ✓	056 ✓	58°51'48.720"	135°59'31.760"	Sextant (R) ✓	
	058	58°51'50.630"	135°58'52.092"	UPPER, 1939 ✓	
BASHFUL ✓	060 ✓	58°52'21.284"	135°58'20.800"	Sextant (R) ✓	
	062	58°52'51.531"	135°56'50.588"	BASHFUL, 1970 ✓	
	064	58°53'09.275"	135°56'01.623"	Photo	
	066	58°53'27.308"	135°56'25.031"	Photo	
	068	58°53'47.571"	135°56'31.086"	Photo	
	070	58°54'20.295"	135°55'02.685"	Photo	
	072	58°54'14.349"	135°54'04.247"	Photo	
	074	58°54'17.354"	135°53'32.476"	Photo	
	076 ✓	58°54'24.618"	135°52'57.258"	Sextant (R) ✓	
	078	58°54'31.930"	135°52'15.676"	Photo	

Name Used in Hydrographic Survey

Number

Latitude

Longitude

Origin

<u>Name Used in Hydrographic Survey</u>	<u>Number</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Origin</u>
	082	58°54'37.391"	135°51'12.203"	Photo
	084	58°54'24.173"	135°49'31.414"	Photo
GRUMPY ✓	118 ✓	58°48'29.615"	136°08'18.457"	Sextant (R) ✓
	120	58°49'30.606"	136°07'16.945"	GRUMPY, 1970 ✓
	122 ✓	58°50'35.968"	136°06'51.253"	Sextant (R) ✓
MORSE ✓	124	58°51'51.131"	136°06'16.099"	MORSE, 1939 ✓
DENSON ✓	126	58°53'08.705"	136°06'44.858"	DENSON, 1939 ✓
PLATEAU ✓	128	58°54'53.426"	136°06'31.460"	PLATEAU, 1939 ✓
SNOWHITE ✓	142	58°47'30.073"	136°04'35.677"	SNOWHITE, 1970 ✓
	144	58°48'35.255"	136°04'57.379"	T-2 (I)
	146	58°49'40.166"	136°04'41.260"	T-2 (I)
	148	58°50'26.758"	136°02'47.268"	T-2 (I)
	150	58°51'16.542"	136°03'28.336"	T-2 (I)
WESTDAHL ✓	152	58°52'38.621"	136°03'53.061"	WESTDAHL, 1939 ✓
	154 ✓	58°54'14.232"	136°03'33.280"	Sextant (R) ✓
	156 ✓	58°55'27.826"	136°03'30.380"	Sextant (R) ✓
	200	58°52'57.428"	135°54'51.660"	Photo
	202	58°52'47.862"	135°54'17.095"	Photo
	204	58°52'58.592"	135°53'12.603"	Photo
	206	58°53'10.988"	135°51'51.685"	photo
	208	58°53'44.049"	135°51'18.851"	Photo
	210	58°54'04.557"	135°51'09.992"	Photo
	212	58°54'16.514"	135°51'47.214"	Photo
	214	58°54'18.162"	135°52'28.853"	Photo
	216	58°54'04.460"	135°53'12.428"	Photo
	218	58°54'01.907"	135°54'05.933"	Photo
	220	58°53'51.158"	135°54'57.740"	Photo
	222	58°53'37.488"	135°55'35.955"	Photo
	224	58°53'17.354"	135°55'31.773"	Photo
	226	58°53'03.716"	135°55'29.338"	Photo
	158	58°56'31.822"	136°04'50.164"	Sextant (R)

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GEOGRAPHIC NAMES

H-9318

Name on Survey	A	B	C	D	E	F	G	H	K
	ON CHART NO.	ON PREVIOUS SURVEY NO.	CON U.S. QUADRANGLE MLPs	FROM LOCAL INFORMATION	ON LOCAL MAPS	P.O. GUIDE OR MAP	GRAND McNALLY ATLAS	U.S. LIGHT LIST	

ADAMS GLACIER										1
ADAMS INLET										2
BERG CREEK										3
COWEN POINT										4
GLACIER BAY NAVAL MONUMENT										5
GRANITE CANYON										6
HUNTER COVE										7
MAQUINNA COVE										8
McLEOD, POINT										9
MUIR INLET										10
MUIR POINT										11
POINT GEORGE										12
										13
										14
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										21
										22
										23
										24
										25

PREPARED BY CARTOGRAPHER

Chas. E. Harrington

STAFF GEOGRAPHER (ACTING)

8-13-73

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. H-9318

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET ϕ PNO		1	BOAT SHEETS		2	
DESCRIPTIVE REPORT		1	OVERLAYS		4	
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES	2		2			
CAHIERS	1					
VOLUMES		12				
BOXES			1			
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				2606
POSITIONS CHECKED		2606	104	
POSITIONS REVISED		36	3	
DEPTH SOUNDINGS REVISED		214	9	
DEPTH SOUNDINGS ERRONEOUSLY SPACED <i>added</i>		296	12	
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED			-	
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		24	10	
JUNCTIONS		8	4	
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		196	24	
SPECIAL ADJUSTMENTS			-	
ALL OTHER WORK		179	8.5	
TOTALS		407	123	407
PRE-VERIFICATION BY	BEGINNING DATE		ENDING DATE	
VERIFICATION BY <i>Clarence R. Lehman</i>	BEGINNING DATE 1/30/73		ENDING DATE 6/15/73	
REVIEW BY <i>Denovo J. Romberg</i>	BEGINNING DATE 12-10-73		ENDING DATE 1-11-74	

Carstairs 17 hrs 1/2 per

VERIFIER'S REPORT

H-9318 (1972)

Glacier Bay, S.E. Alaska
Muir and Adams Inlets

MA-28-4-72 H-9318
(1972)

PART I JUNCTIONS

Junction with H-9317⁽¹⁹⁷²⁾ to the North, a contemporary survey, is in agreement, no readjustment was necessary to achieve a junction.

The Southern junction area falls within a survey that is not contemporary, survey number H-6576, 1948. The depth curves here, have not been inked, but are in general agreement with this survey.

PART K COMPARISON WITH CHART

A copy of the chart area showing this survey is included in this report. The soundings are in good agreement, except for four (4) soundings that appear to be more than 6 fms deeper on the chart.

- 1) On lat. 58°54'~~00"~~ Sounding 173 fm. Smooth Sheet 167 fm.
- 2) Between 58°53' and 58°54', 174 fm. Smooth Sheet 166 fm.
- 3) Between 58°52' and 58°53', 173 fm. Smooth Sheet 167 fm.
- 4) Just Below 58°52', 72 fm Smooth Sheet ~~167~~ fm.

NOTE: Due to the difference in scale of the chart (1-289,978) and Smooth Sheet (1-28,888), the apparent comparison may be not as much as noted here. See Review para. 7

8202

PART O MISCELLANEOUS

(a) Rock position for 9031, a highwater Rk was plotted on preliminary sounding overlay, in deep water. This rock is relocated by this verifier, next to Rk 9157, Lat. 58°51.21', Long. 136°03.40'. Rk, relocated from Lat. 58°51.25', Long. 136°04.58', in 168 fm. wrong signal used for plotting.

(b) Lat. 58°54.5', Long 135°51.5'

In NE corner above large island, the 5 fm. depth curves which show channel probably exists in blank area, unsurveyed. Glacial ice is apparently, temporarily blocking passage at this point.

TIDE NOTE

H-9318

Glacier Bay, S.E. Alaska

H-9318 (1972)
MA-20-4-72

Tide ¹⁹⁷² correctors used for reduction of soundings on the smooth sheet, H-9318 were derived from zoning the smooth survey at Long. 135°59'00" and data from two tide stations were used:

- 1) Muir Inlet gage
 Lat. 58°54'14.85.3 m ✓
 Long. 136°06'576.0 m ✓
- 2) Adams Inlet gage
 Lat. 58°53'1392.4 m ✓
 Long. 135°51'288.3 m ✓ *See map*

Filed in cahier with Fathograms

Tide station information forms, C&GS 681 included as an addition to Descriptive Report for each station.

P. RECOMMENDATIONS

The tidal zoning division was moved from Long. 136°00'00" to 135°59'00" because this places the zoning division in the narrowest part of the navigable channel. ✓

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PART O MISCELLANEOUS (Continued)

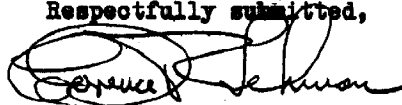
(c) Subject: Rock Note

Rock #9134 on shoreline, and bare ⁵(6).

Departed from custom of showing Rk symbol as it would obscure sounding of 1 0 fm. next to shore. Instead, added Rk Note with arrow to location on shoreline. Lat 58°52.8', Long 135°54.31'.

Deleted 1 0 fm. sndg.
added * (5)

Respectfully submitted,



Clarence R. Lehman
Cartographic Technician

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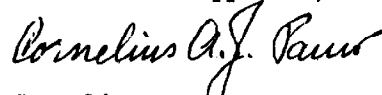
GEOGRAPHIC NAMES LIST
H-9318 (1972)

- ADAMS GLACIER
- ADAMS INLET
- ~~COMEN POINT~~
- DIRT GLACIER
- GLACIER BAY NATIONAL MONUMENT
- HUNTER COVE
- ~~KELLY POINT~~
- MUIR INLET
- MAQUINNA COVE
- MUIR POINT
- ~~PETER POINT~~ Point Meleod
- POINT GEORGE

APPROVAL SHEET

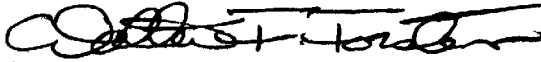
The smooth sheet has been inspected, is complete, and meets the requirements of the General Instructions for automated surveys and the Hydrographic Manual. (Note: All exceptions are listed in the Verifier's Report)

Examined and approved,



Cornelius A. J. Pauw
Supervisory Cartographic Tech.

Approved and forwarded,



Walter F. Forster, LCDR, NOAA
Chief, Processing Division
Pacific Marine Center

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OFFICE OF MARINE SURVEYS AND MAPS

MARINE CHART DIVISION

HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-9318

FIELD NO. MA-20-4-72

Alaska, Southeast Alaska, Glacier Bay, Lower Muir Inlet and Adams Inlet

SURVEYED: September 13-26, 1972

SCALE: 1:20,000

PROJECT NO.: OPR-460

SOUNDINGS: DE-723 Depth Recorder

CONTROL: Sextant fixes on shore signals

Chief of Party.....	G. M. Poor
Surveyed by.....	F. L. Jeffries
.....	O. F. Steffin
.....	R. J. DeVivo
.....	C. B. Lawrence
.....	S. D. Whitaker
.....	S. R. Birkey
Protracted by.....	Gerber Digital Plotter-PMC
Soundings plotted by.....	Gerber Digital Plotter-PMC
Verified and inked by.....	C. R. Lehman
Reviewed by.....	D. J. Romesburg
.....	Date: January 11, 1974
Inspected by.....	R. H. Carstens

1. Description of the Area

This survey covers the lower reaches of Muir Inlet from lat. 58°54.5', south to lat. 58°48.4' and Adams Inlet in its entirety. The central portion of Muir Inlet was to be surveyed as a Navigable Area Survey. However, the entire area has been treated in this manner in the surveying operation and processing.

Muir Inlet is a fjord with precipitous sides descending to maximum depths over 165 fathoms. The bottom is relatively smooth and featureless, shoaling to depths of about 60 fms.

in the southern limits. Predominate bottom covering is a grey, green mud and fine sand. Much narrower and shoaler, Adams Inlet enters Muir Inlet from the east in approximately lat. $58^{\circ}50.8'$, long. $133^{\circ}03.4'$. Except for the entrance which has characteristics similar to Muir Inlet, Adams Inlet is narrow and has many bottom irregularities. The inlet ends in a basin receiving runoff from numerous streams flowing from the glaciers on the surrounding mountains.

2. Control and Shoreline

The origin of the control is adequately described in the Description Report.

The latest available shoreline is in pencil on the smooth sheet from Class III Shoreline Manuscripts T-12748, T-12749, T-12750, T-12751, T-12752, T-12762, T-12763, T-12764, and T-12765 of 1970-71 pending the processing of these manuscripts to Class I category.

The following two discrepancies were noted between the Class III Shoreline Manuscripts and the present survey:

- A. The geographic name Peter Point shown on a point of land on T-12748 in lat. $58^{\circ}54.9'$, long. $134^{\circ}06.5'$ is in error. The correct name is Point McLeod and is properly shown on the smooth sheet.
- B. Several large rocks shown on T-12763 in lat. $58^{\circ}50.61'$, long. $136^{\circ}01.15'$ are believed to be icebergs mistaken for rocks on the aerial photographs. Subsequent lines of hydrography crossed this area near low tide on Julian Days 267, 268, and 269 without encountering obstacles.

3. Hydrography

- A. Depths at crossings are in very good agreement.
- B. The usual depth curves are generally adequately delineated except in several areas in Adams Inlet where development was not always carried to the MLLW line. However, the use of the shallow area dashed lines at these places will probably satisfy charting needs.

3.

C. The development of the bottom configuration is considered adequate in the Safe Navigable Area except as indicated above.

4. Condition of the Survey

The survey records, automated plotting, and the Descriptive Report are adequate and conform to the requirements of the Hydrographic Manual and the Instruction Manual-Automated Hydrographic Surveys, except as follows:

- A. The Tide Corrector Printout for the Adams Inlet Tide Gage is missing.
- B. The tide note for Muir Inlet was missing from the Descriptive Report and was inserted by the reviewer.
- C. Elevations of certain rocks positioned in Muir Inlet were referenced to M.L.L.W. using the tide range for Adams Inlet of 16.6 feet. These elevations were revised by the reviewer and referenced to the tide range for Muir Inlet of 15.4 feet.
- D. Control station descriptions were not included in the survey records.
- E. Tidal zoning differences between Muir Inlet and Adams Inlet Gages at $\text{long. } 135^{\circ}59'$ averaged 1.2 fathoms which is indicative of the possible error in some of the soundings. The greatest portion of the error probably would be in soundings in the narrow passages leading to the upper portion of Adams Inlet.

5. Junctions

An adequate junction was effected with H-9317 (1972) on the north. and H-9405 (1973) on the south.

6. Comparison with Prior Surveys

H-6576 (1940) 1:20,000

This prior survey affords the earliest coverage of Muir Inlet and the entrance to Adams Inlet. Until recently exposed by retreating glaciers, much of Adams Inlet had never been surveyed.

Sounding differences between the prior and present survey varied from 0-2 fathoms in depths to 100 fathoms and by 7 fathoms in greater depths. The shoaler soundings were recorded on the present survey and can probably be attributed to a combination of factors such as a slight emergence of the land in the area as a result of glacial melt, the deposition of sediments from stream runoff from the glaciers and surrounding mountains, and from the drifting ice found in these inlets.

With the addition of several soundings carried forward to supplement the present hydrography and to indicate least depths on shoals, the present survey is adequate to supersede the prior survey within the common area.

7. Comparison with Chart 8202, 18th Ed., November 3, 1973

A. Hydrography

The charted hydrography originates with the previously discussed prior survey which requires no further consideration supplemented by partial application of Blueprints 84951-2, copies of the boat sheets of the present survey.

B. Aids to Navigation

There are no aids to navigation within the survey area.

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


8. Compliance with Instructions

The survey adequately complies with the Project Instructions.

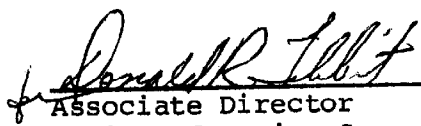
9. Additional Field Work

This survey is considered to be a very good 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-9318

Items for Future Presurvey Review

The continual retreat of glaciers in this area may cause noticeable shoaling and changes in bottom configuration, especially in Adams Inlet, because of existing strong currents plus glacial materials dropped or washed into the inlets.

Shoals and bottom configuration near the shoreline in Adams Inlet will require extra development if a future survey of the alongshore hydrography is deemed necessary.

Position Index		Bottom change	Use Index	Resurvey
Lat.	Long.	Index		Cycle
584	1361	3	0	50 yrs.
585	1361	5	0	50 yrs.
585	1360	5	0	50 yrs.
585	1355	5	0	50 yrs.

Reg. No. H-9318

(30)

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:

