9317

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-20-3-72 *Office No.* H-9317

LOCALITY

State Alaska

General locality Glacier Bay

Locality Upper Portion of Muir Inlet

19 72

CHIEF OF PARTY

G. M. Poor

LIBRARY & ARCHIVES

DATE 6-7-73

USCOMM-DC 37022-P66

9317

FORM C&GS-537 (5-66)

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

REGISTER NO.

(1)

HYDROGRAPHIC TITLE SHEET

H-9317

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-20-3-72

State Alaska

General locality ~~Southeast Alaska~~ Glacier Bay

Locality ~~Glacier Bay, Muir Inlet and Wachusett Inlet~~ Upper Portion of Muir Inlet

Scale 1:20,000 Date of survey 31 August - 23 September 1972

Instructions dated 5 April 1972 Project No. OPR-460

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

Chief of party CDR George M. Poor, NOAA

Surveyed by ~~MCARTHUR Personnel~~ F.L. Jeffries, R.J. DeVivo, S.D. Whitaker, C.B. Lawrence, S.R. Birkey

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

~~Protracted~~ by James L. Stringham Automated plot by PMC - EDP Branch Gerber Digital Plotter

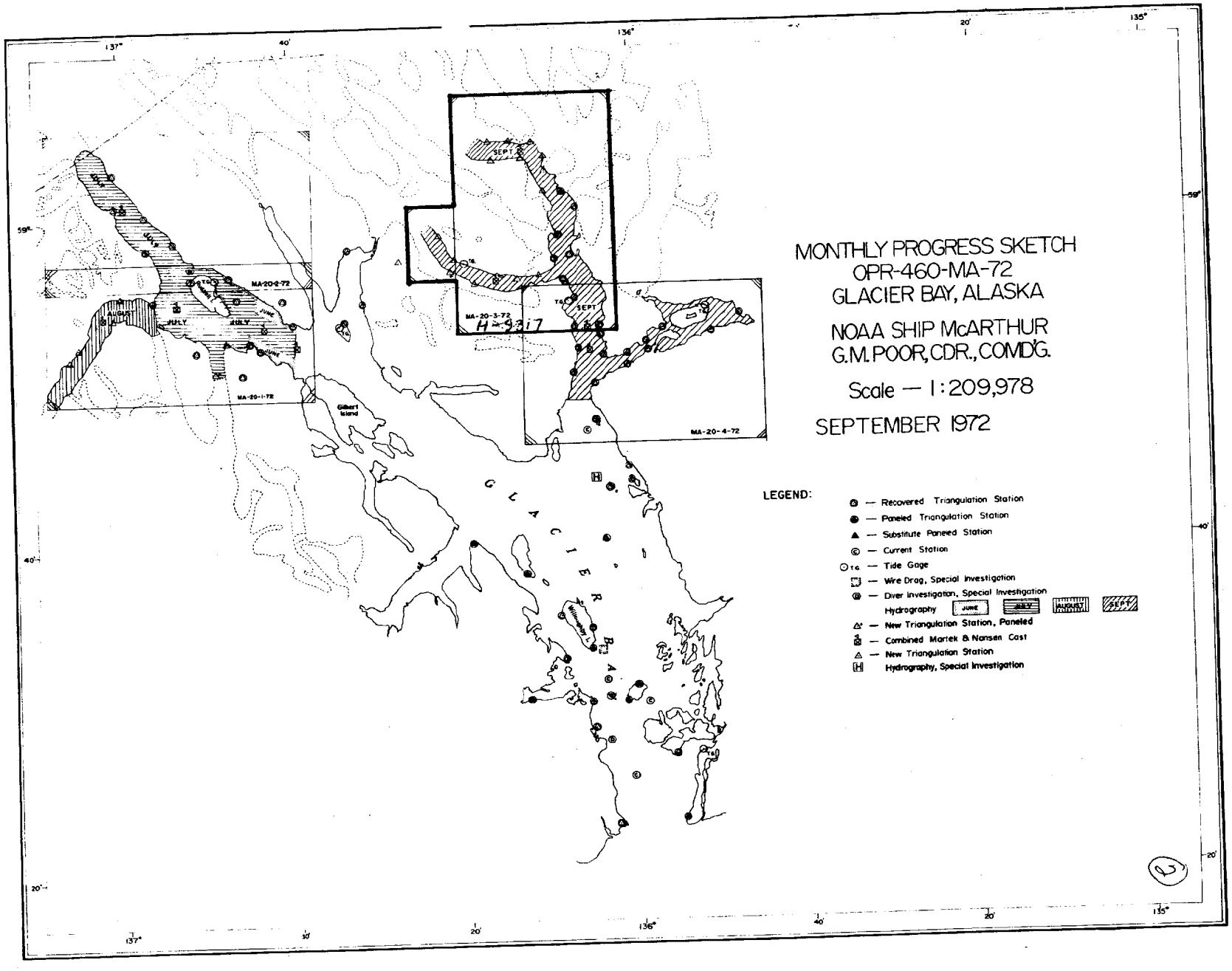
verified

Soundings ~~penciled~~ by James L. Stringham

Soundings in fathoms ~~feet~~ at ~~MLW~~ MLLW

REMARKS:

USCOMM-DC 37009-P66


MONTHLY PROGRESS SKETCH
OPR-460-MA-72
GLACIER BAY, ALASKA
NOAA SHIP McARTHUR
G.M. POOR, CDR., COMD'G.
Scale — 1:209,978
SEPTEMBER 1972
LEGEND:
— Recovered Triangulation Station
— Paneled Triangulation Station
— Substitute Paneled Station
— Current Station
— Tide Gage
— Wire Drag, Special Investigation
— Diver Investigation, Special Investigation
Hydrography JUNE JULY AUGUST SEPT.
— New Triangulation Station, Paneled
— Combined Martek & Nansen Cast
— New Triangulation Station
Hydrography, Special Investigation
MA-20-2-72
MA-20-3-72
MA-20-4-72
H-9317
Gilbert Island
GLACIER BAY
137°
136°
135°
59°
40'
20'

(3)

Descriptive Report

to Accompany

Hydrographic Sheet (MA-20-3-72/H-9317 (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 in this survey as per change No. 2, Supplement to Project Instructions dated 15 June 1972. Entire Survey was processed with the priority of a Navitable Area survey. (Navitable Area)

B. AREA SURVEYED

The area surveyed includes Upper Muir and Wachusett Inlets in Glacier Bay National Monument, Alaska. The Muir Inlet area lies to the north of 58° 54' 00" and is confined to the east and north by land. The west side of the inlet is ~~is~~ confined by land north of the 58° 57' 00" parallel and south of the 58° 56' 00" parallel. Between the above parallels Muir Inlet joins the entrance of Wachusett Inlet. The north, west and south sides of Wachusett Inlet area are confined by land.

The hydrographic control was established during August, 1972 and hydrography accomplished during August and September, 1972.

The sheet joins contemporary survey H-~~9137~~ 9318 (1972) (MA-20-4-72) on the south. ~~and prior to survey H-6575, 1:20,000 scale, 20 June - 9 September, 1940 on the south in the Wachusett Inlet entrance area.~~

C. SOUNDING VESSELS

MCARTHUR and its two launches were used to accomplish the hydrography. To expedite hydrography, two boat sheets and two mylar overlays (one overlay for each boat sheet) were made. They were designated MA-20-3-72 A and MA-20-3-72 B. The applicable color codes and position numbers follows:

(4)

MCARTHUR	Violet	4000-4188 (A) ✓ 4189-4661 (B) 4662-4790 (A)
Launch AR-1	Red	0001-0308 (A) ✓ 0309-1342 (B)
Launch AR-2	Blue	2000-2500 (A) ✓ 2501-2784 (B) 2785-3159 (A) 3175-3185 (A) ← see review Para. 4
Detached Positions (Field Edit)	Green	9012-9019 ✓ 9048-9070
Detached Positions (Bottom Samples)	Green	9563-9600 ✓

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 ~~155~~ 167 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 initial error were tabulated and are to be applied. A tabulation of all ← See review Para. 4 corrections is appended to the body of this report.

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. Eleven control signals were located by sextant fixes. 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

In upper Muir Inlet the shoreline north of latitude 59° 00' was transferred to the boat sheet from a sketch map compiled from air photos taken by the Water Resources Division, U.S.G.S.

The shoreline of Wachusett Inlet west of longitude 136° 10' was obtained from same sources. The sketch maps (May, 1972) are the same scale as the boat sheet. The remaining shoreline for the area was transferred to the boat sheet from Class III map manuscripts T-12738, T-12748, T-12749. All shoreline details were verified. Discrepancies that were found were noted on the field edit ozalids. Particular attention is drawn to the occasional delineation of small icebergs as off shore rocks on the unedited maps.

The mean lower low water line was not defined in many 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 eleven per cent (49.8/435.3) 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-9318)1972. There is also a good agreement with prior survey (H-6576)1940 in the inshore areas, however, offshore in the central deep basin, there is a fairly constant difference of 5 fathoms. This difference is due to sedimentation associated with glacial deposition of two types; that which washes in from the creeks, and that which is carried out with the ice and dropped as the ice melts.

J. COMPARISON WITH PRIOR SURVEYS

A formal pre-survey review was not provided because there were no prior surveys in Upper Muir and Wachusett Inlets. However, one item which was to be investigated was treated as such as per instructions.

Pre-survey Review Items:

Item	Latitude/longitude	Verified	Recommendation
3 ~~3/4~~ 5/6 Fathom Shoal off entrance to Wachusett Inlet	58° 56.77' N 136° 08.0~~0~~4' W	Yes	Chart as 3.7 Fathoms ← See Review

In the course of conducting the survey of Wachusett Inlet a small peak was encountered about 800 yards off the south shore approximately 5.5 n.m. from the entrance. (58° 56.10' N, 136° 17.9~~8~~3' W). A development was run of the area and a least depth of 14 fathoms was verified. It is recommended that this depth be charted as shown.

K. COMPARISON WITH 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, ~~E~~except in the deep basin as previously described. The 3 ~~3/4~~ 5/6 fathom shoal cited in Section J at latitude 58° 56.77' N, Longitude 136° 08.0~~0~~4'W and shown on the chart should be charted as such. ← See Review

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	MCARTHUR	AR-1	AR-2
Positions	790	1340	1155
Sounding Lines (n.m.)	147.0	184.8	153.3
Area Surveyed (s.n.m.)	13.4	0.2	4.6
Bottom Samples	~~41~~ 38	----	----

O. MISCELLANEOUS

In general the survey area has the characteristic configuration of a glaciated valley. Precipitous slopes along the sides give way to a relatively flat featureless bottom. The extremely precipitous nature of the sides give rise to two phenomena: ~~which generates a high incidence of "side echoes" and "missed" 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 sounding 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.

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

Because of the relatively minor amount of data gathered by further development of the shoreline in this area, it is recommended that the survey be processed entirely as a "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

7) Geographic Names Report OPR-460, 1972

8) Sounding Corrections Report OPR-460, 1972

9) Report on Corridor Survey

(8)

Appendix

Tide Note

Abstract of TC/TI corrections

Abstract of Corrections to Echo Soundings

List of Signals

Approval Sheet

(9)

Tide Note (MA-2Ø-3-72)

Tide correctors used (1972) for reduction of soundings plotted on boatsheet MA-2Ø-3-72 (H-9317) were derived from data from a bubbler tide gage station at Muir Inlet, Glacier Bay (Lat. 58° 54.8' N. Long. 136° Ø6.6' W). The predicted tides were based on 117 high waters and 118 low waters, 27 July to 29 September 1959.

(1972)
Tide correctors used for reduction of soundings on the Smooth Sheet H-9317 were derived at from zoning the Smooth Sheet at Longitude 136° 12.Ø' W. and the utilization of data from two tide stations.
Muir Inlet Gage at (Lat. 58° 54.8'N Long. 136° Ø6.6'W) for reduction of soundings East of Longitude 136°12.Ø West.
Wachusett Inlet Gage at (Lat. 58° 56.8' N Long. 136°2Ø.Ø'W) for reduction of soundings West of Longitude 136° 12.Ø' W (see form 77-12 for H-9317). (1972)

The above Smooth Sheet tide reduction information was added, to Tide Note by Verifier James L Stringham 5/1/73.

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

(10)

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 77-12): Wachusett Inlet, and Muir Inlet

Period: August 8 - September 28, 1972

HYDROGRAPHIC SHEET: H-9317 (1972)

OPR: 460

Locality: Glacier Bay, Alaska

Plane 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	Dates	Muir Inlet
August	31	Sept.	6
Sept.	6-8		9-12
	19-21		20
	24-28		22-23
			25
			28

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

Chief, Tides Branch

H-9317

TC/TI Tape

McArthur FAthometer S/N 915

CSS 30 in Fathoms

144230 01 1002 0000 251 0 000000 000000

155930 00 1001

154800 00 1002 0000 252 0 000000 000000

155715 00 0000

160600 00 1001

161600 00 1002

162130 00 1001

092100 00 1002 0000 253 0 000000 000000

125900 00 1004

155330 00 1002

180600 00 1002 0000 254 0 000000 000000

130200 00 1002 0000 255 0 000000 000000

143600 00 1001

151900 00 1002

112900 00 1002 0000 257 0 000000 000000

Launch AR-1 IC/II
MA-20-3-72 (M-9317 (1972)) fathometer S/N 920 (12)
AR-1 Correction in Fathoms

084730 00 0002 0000 244 0 000000 000000
104700 00 0001
104815 00 0002
084400 00 0001 0000 253 0 000000 000000
110130 00 0002
125600 00 0002 0000 255 0 000000 000000
151100 00 0001
161730 00 0002
131000 00 0001 0000 256 0 000000 000000
131115 00 0002
085600 00 0002 0000 257 0 000000 000000
140800 00 0003
144300 00 0002
150200 00 0003
150400 00 0002
190100 00 0001
191000 00 0002
131600 00 0002 0000 263 0 000000 000000
150700 00 0003
083700 00 0002 0000 265 0 000000 000000
160830 00 0003
161730 00 0002
193050 00 0001
193300 00 0002
200130 00 0001
200900 00 0002
201300 00 0001
083830 00 0002 0000 266 0 000000 000000
095130 00 0001

111530 00 0001

113200 00 0002

124630 00 0001

125230 00 0002

085230 00 0002 0000 267 0 000000 000000

154500 00 0001

172430 00 0002

173130 00 0001

174700 00 0000

174845 00 0001

175500 00 0002

175630 00 0001

Launch AR-2 S/N 935 Launch AR-14
H-9317 (1972) TC/TE

140130 00 0002 0000 250 0 000000 000000

144530 00 0003

091130 00 0002 0000 251 0 000000 000000

132715 00 0003

101600 00 0001 0000 252 0 000000 000000

102830 00 0002

130830 00 0001

140430 00 0002

153500 00 0001

154130 00 0002

175730 00 0002 0000 254 0 000000 000000

121530 00 0002 0000 256 0 000000 000000

122230 00 0003

123300 00 0002

124915 00 0003

125330 00 0002

141100 00 0001

141600 00 0002

144100 00 0001

084130 00 0002 0000 258 0 000000 000000

092700 00 0003

102600 00 0002

182230 00 0002 0000 263 0 000000 000000

092100 00 0002 0000 264 0 000000 000000

143000 00 0003

143730 00 0002

151145 00 0001

151300 00 0002

090130 00 0002 0000 265 0 000000 000000

122430 00 0002

123600 00 0001

130030 00 0002

131200 00 0001

143200 00 0002

183530 00 0001

193545 00 0002

200100 00 0001

084200 00 0002 0000 265 0 000000 000000

111200 00 0001

111800 00 0002

123430 00 0001

193000 00 0002

121100 00 0001 0000 270 0 000000 000000

(16)

Abstract of Corrections

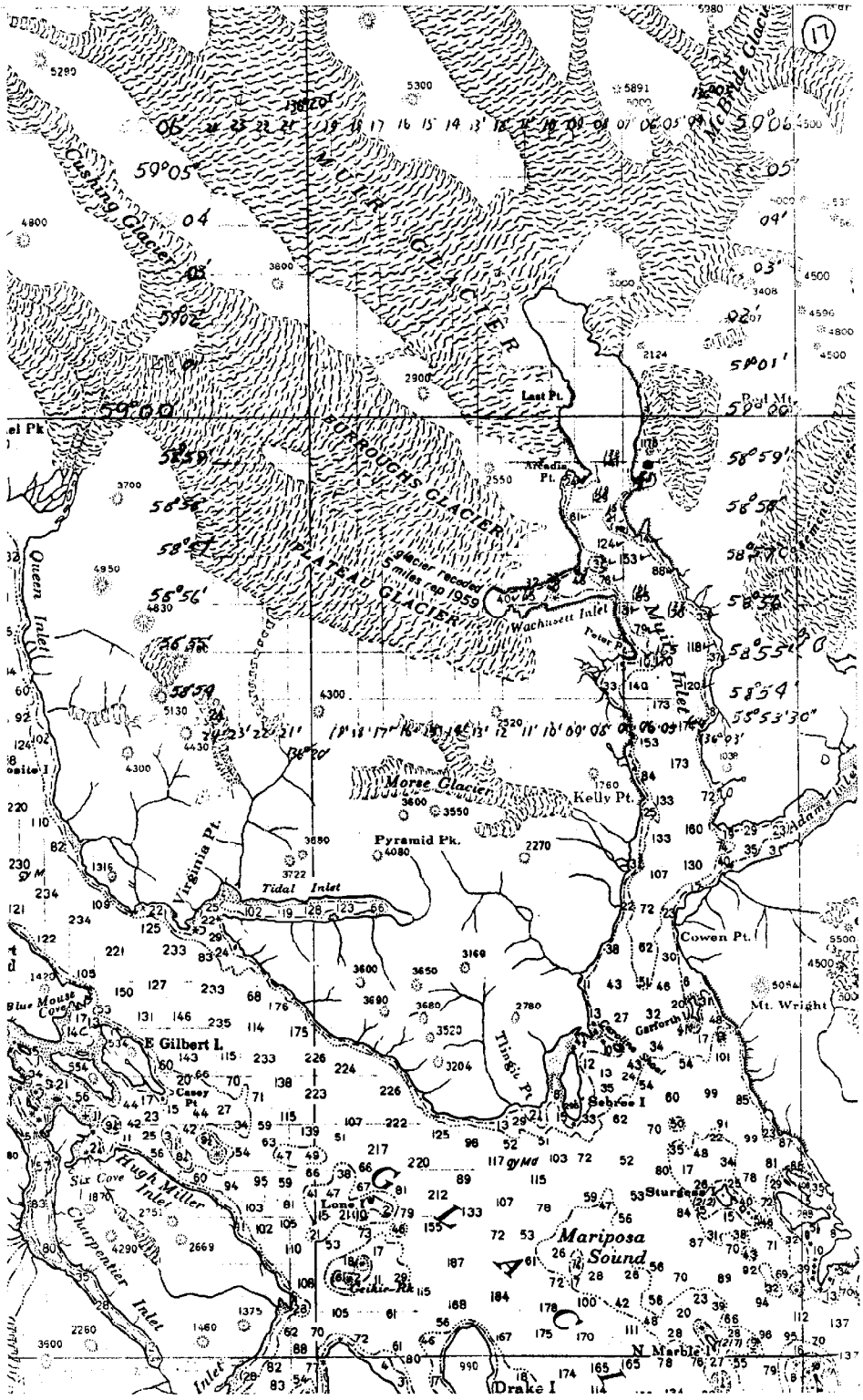
H-9317 (1972)

to Echo Soundings (MA-20-3-72)

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)		
	Cast #6	Cast #7	Cast #8
2	-.02	-.02	.00
7	-.05	-.05	.00
12	-.07	-.07	-.01
17	-.08	-.10	-.02
22	-.08	-.12	-.03
27	-.09	-.14	-.04
32	-.09	-.16	-.04
37	-.08	-.18	-.04
42	-.08	-.20	-.03
47	-.10	-.22	-.01
52	-.12	-.23	.00
57	-.15	-.24	+.01
62	-.17	-.24	+.02
67	-.20	-.24	+.03
72	-.23	-.25	+.04
77	-.26	-.25	+.05
82	-.29	-.25	+.06
87	-.32	-.25	+.06
92	-.36	-.25	+.06
97		-.25	+.06
100		-.26	+.06
120			+.02
140			-.04
160			-.08
180			-.13

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


17
Cushing Glacier
LOWER CURTIS GLACIER
McBride Glacier
59°06'
59°05'
59°04'
59°03'
59°02'
59°01'
59°00'
BOROUGHS GLACIER
PLATEAU GLACIER
5 miles ago 1959
glacier receded
Last Pt.
Arcadia Pt.
Wachusett Inlet
Queen Inlet
Morse Glacier
Kelly Pt.
Pyramid Pk.
Virginia Pt.
Tidal Inlet
Cowen Pt.
Mt. Wright
E Gilbert I.
Casey Pt.
Blue Mouse Cove
Hugh Miller Inlet
Six Cove
Carpenter Inlet
Tlingit Pt.
Sebree I
Sturgess
Mariposa Sound
N Marble I
Drake I
58°59'
58°58'
58°57'
58°56'
58°55'
58°54'
55°53'30"

List of Signals

(MA-20-3-72)

I: Intersection

R: Resection

Name Used in Hydrographic Survey	Number	Latitude	Longitude	Origin
	002	58°56'30.991"	136°09'36.455"	T-2 (R)
COOL	004	58°56'16.173"	136°10'49.873"	COOL, 1972
	006	58°56'09.634"	136°11'55.365"	Sextant (R)
	008	58°56'02.318"	136°12'54.045"	T-2 (I)
	010	58°56'08.786"	136°13'51.185"	T-2 (I)
	012	58°56'25.641"	136°15'08.352"	T-2 (I)
	014	58°56'49.646"	136°17'20.508"	T-2 (I)
	016	58°56'44.312"	136°18'34.650"	T-2 (I)
	018	58°56'53.226"	136°20'22.349"	T-2 (I)
ELIZABETH	020	58°57'14.870"	136°21'17.260"	ELIZABETH,1972
	022	58°58'02.058"	136°22'24.682"	Sextant (R)
PLATH	024	58°58'23.981"	136°22'59.523"	PLATH, 1972
	026	58°58'47.951"	136°23'25.976"	Sextant (R)
SKIP	052	58°56'08.324"	136°07'26.919"	SKIP, 1970
	054	58°55'58.014"	136°08'53.883"	T-2 (I)
	056	58°55'54.912"	136°10'19.443"	T-2 (I)
	058	58°55'51.941"	136°11'42.300"	T-2 (I)
	060	58°55'04.775"	136°13'41.650"	T-2 (I)
	062	58°55'22.120"	136°15'55.077"	T-2 (I)
BLUNOSE	064	58°55'51.769"	136°18'13.413"	BLUNOSE, 1972
	066	58°55'59.723"	136°19'29.228"	T-2 (I)
	068	58°56'17.358"	136°20'36.989"	T-2 (I)
	071	58°56'39.636"	136°21'54.738"	T-2 (I)
	072	58°57'16.180"	136°23'06.064"	T-2 (I)
	074	58°57'50.490"	136°23'51.172"	T-2 (I)
	076	58°58'33.428"	136°24'31.554"	T-2 (I)
DENSON	126	58°53'08.705"	136°06'44.858"	DENSON, 1939
PLATEAU	128	58°54'53.426"	136°06'31.460"	PLATEAU, 1939
NOIR	130	58°57'06.745"	136°08'50.435"	NOIR, 1940
LAST	132	58°58'45.309"	136°08'23.956"	LAST, 1940
	134	59°00'23.039"	136°09'07.298"	Sextant (R)
BRID	136	59°01'18.853"	136°10'09.494"	BRID, 1972
	138	59°02'16.554"	136°11'11.616"	Sextant (R)
THUNDER	140	59°03'26.650"	136°12'50.670"	THUNDER, 1972
JANE	142	59°03'07.877"	136°16'00.368"	JANE, 1972
	144	59°03'06.949"	136°17'21.088"	T-2 (I)
	146	59°03'20.722"	136°18'35.401"	T-2 (I)
	154	58°54'14.232"	136°03'33.280"	Sextant (R)
	156	58°55'27.826"	136°03"30.380"	Sextant (R)

Name Used in Hydrographic Survey	Number	Latitude	Longitude	Origin
	158	58°56'31.822"	136°04'50.164"	Sextant (R)
MUIR	160	58°57'35.762"	136°07'15.092"	MUIR, 1940
	161	58°58'01.712"	136°07'06.506"	Sextant (R)
	162	58°59'00.050"	136°06'39.527"	Sextant (R)
FRED	164	59°00'22.946"	136°06'29.394"	FRED (USGS)
DOC	166	59°01'16.345"	136°08'02.809"	DOC, 1970
	168	59°02'18.811"	136°09'03.954"	Sextant (I)
ALFRED	170	59°02'41.888"	136°10'03.077"	ALFRED, 1972
BAGO	172	59°03'30.107"	136°10'39.760"	BAGO, 1972
DOLORES	174	59°04'16.244"	136°11'19.074"	DOLORES, 1972
WARM	176	59°04'10.152"	136°13'55.146	WARM, 1972
WINNE	178	59°04'01.559"	136°16'21.236"	WINNE, 1972
Morse	124	58 51' 51.131"	136° 06' 16.099"	Morse, 1939
WestDahl	152	58° 52' 38.621"	136° 03' 53.061"	WestDahl, 1939

(20)

GEOGRAPHIC NAMES LIST

~~ARCADIA POINT~~ ← Westdahl Point

CURTIS HILLS ✓

FOREST CREEK ✓

GLACIER BAY NATIONAL MONUMENT ✓

GOOSE COVE ✓

HUNTER COVE ✓

~~LAST POINT~~ ← Wolf Point

MUIR INLET ✓

NUNATAK COVE ✓

~~PERTHER POINT~~ ← Point McLeod

ROWLEE POINT ✓

SEALERS ISLAND ✓

STUMP COVE ✓

THE NUNATAK ✓

WACHUSETT INLET ✓

see next page for correct geographic names.

Westdahl Point

A geographic Name location discrepancy was found to exist between Chart 8202 17th Edition, Sept. 11, 1971 and Shoreline Manuscript T-12738. Chart 8202 shows ~~ARCADIA POINT~~ at Lat. 58°58'50" Long. 136°08'35" and ~~LAST POINT~~ at Lat. 59°10'00" Long. 136°09'05". T-12738 Manuscript shows Geographic Name ~~LAST POINT~~ at Lat. 58°58'50" Long. 136°08'35". Geographic Name location from the chart, 8202, 17th Edition, Sept. 11, 1971 was transferred to the Smooth Sheet in pencil.

Wolf Point

NOAA FORM 76-155
(11-72)

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

SURVEY NUMBER

H-9317

(21)

GEOGRAPHIC NAMES

Name on Survey	A ON CHART NO.	B ON PREVIOUS SURVEY NO.	C ON U.S. QUADRANGLE MAPS	D FROM LOCAL INFORMATION	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H U.S. LIGHT LIST	K	
CURTIS HILLS										1
FOREST CREEK										2
GLACIER BAY NAT'L MONUMENT										3
GOOSE COVE										4
HUNTER COVE										5
MUIR INLET										6
NUNATAK COVE										7
POINT MCLEOD										8
ROWLEE POINT										9
SEALERS ISLAND										10
STUMP COVE										11
THE NUNATAK										12
WACHUSETT INLET										13
WESTDAHL POINT										14
WHITE THUNDER RIDGE										15
										16
										17
										18
										19
										20
										21
										22
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										24
										25

PREPARED BY CARTOGRAPHER

Chas. E. Harrington

STAFF GEOGRAPHER (ACTING)

8-13-73

NOAA FORM 76-155 SUPERSEDES C&GS 197

☆ U.S. G.P.O. 1972-769-565/516 REG.#6

NOAA FORM 77-27
(9-72)
(PRESC. BY HYDROGRAPHIC MANUAL 20-2, 6-94, 7-13)

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

HYDROGRAPHIC SURVEY STATISTICS

HYDROGRAPHIC SURVEY NO. H-9317

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	BOAT SHEETS	4
DESCRIPTIVE REPORT	1	OVERLAYS	3

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
Records			2			
Envelopes	26					
VOLUMES	* 19					
Bundles - Raw Printouts			1			

T-SHEET PRINTS *(List)*

T-12738, T-12748 & T-12749 Preliminary

SPECIAL REPORTS *(List)*

* 2-Vols. Combined with H-9318

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				
POSITIONS CHECKED		3360	24	
POSITIONS REVISED		10	-	
DEPTH SOUNDINGS REVISED		100	4	
DEPTH SOUNDINGS ERRONEOUSLY SPACED		5	4	
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		0	-	
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		32	-	
JUNCTIONS		8	8	
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		104	20	
SPECIAL ADJUSTMENTS		0	-	
ALL OTHER WORK		224	82	
TOTALS		368	110	

PRE-VERIFICATION BY	BEGINNING DATE	ENDING DATE
VERIFICATION BY James L Stringham	BEGINNING DATE 1-29-73	ENDING DATE 5-25-73
REVIEW BY Dennis J. Romesburg	BEGINNING DATE 11-7-73	ENDING DATE 11-30-73

Insp. RH Carstens 17405 1/15/74

* U.S. G.P.O. 1972-769-562/439 REG.#6

(53)

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

Cornelius A. J. Pauw
Supervisory Cartographic Tech.

Approved and forwarded,

Walter F. Forster

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

OFFICE OF MARINE SURVEYS AND MAPS

MARINE CHART DIVISION

HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-9317 FIELD NO. MA-20-3-72

AREA: Alaska, Glacier Bay, Upper Portion of Muir Inlet

SURVEYED: August 31 - September 23, 1972

SCALE: 1:20,000 PROJECT NO: OPR-460

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

Chief of Party..... G. M. Poor
Surveyed By..... F. L. Jeffries
..... R. J. DeVivo
..... S. D. Whitaker
..... C. B. Lawrence
..... S. R. Birkey
Protracted By..... Gerber Digital Plotter PMC
Soundings Plotted By..... Gerber Digital Plotter PMC
Verified and Inked By..... J. L. Stringham
Reviewed By..... D. J. Romesburg
..... Date: November 30, 1973
Inspected By..... R. H. Carstens

1. Description of the Area

This survey covers Wachusett Inlet and the upper portion of Muir Inlet north of Lat. 58°53.7' in Glacier Bay, Alaska.

Both Muir Inlet and Wachusett Inlet are fiords. Survey soundings drop sharply from near the precipitous shore to a flat, almost featureless, mud covered bottom with maximum depths over 165 fathoms. Terminal moraines are found across Muir Inlet at various locations. The moraines were deposited by the receding glacier found at the head of the inlets and are delineated by the 100-fathom curve.

2. Control and Shoreline

The origin of the control is adequately described in the Descriptive Report. Available contemporary shoreline covers only a portion of the area and is penciled on the smooth sheet pending preparation of Class I manuscripts. It originates with Class III Shoreline Manuscripts T-12738, T-12748, and T-12749 of 1970-71.

3. Hydrography

A. Depths at crossings are in good agreement.

B. The usual depth curves in general were adequately delineated. However, in a few areas near the precipitous shores, curves were not completely developed.

C. The development of the bottom configuration is considered adequate except on several shoals which were not fully developed for least depths. Soundings from H-6576 (1940) were used to supplement present depths in these areas.

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 fathogram for h-day (270), Launch AR-2, positions 3175 through 3185 was filed as part of the fathogram on junctional survey H-9318 (1972). The reviewer removed this section of the fathogram from H-9318 (1972) and added it to the present survey records.

B. Tabulated correctors for the TC/TI tape and the tide tape were not appended to the Descriptive Report. Final TC/TI correctors were added to the Descriptive Report by the Reviewer. The extensive tide corrector printout is applicable to the present survey and to H-9318 (1972) and is filed with the records of H-9318 (1972).

C. Control stations outside the high water line were not described as specified in Section 5-10 of the Hydrographic Manual.

D. No approval sheet, as specified in Section 7-11 of the Hydrographic Manual, was found in the Descriptive Report.

E. Comment in the Descriptive Report regarding the apparent major sedimentation in Nunatak Cove would have been desirable.

5. Junctions

An adequate junction was effected with H-9318 (1972) on the south.

6. Comparison with Prior Surveys

H-6576 (1:20,000) 1940

This prior survey affords the earliest coverage of Muir Inlet and Wachusetts Inlet. Because of the receding glaciers located in both inlets, the present survey covers areas that have never been surveyed. Within the area of common coverage, a comparison between the prior and present survey reveals differences from 2 to 10 fathoms with the shoaler soundings recorded on the present survey. Minor differences are usually found in the lesser depths with the maximum discrepancies occurring in the greater depths.

Several factors are believed to contribute to these differences. One conjecture is that the differences are the result of natural changes such as the deposition of sediments in the inlets by stream runoff from the glaciers on the surrounding mountains and by drifting ice from the glaciers at the head of the inlets. In support of this postulation, Nunatak Cove appears to have filled with glacial wash deposits. Earlier depths as great as 7 fathoms were recorded in this area. Two lines of hydrography on the present survey attempted but could not enter Nunatak Cove at MLLW because the existing shoal area is just inside the entrance to the cove.

Another contributor to the sounding descrepancies is thought to be the emergence of the land in this area, from either earthquake activity or glacial melting, thereby resulting in the shoaler depths recorded today. This observation is strengthened as most prior soundings on various shoals are deeper and prior rock elevations less by several feet than indicated on the present survey. Several soundings, however, have been carried forward from H-6576 (1940) to supplement the present hydrography and to indicate least depths on shoals.

With the addition of the above soundings 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 Bp. 79091, an Alaskan Pilot Service, Inc. plot of soundings acquired on veyages into the present survey area and by Bp's. 84947-50, copies of the boatsheet of the present survey.

Attention is directed to the 10¼-fathom sounding charted in Lat. 58°54.7', Long. 136°06.3' which originates with Bp. 79071 an Alaskan Pilot Service, Inc. trackline plot with associated soundings. Falling in present depths of about 40 fathoms the 10¼ is considered disproved and should be disregarded. It is recommended that this sounding be removed from the chart.

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 project instructions.

9. Additional Field Work

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

Examined and Approved:

Chief,
Marine Chart Division

for Associate Director,
Office of Marine Surveys and Maps

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Information for Future Presurvey Reviews

This corridor survey covers Muir Inlet and Wachusett Inlet in Glacier Bay, Alaska. Significant changes in these inlets are the new areas made available for surveying by the retreating glaciers. In the natural channels sedimentation of as much as 10-12 fathoms was revealed in the deeper areas.

Position Index (Lat.)	(Long)	Bottom Change Index	Use Index	Resurvey Cycle
585	1362	4	0	50 yr.
585	1361	4	0	50 yr.
590	1362	4	0	50 yr.
590	1361	4	0	50 yr.

Reg. No. H-9317

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-8352
(3-25-63)

NAUTICAL CHART DIVISION

(3)

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-9317

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
5202	6/3/75	C.S. Forbes	Full ~~Part Before After~~ Verification Review Inspection Signed Via
			Drawing No. Revised hydro throughout area
8402			
	3/ /76	W. Hartman	~~Full Part Before After Verification Review~~ Inspection ~~Signed Via~~
			Drawing No. Exam No Correction NO HYDRO SHOWN IN AREA
17318	2/10/79	James Graham	Full ~~Part Before~~ (After) ~~Verification Review~~ (Inspection) Signed Via
17319SC			Drawing No. #1 #1M Fully & add hydro after final inspection to new chart.
			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.
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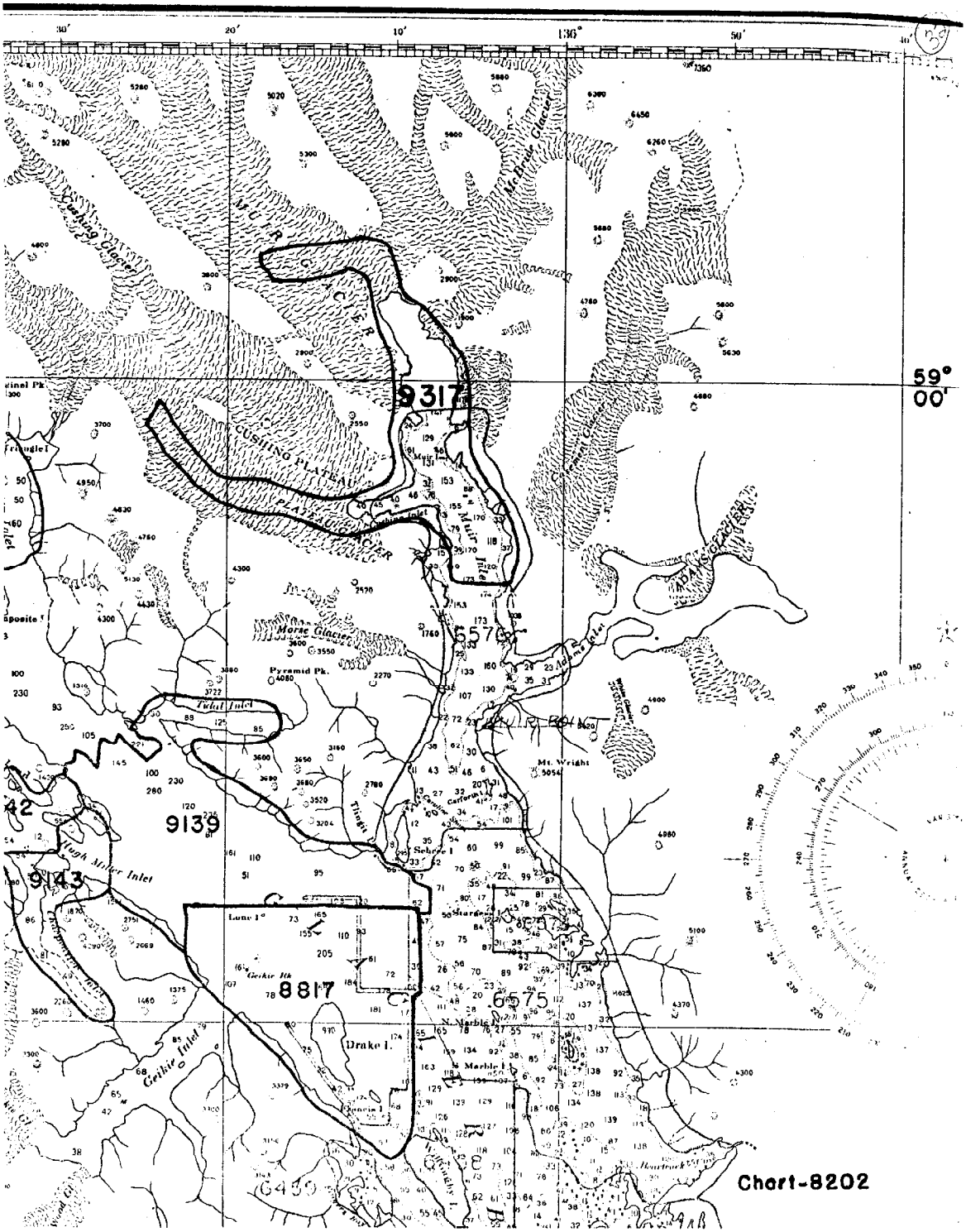
			Drawing No.


30'
20'
10'
136°
50'
40'
59°
00'
9317
9139
9143
8817
6570
6575
6450
Muir Glacier
Morse Glacier
Pyramid Pk.
Tidal Inlet
Hugh Miller Inlet
Drake I.
Adams Inlet
Ms. Wright
Chart-8202