

9848

Diagram No. 8202-3

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey .. Hydrographic ..
Field No. DA-20-2-79 ..
Office No. H-9848 ..

LOCALITY

State Alaska ..
General Locality .. Glacier Bay ..
Locality Point Carolus to Young Island ..

1979-80

CHIEF OF PARTY
CDR C.W. Hayes, CDR N. Austin

LIBRARY & ARCHIVES

DATE March 30, 1982 ..

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HYDROGRAPHIC TITLE SHEET

H-9848

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.

DA-20-2-79

State Alaska

General locality Glacier Bay

Locality Point Carolus to Young Island

Scale 1:20,000

Date of survey Aug. 2³ - Sept. 20, 1979

Instructions dated July 25, 1979

Project No. OPR-0135-DA-79

Vessel NOAA Ship DAVIDSON, Launch 3131, Launch 3132

Chief of party Cdr. C. William Hayes, Comdg.

C. W. Hayes, A. N. Bodnar, B. Mezger, L. Haas, E. McDougal,

Surveyed by T. Peasley and Ship's personnel

Soundings taken by echo sounder, ~~and depth pole~~ Ross Fineline, Model 5000

Graphic record scaled by N/A

Graphic record checked by Ship's personnel

Soundings Verification

~~Reviewed~~ by Russ Davies

Automated plot by PMC Xynetics Plotter

Position

Verification by Russ Davies

Soundings in fathoms ^{and tenths} ~~feet~~ at MKW MLLW

REMARKS: Survey Time Zone: GMT

Survey is complete.

notes in red added during Q.C.

ANOS/SURF 2/28/86 AAA

136°20'

136°00'

PROGRESS SKETCH OPR-0135-DA-79 GLACIER BAY, ALASKA

CHART 17300
SCALE 1:279,978

NOAA SHIP DAVIDSON (S331)
CDR. C. WILLIAM HAYES, Comdg.

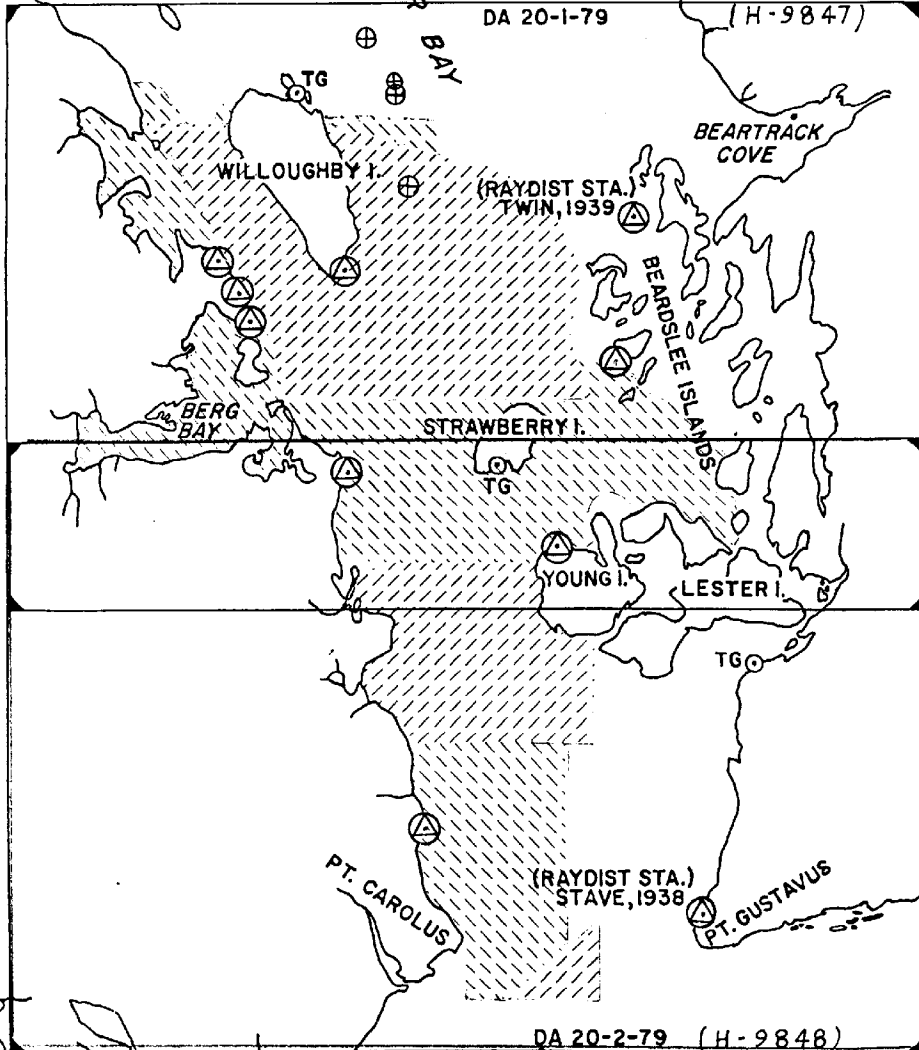
58°40'

DRAKE I.

GLACIER BAY

DA 20-1-79

(H-9847)



DA 20-2-79 (H-9848)

GUSTAVUS
ICY PASSAGE
PLEASANT I.
58°20'

DUNDAS BAY
PT. DUNDAS

AUG.	SEPT.	STATISTICS:
266	540	L. N. M. SOUNDING LINE
28	32	SQ. N. M. SOUNDING
31	5	TRIANGULATION STA. RECOVERED
1	3	TRIANGULATION STA. ESTABLISHED
3	1	TIDE GAGE
0	53	BOTTOM SAMPLES
0/1	0/3	MARTEK/SALINITY CAST
10/5	0	BENCH MARKS RECOVERED/ESTAB.

PT. ADOLPHUS

DESCRIPTIVE REPORT
TO ACCOMPANY
BASIC HYDROGRAPHIC SURVEY
H-9848 (DA-20-2-79)

SCALE	1:20,000
YEAR	1979
VESSEL	NOAA Ship DAVIDSON
CHIEF OF PARTY	C. WILLIAM HAYES CDR., NOAA

A. PROJECT

Survey DA-20-2-79 (H-9848) was accomplished in accordance with Project Instructions OPR-0135-DA-79, Glacier Bay, Alaska, dated 25 July 1979, and Change No. 1, dated 8 August 1979.

B. AREA SURVEYED

The area surveyed for this sheet was in the southern end of Glacier Bay from Young Island to Pt. Carolus. The survey was bounded on the south by latitude $58^{\circ} 21.8' N$, on the west by longitude $136^{\circ} 02.0' W$ and the western shore of Glacier Bay, on the north by latitude $58^{\circ} 29.3' N$, and on the east by the west shoreline of Young Island and longitude $135^{\circ} 59.0' W$. The survey junctioned with contemporary survey DA-20-1-79 (H-9847) on the north and ^{earlier} prior surveys LJ-10-1-64 (H-8815) and LJ-20-1-64 (H-8816) on the east. The survey began on 23 August 1979 (JD 235) and was completed on 20 September 1979 (JD 263).

C. SOUNDING VESSELS

The DAVIDSON (3130) and DAVIDSON launches DA-1 (3131) and DA-2 (3132) were used as sounding platforms for this survey. The DAVIDSON used black, DA-1 used red, and DA-2 used blue color inks to characterize all raw data recording and preliminary computer plots.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

The DAVIDSON and DAVIDSON launches DA-1 and DA-2 utilized Ross Fineline Fathometers, Model 5000, in the collection of soundings for all depths in the survey to 48 fathoms. Serial numbers for sounding equipment were as follows:

<u>Vessel</u>	<u>Fathometer</u>	<u>Digitizer</u>	<u>Tranceiver</u>
Ship (3130)	1080	1048	1081
DA-1 (3131)	1048	1081	1036
DA-2 (3132)	1077	1077	1077

Phase calibrations from zero to 50 fathoms, at 10 fathom intervals, were conducted when fathometer paper was renewed. All fathograms were scanned and compared to digitized depths. Additions (peaks and deeps) and corrections were either edited into the master data tape or included on a separate corrector tape.

Soundings were corrected for transducer depth and predicted tides. Leadline comparisons in April and November of 1978 for the ship showed the TRA to be the same as hull draft readings. TRA for the ship was determined to be 2.0 fathoms for the one day that the ship was utilized. TRA for both launches was determined to be 0.3 fathom as determined from daily bar checks when possible. Settlement/squat correctors (less than 0.1 fm) were not applied to the launches as they were considered negligible in conjunction with the fathom sounding unit. Tide

Stations that were established for this survey included the following:

009	CALIBRATION 1	Static Calibration (CAL1)
010	TP1	Sig
011	SHIPWRECK 1979	Sig

LEGEND

Ray Raydist Shore Station
Sig Calibration Signal

The appended copy of the signal list gives positions for all of these stations and the remainder of the stations in the project. The frequency for the Raydist system (signals 001, 002) in the signal list was that used for DA-1 in the project. The frequencies for DA-2 and the ship were slightly different. (Refer to Section G. Hydrographic Position Control) All plotting on the final field sheet was accomplished with a separate signal tape that reflected the frequency of each vessel. These signal tapes are provided for future plotting. Three stations on the signal tape, EVER 1939, EVER 1939 RM 2, CALIBRATION 1, have positions that are not identical to those positions on NOAA Form 76-45, FIELD GEOGRAPHIC POSITIONS. The differences were the result of adjustments after the signal list and signal tape were finalized. The differences are small (less than 0.2 meter) and negligible for the purpose of hydrographic position control at scale 1:20,000. If future change to the signal list or signal tape is desired to correct these positions, the positions on NOAA Form 76-45 take precedence over those that appear on the signal list.

Computations for new positions were based on the 1927 North American Datum. Numerous checks analyzed in the computations indicated that the existing control was sound and that established new control was free of blunders. Detail on the computations for each new station and for positioned reference marks can be found in the Horizontal Control Report that is appended.

G. HYDROGRAPHIC POSITION CONTROL

Hydrography for this survey was controlled with a Hastings Raydist DR-S medium range electronic navigation system operated in the range-range mode. Shore stations for the Raydist system were operated from two recovered control stations for the duration of the project. The left station (red, Pattern I, transmitter S/N 234) was installed on station TWIN 1939 and the right station (green, Pattern II, transmitter S/N 15) was installed on station STAVE 1938. Each station included a 35 ft. whip antenna and a 50 ft. radius ground plane. Each was powered by either 4 or 6 twelve volt lead-acid storage batteries. Batteries were changed every three to five days depending upon performance of the system.

The Raydist receiving equipment on the ship and launches included by serial number the following:

correctors were computed from Juneau, Alaska, corrected for Glacier Bay through preliminary zoning provided by Tides and Water Levels Division, OA/C23. Corrections were computed at 0.2 fathom intervals and were applied to real time soundings and soundings plotted through the final field sheet. Tide gages were installed at Bartlett Cove, Strawberry Island, and Willoughby Island to record actual tides for future corrections to soundings.

Velocity corrections were determined from two Nansen casts taken on 25 August and 19 September. Soundings were not corrected for velocity on the final field sheet but should be applied to future plotting of the soundings on the final sheet.

For more information concerning corrections to soundings refer to the Corrections to Echo Sounders Report and Field Tide Report in the appendix.

E. HYDROGRAPHIC SHEETS

The field sheets for this survey were prepared with the Hydroplot system aboard the DAVIDSON. A PDP 8/e computer and Complot DP3 plotter were used for computations and plotting. The field sheet was divided into A and B sections and referred to as DA-20-2A-79 and DA-20-2B-79. No irregularities or difficulties were encountered in the plotting of the field sheets. Copies of printouts of the parameter tapes for field sheets can be found in the appendix.

F. CONTROL STATIONS

Thirty-seven existing second and third-order triangulation stations were recovered for hydrographic control of this project. Four monumented and two temporary stations were established with third-order methods. A number of the reference marks of recovered stations were positioned for hydrographic control to avoid blocked line of sight by trees and brush.

For this survey two stations, TWIN 1939 (001) and STAVE 1938 (002), were used for the Raydist shore stations. Numerous other recovered stations and/or their reference marks were used for signals to calibrate the Raydist electronic control system as given in the following table:

<u>Station Number</u>	<u>Station Name</u>	<u>Purpose</u>
001	TWIN 1939	Ray
002	STAVE 1938	Ray, Sig
004	STRAW 1938	Sig
005	MORE 1938	Sig
006	TELL 1938	Sig
007	TOWN 1938 RM 1	Sig
008	STAVE 1938 RM 1	Sig
012	SIRE 1938	Sig
023	BERRY 1938	Sig
029	STRAW 1938 RM 1	Sig

<u>Equipment</u>	<u>DA-1</u>	<u>DA-2</u>	<u>SHIP</u>
Transmitter	34	171	20
Navigator	47	26	54
Strip Chart	16	14	15
Panallogic Interface	14	33	04
Frequency (Signal List)	3306.520	3306.465	3306.400

The Raydist system was calibrated at least twice daily by standard sextant fix or by static calibration. Whole lane counts were slewed to within one lane of the known value and the partial lane count correctors were determined and applied to the observed patterns. The static calibration site, CALIBRATION 1, was constructed on the side of a steep rock bluff near station STAR 1938. The launches would maneuver the antenna near the site and adjust the whole lane count to match the known lane count values of the positioned spot. Observed partial lane counts were then compared with the known partial lane values of the positioned spot and a partial corrector was determined. In both methods the partial correctors from morning and afternoon were meaned to give daily correctors for smooth plotting. In those cases where more than two calibrations were made in the day, the correctors from successive calibrations were meaned and applied to the hydrography between the successive calibrations. Whole lane jump corrections were applied to the data if the calibrations indicated the jump and if the time of the lane jumps could be positively identified on the strip chart recorder.

The Raydist system performed satisfactorily for the duration of the project, but there were difficulties encountered with it on DA-20-2-79. On JD 235, the only day of ship hydro, the red station was continually captured by the green station as the ship approached the green station. The system was recalibrated after each capture. On JD 241 launch DA-2 encountered a lane jump on the signal from the red station. The jump was caused by a weakened signal that was a result of blocked line of sight to the shore station from the launch's position on the southwest side of Young Island. On JD 242 the transmitter on DA-2 malfunctioned and caused numerous lane jumps. The jumps were verified by calibration. A major portion of the data was retrieved by identification of the lane jumps on the strip chart recorder. The faulty equipment was repaired. On JD 262 DA-1 encountered difficulty with the signal from the red shore station to cause numerous lane jumps. The cause of the jumps was either capture of the red signal from the nearby green station, or interference from launch DA-2 that was also using Raydist control between DA-1 and the red shore station, or a combination of both. The lane jumps were verified by calibration and located on the strip chart. Some of the data was rejected. Toward the end of JD 262 the Hazlow Panallogic on DA-1 began to lose track from the mechanical counter. The digital display was resynchronized during a calibration, but the Panallogic completely failed after a shoreline to end the day for the launch. No data was lost from the faulty Panallogic

before the failure. For more detail on the performance of the Raydist system refer to the Electronic Control Report in the appendix.

H. SHORELINE

Shoreline for this survey was derived from stable base copies of ~~Class II and Class III~~ manuscripts 12642; ~~12643, 12644, 12796,~~ 12799, 12800, 12801 at 1:10,000 scale reduced to 1:20,000. No field edit was accomplished during the survey as no photo-hydro support was available.

See verification Report

I. CROSSLINES

Crosslines comprised 13.3 per cent of the hydrography for this survey. Crosslines were in excellent agreement with mainscheme soundings as they compared to within 1 fathom of mainscheme soundings throughout the field sheet.

//

J. JUNCTIONS

This survey junctioned on the east with 1964 ^{earlier} ~~prior~~ surveys H-8815 (1:10,000) and H-8816 (1:20,000) by the vessel Lester Jones and on the north with 1:20,000 scale contemporary survey DA-20-1-79, H-9847. Both the prior surveys and contemporary survey compared to within 1 fathom of soundings of this survey at junctions.

//

K. COMPARISON WITH PRIOR SURVEYS

No numbered presurvey review items were required for this survey. Detail on developments of charted depths required by presurvey review can be found in Section L. Comparison with the Chart.

Representative soundings from four prior surveys were compared to soundings of this survey on the preliminary survey overlays. Prior surveys of 1964, H-8815 (1:10,000) and H-8816 (1:20,000) were junction surveys to the east of the survey and were discussed in Section J. Junctions. Soundings from the other two surveys of 1938 at 1:20,000 scale, H-6339 and H-6340, agreed well to within 1 to 2 fathoms of this survey. A general trend was noticed in the 1 to 2 fathom difference in that 1938 soundings were generally deeper. The same trend was not noticed in the 1964 prior surveys.

See verification Report

Though the unapplied velocity correctors of this survey might account for a portion of the noticed deeper trend, it is suspected that the entire area of the survey has uplifted. In all areas of the survey a substantial new growth of brush and small trees was noticed in the immediate vicinity of the high water line. Many triangulation stations that were once described to be clear of brush and open to line of sight are now surrounded by heavy brush. Comparison of other shoreline features described

in triangulation station descriptions with present features indicates that the high water line is advancing slowly toward the water. Triangulation stations that were most noticeable of this effect included POOR 1938, BART 1938, STAVE 1938, and TOWN 1938. The most probable reason for the advance is a general uplift of the area.

No specific comparisons were made with ^{unverified} prior survey FA-20-3-73_A as it was rejected at an earlier date. (Refer to appended letter from OA/CPM to C3) A 5.0 fathom shoal from the rejected survey, recommended for charting in the same appended letter at 58° 28' 48.72" N, 136° 00' 44.31" W was not found in this survey. Based on bottom configuration from inspection of the fathograms, it is highly unlikely that this shoal exists. A close inspection and comparison of the rejected survey's fathograms will be required to determine if the shoal is valid. ~~fathograms missing. Retain as charted.~~ (B2107382)

L. COMPARISON WITH THE CHART

The results of this survey were compared to Chart 17300, 21st Edition, March 17, 1979, scale 1:209,978. The limited detail from the small scale of the chart restricted extensive comparisons with this survey. Charted soundings agreed to within 2 fathoms of soundings in this survey.

Least depths were obtained on shoals for comparison to the chart and as directed by presurvey review. Developments were plotted at a larger scale when it was required to analyze congested soundings. Not all of the development soundings were plotted on the final field sheet, but the least depths from the larger scale plots were transferred to the final field sheet if they were not already plotted. The following table summarizes the least depths obtained on pertinent shoals including those required by presurvey review.

<u>Position</u>	<u>Charted Depth</u> (fm)	<u>Least Depth</u> (fm)	<u>Remarks</u>
58° 28' 58" N 136° 00' 43" W	4 3/4 [4 1/2 from H-6457(1939)]	5 4.4	Inset 1, Revise Chart concur ✓
58° 29' 02" N 136° 00' 55" W	5 [5 1/2 from H-6457(1939)]	6.7 (not plotted) 7.9	Inset 1, Retain Charted Sounding concur ✓
58° 28' 07" N 136° 01' 24" W	9 [9 1/2 from H-6340(1938)]	9.0 8.9	PSR, Inset 1, Revise Chart concur ✓
58° 29' 01" N 136° 04' 37" W	7 [7 1/2 from H-6340(1938)]	4 6.3	PSR, Inset 2, Revise Chart concur ✓
58° 28' 11" N 136° 03' 14" W	3 1/2 from CL-609/73-McARTHUR Shoal Invest.	3.6 3.4	Inset 2, Detached Position 4853, Revise Chart concur ✓
58° 26' 54" N 136° 03' 50" W	4 1/2 [4 1/2 from H-6339(1938)]	9 3.8	PSR, Inset 3, Detached Positions 4863, 4866, 4609 Revise Chart concur ✓

(table continues)

See
reprints
report

58° 26' ¹⁴ 54 " N	8	8.4	PSR, Inset 3, Detached ✓
136° 03' 00" W	[⁸³ 4 from H-6339 (1938)]		Position 4890, Revise Chart concur
58° 22' ¹³ 13 " N	3½	3.0 2.3 2.7	PSR, Inset 4, Detached ✓
136° 01' 21" W	[³² 2 from H-6339 (1938)]		Position ⁴¹⁵⁵ 5160 , Reported ✓ to Coast Guard by appended letter, Revise Chart concur

As noted in the above table, a shoal was reported to the Coast Guard by priority message on 24 September 1979. A copy of this message can be found in the appendix. ✓

Bottom samples were taken over the entire area of the survey. ✓
Three of the samples were identical to the three separate bottom characteristics that are plotted on the chart within the limits of this survey.

M. ADEQUACY

This survey is considered complete and adequate to supercede all prior surveys in the area. No additional field work is deemed necessary. ✓

N. AIDS TO NAVIGATION

Only one floating aid to navigation, a black can #1, was positioned (Detached Position 4847, JD 261) in this survey. ✓
No fixed aids exist in the area of the survey. No additional aids are recommended.

O. STATISTICS

Number of Positions (soundings)	1321
Nautical Miles Sounding Lines (total)	297
Nautical Miles Crosslines	35
Square Nautical Miles	27
Bottom Samples	11
Nansen Casts	2
Tide Gages	3

P. MISCELLANEOUS

An additional shoal 2.0 miles southeast of Pt. Carolus was developed upon the verbal request of Captain E.W. Richards (Ret.), President, Southeastern Alaska Pilot's Association. The charted depth, 5½ fathoms, and position of the shoal were verified by a least depth of 5.85 fathoms at latitude 58° 20' 59" N, and longitude ^{136° 00' 02"}~~136° 00' 02"~~ W. The shoal lies outside the limits of the survey but within the limits of the boat sheet. It was plotted on Inset 4. Captain Richards was notified that the charted shoal was adequate.* Also see Supplement to D.R., p. 3

* *Area of coverage superseded by butt junction with adjoining survey H-10333 (1990)*

Q. RECOMMENDATIONS

The area that surrounds this survey area is a National Monument and is subject to many restrictions to preserve the wilderness. Planning for any future surveys in the area should be aware of these restrictions. The most notable restriction in this survey did not allow any brush clearing or tree cutting. Present restrictions that may hinder future surveys include a ban on the landing of helicopters throughout the monument and restrictions on motor vessels in close proximity to sighted whales. More new restrictions were being considered during the survey. Contact with the National Park Service in substantial advance of any future survey project in the area is recommended.

R. AUTOMATED DATA PROCESSING

The following programs were used on the PDP 8/e Hydroplot system for data collection and processing:

<u>Program</u>	<u>Name</u>	<u>Version</u>
RK-111	Range-Range Real Time Hydroplot	1/30/78
RK-201	Grid, Signal, Lattice Plot	4/18/75
RK-211	Range-Range Non Real Time Plot	1/15/76
RK-212	Visual Station Table Load	4/01/74
RK-300	Utility Computations	2/05/76
RK-330	Reformat and Data Check	5/04/76
RK-407	Geodetic Direct/Inverse	10/23/75
RK-409	Geodetic Utility Package	9/15/73
AM-500	Predicted Tide Generator	11/10/72
RK-530	Layer Corrections for Velocity	5/10/76
AM-602	Ellore	5/20/75

S. REFERENCES TO REPORTS

Horizontal Control Report	Electronic Control Report
Field Tide Report	Corrections to Echo Sounders Report
Coast Pilot Report	

Submitted By:

Bryan R. Mezger
Bryan R. Mezger
Lt., NOAA

Approved and forwarded by:

C. William Hayes
C. William Hayes
CDR., NOAA
Commanding Officer

SURVEY APPROVAL SHEET

H-9848
(DA-20-2-79)

- A. Amount and degree of personal supervision of field work and frequency of record and sheet inspection:

Direct, Daily

- B. State whether the survey is complete and adequate or if additional field work is recommended:

The survey is complete and adequate to supercede prior surveys. No additional field work is recommended.

- C. Cite additional information or references that may be of assistance for verifying and reviewing the survey:

Memo dated April 20, 1979, to DA/C3 from OA/CPM, Rejection of H-9406, identifies a 5.0 fathom least depth forwarded for charting. The validity of this sounding should be checked in the 1973 original records and fathograms.

- D. Signed statement of approval of the field sheet and all accompanying records:

DATE: 11/13/79

Approved and forwarded by:



C. William Hayes
CDR, NOAA
Commanding Officer

Pacific Marine Center
1801 Fairview Avenue East
Seattle, Washington 98102

DATE : April 20, 1979
TO : OA/C3 - Richard H. Houlder
FROM : OA/CPM - Eugene A. Taylor
SUBJECT: Recommend Rejection of Survey H-9406--
Glacier Bay, Alaska

NOAA Ship FAIRWEATHER conducted Hydrographic Survey H-9406 October 17-29, 1973, as a continuation of previous surveying by NOAA Ships JONES and McARTHUR, in Glacier Bay, Alaska. Since only the main channel has been developed on H-9406, it is recommended that this survey be rejected.

Additional reasons for rejection are:

1. Most inshore work and field edit (manuscripts are class III) remain to be accomplished.
2. The zero fathom curve has not been developed.
3. Numerous holidays exist and if additional work is performed, in lieu of a complete resurvey, junctioning could be a problem due to the fact that H-9406 uses three tide zones and gages.
4. Prior surveys H-6339, H-6340, and H-6458 of 1938, have extensive coverage inshore and over shoal areas. H-9406 does not presently have sufficient development to supersede these prior surveys.
5. Sounding lines have been run parallel to the coastline.

A 5.0-fathom shoal at latitude $58^{\circ}28'48.72''$ N, longitude $136^{\circ}09'44.31''$ W was identified by FAIRWEATHER personnel on H-9406. The depth has been reduced by approved tides. It is recommended that this shoal information be forwarded to Marine Chart Division for application to the next edition of Chart 17500.



Date : 23 October 1979

Reply to Attn. of:

To : OA/CPM - E.A. Taylor

From : OA/CPM 331 - Commanding Officer
NOAA Ship DAVIDSON

Subject: Alaska Survey Requirements

Glacier Bay: The National Park Service Superintendent at Glacier Bay National Monument has diplomatically expressed in the attached letter, the Park Service's desires for charting in the bay. They do not want any more detail in the Beardslee Islands and in fact would like a chart note to discourage power boats. Superintendent Chapman is understandably reluctant to be too specific in an inter-agency letter, however other Park Rangers at Glacier Bay made it quite clear they wanted to discourage all power boats and anything larger than Kayaks.

I would estimate that it would take at least two months to establish the necessary control and complete hydrography in the Beardslee's. In view of all this and the pending legislation prohibiting power boats, I suggest that we forego survey operations in this area and put an appropriate caution note on the chart such as "Extensive foul areas, modern surveys unavailable".

Muir Inlet: The inlet, at the northern extreme of Glacier Bay National Monument has an extremely active, rapidly receding glacier at the head of the inlet. The unsurveyed portion is ice choked and has a heavy concentration of rock powder in the water column. Maneuvering is very difficult for a launch and the "mushy" bottom results in loss of echo soundings below 130 fathoms. At the rate the glacier is receding, it is expected to go dry within five years. I suggest this will provide better conditions for a survey. I recommend that any further operations in Glacier Bay beyond item investigations be put off indefinitely.

Cordova - Orca Inlet: Time available recon surveys in the area during 1979 operations on the Cape St. Elias project disclosed major discrepancies in shoreline, geodetic control and hydrography. A new basic survey is required.

CWH: kbl

SWRF
mpat



United States Department of the Interior

NATIONAL PARK SERVICE
Glacier Bay National Monument
Gustavus, Alaska 99826

IN REPLY REFER TO:

L46 (GLBA)

September 5, 1979

Commander C.W. Hayes
NOAA Ship Davidson

Dear Commander Hayes:

It has been a pleasure working with the NOAA Ship Davidson. Early contacts with the National Park Service help work out operating problems and form a basis of understanding that helps both agencies.

The question came up as to what priority we placed on mapping in the Beardslee Islands. At the present time the Beardslee Islands are proposed for wilderness designation in a bill pending in the U.S. Senate. This designation would eliminate the use of power boats in this area. At this time the Beardslee Islands are not heavily used by power boats. These facts lead us to believe that it is not a high priority to map this area.

A notation on the map indicating that the area is foul and power boats should only use with extreme caution would seem to be appropriate.

We do put a high priority on having a bigger scale map of Glacier Bay with a boater's guide edition. We hope these maps will be out well before next season.

— SURE
input

Sincerely,

John Chapman
Superintendent

NAME OF AGENCY NOAA SHIP DAVIDSON NATIONAL OCEAN SURVEY	PRECEDENCE
	ACTION: PRIORITY
ACCOUNTING CLASSIFICATION NØ3123	INFO.: TYPE OF MESSAGE <input type="checkbox"/> SINGLE <input type="checkbox"/> BOOK <input checked="" type="checkbox"/> MULTI-ADDRESS
THIS BLOCK FOR USE OF COMMUNICATIONS UNIT	

UNCLASSIFIED

CLASSIFICATION

STANDARD FORM 14 MARCH 1957
GENERAL SERVICES ADMINISTRATION
FPMR (41CFR) 101-35.306

TELEGRAPHIC MESSAGE

OFFICIAL BUSINESS
U. S. GOVERNMENT

MESSAGE TO BE TRANSMITTED (Use double spacing and all capital letters)

THIS COL. FOR AGENCY USE

PART MESSAGE ADDRESS HERE

DO NOT TYPE MESSAGE BEYOND THIS LINE

P 24Ø2ØØ SEPT 1979

FM NOAA DAVIDSON
TO CCGD SEVENTEEN JUNEAU AK

INFO ZEN/DPMC NOAA NOS SEATTLE WA

BT
UNCLASS//NØ3123//
SUBMERGED ROCK ON GRAVEL RIDGE COVERED BY 1.5 FATHOM AT MEAN LOWER LOW WATER (MLLW) DISCOVERED; CHART NO. 173ØØ 21ST EDITION 3/17/79; LATITUDE 58-35-24; LONGITUDE 136-11-16; DISTANCE 1.8 NAUTICAL MILES, BEARING 23Ø DEGREES TRUE FROM THE NORTHWEST END OF WILLOUGHBY ISLAND, GLACIER BAY, ALASKA. Outside limits of present survey.

SHOAL COVERED BY 2.3 FATHOM AT MEAN LOWER LOW WATER (MLLW) DISCOVERED; CHART NO. 173Ø2 13TH EDITION 5/13/78, CHART NO. 173ØØ 21ST EDITION 3/17/79; LATITUDE 58-22-13; LONGITUDE 136-Ø1-21; DISTANCE Ø.8 NAUTICAL MILES, BEARING 145 DEGREES TRUE FROM PT. CAROLUS, ICY STRAIT, ALASKA.//END
BT final reduced sounding 2.7 fm.

TOP / 240407Z
NOAA /
ZEN- / R

NAME AND TITLE OF ORIGINATOR
C.W. HAYES CDR, NOAA

ORIGINATOR'S TEL. NO.

DATE AND TIME PREPARED
P 24Ø2ØØ SEPT 1979

I certify that this message is official business, is not personal, and is in the interest of the Government.

(Signature)

OPR-0135-DA-79
 DA 20-1-79(H-9847), DA 20-2-79(H-9848)
 MASTER SIGNAL LIST PRINTOUT

001	2	58	34	33432	135	56	52522	250	0004	330652
				TWIN 1939						
002	2	58	23	19626	135	55	00799	250	0004	330652
				STAVE 1938						
003	0	58	33	40098	136	05	23776	250	0013	000000
				STAR 1938						
004	2	58	30	24513	136	01	32241	139	0002	000000
				STRAW 1938						
005	6	58	29	16179	135	59	11301	250	0001	000000
				MORE 1938						
006	4	58	25	35666	135	54	05217	139	0003	000000
				TELL 1938						
007	3	58	24	49076	136	03	11178	139	0004	000000
				TOWN 1938 RM 1						
008	6	58	23	19665	135	55	00096	139	0004	000000
				STAVE 1938 RM 1						
009	5	58	33	39624	136	05	24015	243	0013	000000
				CAL 1						
010	3	58	23	38383	136	03	15916	243	0000	000000
				TP 1						
011	3	58	24	27666	136	03	05786	139	0000	000000
				SHIPWRECK 1979						
012	3	58	30	26342	136	05	36454	250	0004	000000
				SIRE 1938						
013	3	58	32	50722	136	08	19026	139	0005	000000
				SPIT 1938						
014	3	58	33	21153	136	08	38065	250	0002	000000
				EXTRA 1940						
015	3	58	33	53027	136	09	17049	139	0004	000000
				ZEAL 1938						
016	3	58	34	41765	136	11	23240	139	0002	000000
				EVER 1939						
017	4	58	35	37840	136	09	03485	250	0008	000000
				ELSE 1939						
018	5	58	34	41756	136	11	22711	250	0001	000000
				EVER 1939 RM 2						
019	4	58	33	44800	135	58	09401	139	0003	000000
				SWIM 1938						
020	2	58	32	10308	135	57	21542	250	0004	000000
				SOCK 1938						
021	6	58	30	35468	135	55	39348	250	0004	000000
				LAWN 1939						
022	6	58	30	05322	135	57	09253	250	0003	000000
				AINT 1939						
023	1	58	30	25159	136	00	15839	250	0004	000000
				BERRY 1938, 1979						

OPE-0135-DA-79
DA 20-2-79(H-9848)
VELOCITY TAPE PRINTOUT

TABLE 1: JD-235 VESSEL: 3130

000093 0 0000 0001 001 313000 000000
000217 0 0001
000339 0 0002
000462 0 0003
000615 0 0004
000840 0 0005

TABLE 2: JD 236-249 VESSEL: 3131,3132

000082 0 0000 0002 001 313100 000000
000204 0 0001
000329 0 0002
000453 0 0003
000597 0 0004
000815 0 0005
001143 0 0006
001500 0 0007

TABLE 3: JD 250-264 VESSEL: 3131,3132

000091 0 0000 0003 001 313100 000000
000202 0 0001
000318 0 0002
000447 0 0003
000581 0 0004
000736 0 0005
000895 0 0006
001089 0 0007
001274 0 0008
001462 0 0009

FIELD TIDE REPORT
 OPR-0135-DA-79
 Glacier Bay, Alaska

INTRODUCTION

Field tide reduction of soundings was based on predicted tides for Juneau, Alaska, in accordance with Project Instructions dated 25 July 1979. The predicted tides were corrected by preliminary zoning from the Tides and Water Levels Division, OA/C23. Zoning for DA-20-1-79, H-9847 used correctors for the vicinity of Strawberry Island (time correctors: HWI + 21 min., LWI + 31 min., Ht. ratio X 0.96). Zoning for DA-20-2-79, H-9848 used correctors for the area south of Rush Pt. (Time correctors: HWI + 7 min., LWI + 14 min.; Ht. ratio X 0.88). Zoning for DA-20-3-79, Reconnaissance Hydrography, Muir Inlet, used correctors as given in the TIDE TABLES 1979, #1623. Interim values were interpreted using a PDP-8/e computer and Program AM-500. The time zone used throughout the survey was Greenwich Mean Time. Four tide stations were established in support of the survey.

<u>Name and Number of Station</u>	<u>Position</u>	<u>Type Gage</u>	<u>Periods of Operation</u>
Bartlett Cove 945-2534	58°27.4'N 135°53.0'W	ADR Fischer-Porter	32 Days 21 Aug - 22 Sept
Willoughby Island 945-2586	58°36.5'N 136°07.0'W	Two gages 0-20 Ft 0-30 Ft Bristol Bubblers	30 Days 23 Aug-05 Sept 05 Sept-22 Sept
Strawberry Island 945-2561	58°30.4'N 136°00.9'W	Three gages 0-20 Ft (2) 0-30 Ft Bristol Bubblers	29 Days 22 Aug-05 Sept 05 Sept-20 Sept
Berg Bay (No Number)	58°20.7'N 136°10.5'W	0-20 Ft Bristol Bubbler	11 Days 11 Sept-22 Sept

BARTLETT COVE

A Fischer-Porter ADR Gage (S/N 7403 A 3402 M 15) was installed on 21 August and was operated for the duration of the hydrography until 22 September when it was removed. The floatwell was secured to a piling of the National Park Service Pier in Bartlett Cove. The staff was secured to another piling of the same pier. With the exception of one weekend the gage operated satisfactorily for the duration of the project. During an in-port weekend for the ship in Juneau the gage lost 2 hours 53 minutes. When the lost time was noticed on 17 September, four days had elapsed from the last time the gage had been checked. A bad battery was suspected to have caused the loss in time. Data from the gage during the four days may have to be rejected. A gain in time of 1 minute was noticed on the gage on 18 September. On 19 September the gain had increased to 6 minutes and the time on the gage was reset.

On the basis of 21 gage/staff comparisons, the gage was found to read 9.97 feet higher than the staff. Leveling at Bartlett Cove was made to five historic bench marks on 16 and 21 August and on 19 September.

		<u>Differences in Elevation (M)</u>	
		16 Aug	19 Sept
(a)	- 10	+1.674	+1.677
10	- 9	+0.171	+0.170
10	- 1	-1.144	-1.139
1	- 3	+1.336	+1.337
3	- 4	-0.870	-0.869

The leveling gave evidence that bench marks 9, 1, and 3 had not moved. Bench mark 4 had moved approximately 2.4 centimeters from historic data. No historic elevation data was available for analysis of bench mark 10.

WILLOUGHBY ISLAND

A Bristol Bubbler Gage (S/N 66 A 17554, 0-20 Ft.) was installed on 22 August. Two tide staffs were installed to observe the entire range of tide. The upper staff, staff a, was bolted with lag bolts to a vertical rock face. The lower staff, staff b, was attached to a 4-foot square wooden base structure that was set in place at low tide and filled with rocks for stability. The top of the staff was guyed with three cables to further stabilize it and keep it plumb.

A second Bristol Bubbler Gage (S/N 67 A 10294, 0-30 Ft.) was installed 05 September to replace the 0-20 Ft. gage and provide for full coverage of the tide range. The orifice was not moved in the installation and the staffs were not changed.

The 0-20 Ft. gage operated satisfactorily without interruption until 04 September. On 04 September at 1000Z an animal chewed the tubing apart. The broken tube was discovered on 05 September at which time the 0-30 Ft. gage was installed. One and one half days record was lost.

The 0-30 Ft. gage also operated satisfactorily until it was removed on 22 September. A continuous record was interrupted on 19 September at 0730 when the tubing was again cut by an animal. Staff gage comparisons indicated that the orifice moved also. Only one half day of record was lost as the gage was placed back into operation at 1920Z of the same day.

The orifice went dry on three consecutive days (6, 7, and 8 September) at lower low water. On two of these days differential level observations to the water line defined the lower low waters and tied them to staff b.

On the basis of 21 gage/staff comparisons the 0-20 Ft. gage was found to read 1.49 Ft. lower than staff a; the higher and more stable staff.

On the basis of 32 gage/staff comparisons the 0-30 Ft. gage was found to read 2.22 Ft. lower than staff a before the orifice moved. After the orifice moved (after 19 September 1920Z) the 0-30 Ft. gage was found to read 3.18 Ft. lower than staff a on the basis of 5 gage/staff comparisons.

Leveling at Willoughby Island was made to 5 historic bench marks on 22 August and 20 September. In addition staff b was leveled on 07 September to assure that it had not moved.

		<u>Differences in Elevation (M)</u>	
		22Aug	20 Sept
(a)	- 1	+2.486	(+2.487)*
(b)	- 5	+3.628	(+3.632)*
	1 - 5	-1.552	-1.555
	5 - 4	+7.171	+7.173
	4 - 2	-3.592	-3.592
	2 - 3	-2.653	-2.658

*Computed from a different staff stop

The difference in scale reading between the two staffs was 2.14 Ft., e.g. 12.14 Ft. on staff a equalled 10.00 Ft. on staff b.

Leveling gave indication that bench marks 1, 2, 3, and 5 had not moved. A difference of approximately 1 centimeter was noticed between the leveling and the elevation provided for bench mark 4.

STRAWBERRY ISLAND

A Bristol Bubbler Gage (S/N 67 A 10286, 0-20 Ft.) was installed on 22 August. An alternate site was chosen on the south end of Strawberry Island as the proposed site on the north end of the island was not suitable for the installation of the tide staffs. Two staffs were installed to account for the full range of tide. Each staff was plumbed, attached with lag bolts to a large boulder, and guyed for additional support and stability. This gage malfunctioned as the recording needle topped out at 17.6 feet and failed to record all of the high waters until 24 August when it was replaced. The remainder of the data from the gage was satisfactory. On the basis of 8 gage/staff comparisons the gage was found to read 1.41 Ft. higher than staff a, the lower staff.

The malfunctioning gage was replaced with another 0-20 Ft. Bristol Bubbler gage (S/N 63 A 17966) on 24 August. The orifice and staffs were not moved in the installation. The gage gave excellent results until 01 September when the paper jammed. The jam was discovered on 5 September when the gage was replaced with a 0-30 Ft. gage. Four days of record were lost. On the basis of 13 gage/staff comparisons the gage was found to read 2.51 Ft. higher than staff a.

The third Bristol Bubbler Gage (S/N 67 A 16201, 0-30 Ft.) was installed 05 September to provide for full coverage of the tide range. The orifice and staffs were not moved in the installation. Upon analysis of the data it was discovered that the gage malfunctioned for the duration of its operation. Errors of 0.5 Ft. throughout the trace were attributed to a faulty recording mechanism. The orifice and staff went dry on 07 and 08 September. Differential level observations to the water line were tied to staff b on 08 September. Similar observations on 07 September were rejected due to faulty comparisons. The gage/staff comparisons were very erratic. Based on 19 gage/staff comparisons the gage was found to read 0.95 Ft. higher than staff a.

Leveling at Strawberry Island was made to five bench marks that were established in boulders above the high water line. The difference in the scale readings between the two staffs was 2.17 Ft.; e.g. 12.17 Ft. on staff b equalled 10.00 Ft. on staff a.

		<u>Difference in Elevation (M)</u>	
		22 Aug	19 Sept
(a)	- E	+3.622	(+3.618)*
(b)	- E	+1.540	(+1.538)*
E	- D	+0.731	+0.731
D	- B	-0.804	(-0.802)
B	- C	-0.112	-0.111
C	- A	+1.166	(+1.168)

()* Computed from a different staff stop
 () Computed from two sections

BERG BAY

The entrance to Berg Bay from Glacier Bay was found to be narrow and quite restricted. A Bristol Bubbler Gage (S/N 66 A 17554) was installed in the bay on 11 September to determine if the restricted entrance adversely affected the tidal cycle in the bay. A 15 Ft. staff was also installed on a vertical rock face with lag bolts and lumber. The gage operated satisfactorily for the duration of its installation. It was removed on 22 September. Comparison to high and low waters revealed that the tides in Berg Bay did not appreciably differ from those on the Willoughby Island tide gage. Times were generally within 5 minutes and ranges were 0.5 Ft. between the two gages.

On the basis of 55 gage/staff comparisons the gage was found to read 2.06 Ft. higher than the staff. Leveling was made from the staff to three temporary points on 11 September and 17 September. The temporary points were chosen and described such that they may be recovered for use in the future.

		<u>Difference in Elevation (M)</u>	
		11 Sept	17 Sept
(a)	- A	+2.837	+2.835
A	- B	+1.882	+1.882
B	- C	-1.104	-1.104

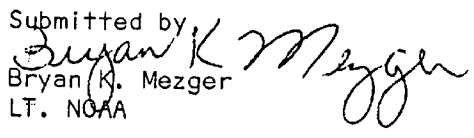
RECOMMENDATIONS

It is recommended that the tide correctors for hydrography be zoned from the results of the Bartlett Cove and Willoughby Island tide gages. It should not be necessary to provide special zoning for Berg Bay as the tidal cycle from the tide gage in the bay was practically the same as that obtained from the Willoughby Island tide gage.

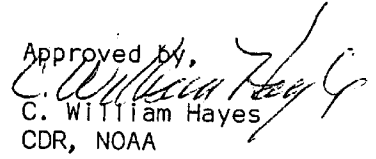
For the Strawberry Island tide gage the data collected after 05 September should be rejected. The data before 05 September is adequate to provide further zoning for tide correctors for hydrography.

No new tidal data is provided for reconnaissance hydrography at Muir Glacier. Predicted tides will be required to reduce soundings.

Submitted by,
Bryan K. Mezger
LT. NOAA



Approved by,
C. William Hayes
CDR, NOAA
Commanding Officer



U.S. DEPARTMENT OF COMMERCE
February 14, 1980 NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Pacific Marine Center:

Hourly heights are approved for

Tide Station Used (NOAA Form 77-12): 945-2534 Bartlett Cove, Alaska

Period: August 23 - September 20, 1979

HYDROGRAPHIC SHEET: H-9848

OPR: 0135

Locality: Glacier Bay, Alaska

Plane of reference (mean lower low water): 4.30 ft.

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

REMARKS: Recommended zoning:

- (1). South of $58^{\circ}27.5'$ zone direct.
- (2). North of $58^{\circ}27.5'$ apply range ratio x1.03.


Chief, Datums and Information Branch

HYDROGRAPHIC TITLE SHEET

H-9848

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.

DA-20-2-79

State Alaska

General locality Glacier Bay

Locality Point Carolus to Young Island

Scale 1:2500 Date of survey October 12-14, 1980
June 6, 1980; Change 1, Aug. 1, 1980; Change 2, Aug. 29, 1980; Change 3, Sept. 24, 1980; Change 4, Oct. 3, 1980
Instructions dated _____ Project No. OPR-0135-DA-80

Vessel NOAA Ship DAVIDSON Launch 3131 and 3132

Chief of party Cdr. Ned C. Austin, Comdg.
N. C. Austin, D. R. Seidel, C. Cavin, D. Actor, S. Konrad,

Surveyed by N. Boque and Ship's personnel

Soundings taken by echo sounder, hand lead, pole Ross Finline, Model 5000

Graphic record ~~sketch~~ by Ship's personnel

Graphic record checked by Ship's personnel

Soundings Verification

~~Recorded~~ by Russ Davies Automated plot by PMC Xynetics Plotter

Position

Verification by Russ Davies

Soundings in fathoms ^{and tenths,} ~~feet~~ at MEW MLLW

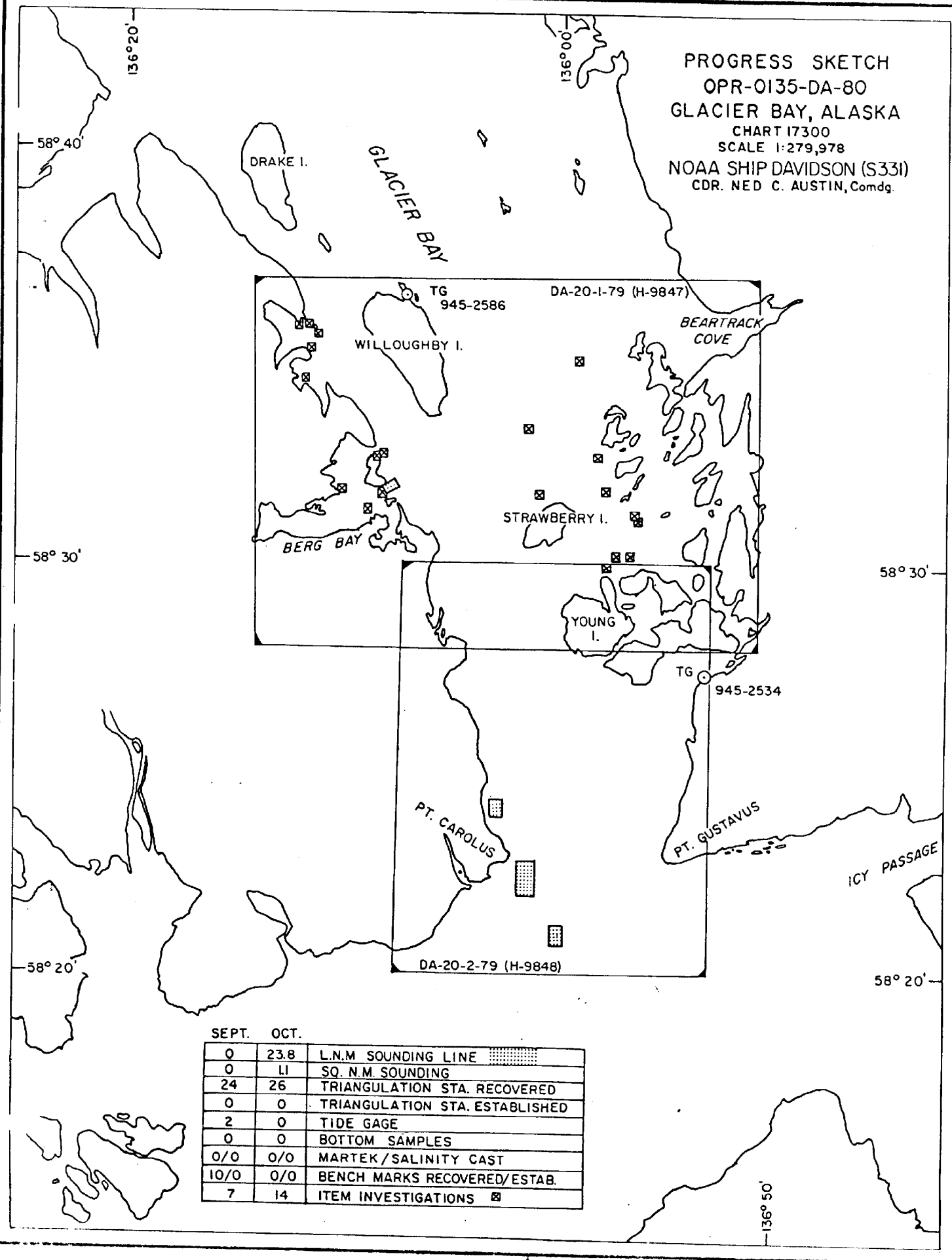
REMARKS: Survey Time Zone: GMT

Development of shoal areas as per Project Instructions

Change No. 2 dated August 29, 1980 and Change No. 4 dated
October 3, 1980.

Survey is complete.

PROGRESS SKETCH
 OPR-0135-DA-80
 GLACIER BAY, ALASKA
 CHART 17300
 SCALE 1:279,978
 NOAA SHIP DAVIDSON (S331)
 CDR. NED C. AUSTIN, Comdg.



SEPT.	OCT.	
0	23.8	L.N.M. SOUNDING LINE
0	LI	SQ. N.M. SOUNDING
24	26	TRIANGULATION STA. RECOVERED
0	0	TRIANGULATION STA. ESTABLISHED
2	0	TIDE GAGE
0	0	BOTTOM SAMPLES
0/0	0/0	MARTEK/SALINITY CAST
10/0	0/0	BENCH MARKS RECOVERED/ESTAB.
7	14	ITEM INVESTIGATIONS

SUPPLEMENT TO DESCRIPTIVE REPORT FOR H-9848

INTRODUCTION

Three hydrographic developments were made to supplement work accomplished on H-9848 by the DAVIDSON in 1979. Work was accomplished in accordance with Project Instructions OPR-0135-DA-80, dated June 6, 1980, as amended by Change No. 1 (August 1, 1980), Change No. 2 (August 29, 1980), Change No. 3 (September 24, 1980) and Change No. 4 (October 3, 1980).

Development number 1 developed an area centered around $58^{\circ}24.3'N$ $136^{\circ}02.86'W$. The shoalest depth obtained was a 0.0¹-fathom sounding at $58^{\circ}24'16.3''N$ $136^{\circ}02'52.5''W$.

Development number 2 delineated a shoal centered at $58^{\circ}22.2'N$ $136^{\circ}01.5'W$. Lane jumps in the 1979 work had resulted in a questionable delineation of the shoal. The height of an islet in the area shown on prior survey H-6339 was also requested. The shoalest depths obtained were two 2.7-fathom soundings at $58^{\circ}22'13.7''N$ $136^{\circ}01'22.8''W$ and at $58^{\circ}22'12.9''N$ $136^{\circ}01'21.0''W$.

Development number 3 was to confirm the least depth of a $5\frac{1}{4}$ -fathom shoal charted at $58^{\circ}21'N$ $136^{\circ}00'W$. A least depth of 5.₅ fathoms was found at $58^{\circ}20'56''N$ $135^{\circ}59'57''W$.

Developments were plotted on a scale of 1:2500 to aid in identifying the shoalest soundings. Sounding lines were run with 15- to 20-meter spacing. Crossline spacing varied, as crosslines were run near areas where the sounding lines indicated peaks or possible side echoes.

METHODS

Sounding Equipment

DAVIDSON launches DA-1 (3131) and DA-2 (3132) were used as sounding vessels. Both launches utilized Ross Fineline Fathometers, Model 5000, in the collection of soundings. Serial numbers for sounding equipment were as follows:

Launch	Fathometer	Digitizer	Tranceiver
3131	1077	1081	1036
3132	1080	1077	1077

Sounding Corrections

Phase calibrations were conducted from 0 to 50 fathoms. The initial was monitored and kept at zero. Bar checks were taken daily.

Soundings were corrected for transducer depth and predicted tides. The TRA for both launches, +0.3 fathom, was determined by daily bar checks. Settlement/squat correctors were not applied, as they were considered negligible (less than 0.1 fathom) at the speed used to delineate the shoals (2100 rpm). Tide correctors were computed from daily predicted tides for Juneau, Alaska, corrected for Bartlett Cove, Glacier Bay. Correctors were computed at 0.2 fathom intervals and were applied to real time soundings and the final field sheet. Tide gages were installed at Bartlett Cove and Willoughby Island and were in operation before and after the hydrography was run on the shoals.

TRA corrections were determined from daily bar checks and from three leadline casts taken on JD 289. The leadline data can be found with the raw data for development number 3, the 5 $\frac{1}{4}$ -fathom shoal investigation. The correctors determined from the bar checks and leadline casts agreed well with the correctors determined from the Nansen cast taken on JD 237 in 1979. (See attached Direct Comparison Log and copies of Nansen Cast data for JD 237, 1979.) The shoaler soundings obtained in the three developments are covered by bar checks. Velocity corrections, beyond the 0.3-fathom TRA, were not applied to the final field sheets. If it is desired to apply velocity corrections on the smooth plot, it is recommended that the velocity table developed from the Nansen Cast taken on JD 237 in 1979 be used.

Position Control

The Motorola Mini-Ranger III system was used for position control. Transponders were placed on BERRY 1938 (code 1, signal 023), TOWN RMI 1938 (code 3, signal 007) and STAVE 1938 (code 4, signal 002). Mini-Rangers on BERRY 1938 and TOWN RMI 1938 were mounted on two Raydist tower sections to increase offshore coverage to six to eight kilometers. The transponder on STAVE 1938 was mounted on one Raydist tower section with a sixteen foot 2" X 4" on top to increase offshore coverage to seven kilometers.

Systems checks were performed daily by T-2 intersection. T-2s were positioned on SHIPWRECK 1979 (011) and TOWN RMI 1938 (007). The T-2s initialed on each other and intersected the launch's R/T unit. Computations are included with the raw data printouts for each day's work.

Baseline calibrations were performed in accordance with the PMC Order on September 26, 1980 (JD 270) and October 26, 1980 (JD 300). Daily systems checks were compared with the baseline correctors determined from the September calibration to ensure standards for a 1:20,000 scale survey were met. Baseline correctors from the September 26 calibration were applied to all field plots through the final field sheet. The corrector tape submitted to PMC, however, will be the mean of the September and October calibrations.

Mini-Ranger equipment serial numbers used for the developments are listed below:

Launch 3131 (DA-1)	Transponders	
Console 707 R/T 719	Code 1	S/N 723
Launch 3132 (DA-2)	Code 2	S/N 772
Console 716 R/T 709	Code 3	S/N 773
	Code 4	S/N 771

RECOMMENDED DISPOSITION

Development number one, of a shoal centered around 58°24.3'N 136°02.86'W, obtained a shoalest depth of 0.8 fathom at 58°24'16.3"N 136°02'52.5"W. The area has a boulder beach, which, judging from the fathogram, extends offshore. It has a very irregular bottom, and an indication that the area inshore of the three fathom curve between latitude 58°24'08"N and 58°24'27"N is foul with submerged rocks should be on any future charts of the area. CONCUR

Development number two, of a shoal centered at $58^{\circ}22.2'N$ $136^{\circ}01.5'W$ obtained shoalest depths of 2.7 fathoms, at $58^{\circ}22'13.7''N$ $136^{\circ}02'22.8''W$ and $58^{\circ}22'12.9''N$ $136^{\circ}01'21.0''W$.
In addition, a height of an islet in the area was given. This shoal should be charted as a 2.7-fathom shoal. CONCOR

(from CL-1418/1970)

* Development number three, of a $5\frac{1}{4}$ -fathom shoal, charted at $58^{\circ}21'N$ $136^{\circ}00'W$,
obtained a least depth of 5.3 fathoms at $58^{\circ}20'56''N$ $135^{\circ}59'57''W$. The charted
sounding is ~~adequate~~, and should be ~~retained~~, ~~deleted~~ from the chart.
Superseded Chart 5.5 fm from present survey.

Respectfully submitted,

Cheryl Gavin

Cheryl Gavin
LT, NOAA

Approved and forwarded,

N.C. Austin

N.C. Austin, CDR NOAA
Commanding Officer
NOAA Ship DAVIDSON

* Area of coverage superseded by both junction
made with adjoining survey. H-10333 (1990).

GKM
8-8-91

SURVEY APPROVAL SHEET

- A. Amount and degree of personal supervision of field work and frequency of record and sheet inspection:

Supervision of personnel and inspection of sheets and field records were accomplished on a daily basis through the Executive Officer and Field Operations Officer. The Commanding Officer inspected sheets daily and field records periodically.

- B. State whether the survey is complete and adequate or if additional field work is recommended:

The survey is complete and adequate and no additional field work is recommended.

- C. Cite additional information or references that may be of assistance for verifying and reviewing the survey:

See Descriptive Report.

- D. Signed statement of approval of the field sheet and all accompanying records:

DATE: 11/21/80

Approved and forwarded by:



N. C. Austin
CDR, NOAA
Commanding Officer

OPR-0135-DA-80

DA-20-1-79(H-9847) AND DA-20-2-79(H-9848)

MASTER SIGNAL TAPE PRINTOUT

001	2	58	34	33432	135	56	52522	139	0004	000000	TWIN 1939
002	2	58	23	19626	135	55	00799	250	0010	000000	STAVE 1938
003	0	58	33	40098	136	05	23776	250	0013	000000	STAR 1938
005	6	58	29	16179	135	59	11301	139	0001	000000	MORE 1938
007	3	58	24	49076	136	03	11178	250	0004	000000	TOWM RM 1 1938
011	3	58	24	27666	136	03	05786	139	0000	000000	SHIPWRECK 1979
015	3	58	33	53027	136	09	17049	139	0004	000000	ZEAL 1938
016	3	58	34	41765	136	11	23240	139	0002	000000	EVER 1939
017	2	58	35	37840	136	09	03485	250	0008	000000	ELSE 1939
019	4	58	33	44800	135	58	09401	250	0003	000000	SWIM 1938
020	4	58	32	10308	135	57	21542	250	0004	000000	SOCK 1938
021	6	58	30	35468	135	55	39348	139	0004	000000	LAWN 1939
022	6	58	30	05322	135	57	09253	139	0003	000000	AINT 1939
023	1	58	30	25159	136	00	15839	250	0006	000000	BERRY 1938, 1979
024	6	58	31	24877	136	00	19422	250	0005	000000	SOON 1938
026	6	58	31	39559	136	07	53141	139	0001	000000	CRAB 1938
027	1	58	33	36173	136	01	05587	250	0005	000000	REEF 1938
028	2	58	33	59807	136	06	42879	250	0006	000000	RITE 2 1979
030	0	58	31	52355	136	08	15006	139	0004	000000	BERG 1938
031	1	58	31	06349	136	10	56263	139	0001	000000	ALUM 1938
032	6	58	31	18913	136	08	32214	139	0001	000000	TREE 1938
033	2	58	34	46686	136	11	25869	250	0001	000000	EVER 2 1979
034	3	58	35	50591	136	11	31816	250	0008	000000	FINGER 1979
039	1	58	31	33978	135	56	54661	139	0005	000000	RANK 1939
040	1	58	37	29789	136	10	37639	139	0005	000000	FRANK 1939
051	3	58	35	40446	136	11	08643	139	0012	000000	VENT 1939
052	2	58	31	52459	136	08	51988	139	0006	000000	UNDER 1939
053	3	58	31	39467	136	10	12438	139	0004	000000	INNER 1939
060	0	58	30	50244	136	09	45032	252	0004	000000	JEFF 1980(TEMP. PT)
061	0	58	34	22463	136	10	39983	252	0004	000000	BLOOD 1980(TEMP. PT)

GFF-0135-DA-~~89~~⁸⁰
DA 20-2-79(H-9848)
VELOCITY TAPE PRINTOUT

TABLE 1: JD-235 VESSEL: 3130

~~000093~~ 0 0000 0001 001 313000 000000
~~000217~~ 0 0001
~~000339~~ 0 0002
~~000462~~ 0 0003
~~000515~~ 0 0004
000840 0 0005

TABLE 2: JD 236-249 VESSEL: 3131,3132

~~000082~~ 0 0000 0002 001 313100 000000
~~000204~~ 0 0001
~~000329~~ 0 0002
~~000453~~ 0 0003
~~000597~~ 0 0004
~~000815~~ 0 0005
001143 0 0006
001500 0 0007

TABLE 3: JD 250-264 VESSEL: 3131,3132

~~000091~~ 0 0000 000~~2~~⁴ 001 313100 000000
000202 0 0001
000318 0 0002
000447 0 0003
000581 0 0004
000736 0 0005
000895 0 0006
001089 0 0007
001274 0 0008
001462 0 0009

FIELD TIDE NOTE
OPR-0135 -DA-80
GLACIER BAY, ALASKA

INTRODUCTION

Field tide reduction of soundings was based on predicted tides for Juneau, Alaska, as specified by Project Instructions dated June 6, 1980, amended by Change No. 1, dated August 1, 1980, Change No. 2, dated August 29, 1980, and Change No. 3, dated September 24, 1980.

For hydrography run during the investigation of item 13 on DA-20-1-79 (H9847), the predicted tides were corrected to Strawberry Island, as specified in the tidal zoning requirements.

Developments 1, 2, and 3 on DA-20-2-79 (H-9848) used predicted tides corrected to Bartlett Cove (#1621 in the 1980 Tide Tables).

Predicted tides were converted to Greenwich Mean Time tide correctors by the DAVIDSON's on board PDP 8/e computer system. The predicted Tide Generator Program, AM500, was used and tide correctors were computed at 0.2 fathom intervals.

Two tide stations were established in support of the survey. All tide stations operated on Greenwich Mean Time.

<u>Name and No. of Station</u>	<u>Position</u>	<u>Type of Gage</u>	<u>Period of Operation</u>
Bartlett Cove 945-2534	58°27.4'N 135°53.0'W	F-P ADR	2 Days, 29 Sep - 1 Oct
		F-P ADR	13 Days, 3 Oct - 16 Oct
		Bristol Bubbler (0 - 30 ft.)	19 Days, 8 Oct - 27 Oct
Willoughby Is. 945-2586	58°36.5'N 136°07.0'W	2 Bristol Bubbler (0 - 30 ft.)	32 Days, 24 Sep - 26 Oct

BARTLETT COVE

A Fisher-Porter ADR Gage (S/N 6803 A 3012 M24) was installed on September 29, 1980, at the National Park Service pier in Bartlett Cove. The floatwell and tide staff were secured to pilings of the pier. This ADR was discovered inoperative on October 2, 1980. A faulty timer was suspected to be the cause of the failure. The gage was replaced on October 3, 1980, by another Fisher-Porter ADR (S/N 7006 A 5833 M 25). Problems continued to be experienced with the ADR gages, in two areas. The nearly constant heavy rain and dampness softened the paper and caused torn sprocket holes, resulting in lost data. Also, the float occasionally caught on an apparent obstruction in the floatwell. Due to these continuing problems, a Bristol Bubbler 0-30 foot gage (S/N 67A 16205) was installed at the site on October 8, 1980, as a back up. The Bubbler gage operated satisfactorily until October 27, 1980, the end of the project. The problem with the floatwell necessitated the removal of the Fisher-Porter ADR (S/N 7006 A 5833 M25) on October 16, 1980.

It is recommended that all data from the ADR gages be rejected and the data produced by the Bristol Bubbler at the site be used. On the basis of 36 staff/gage comparisons, the Bristol Bubbler (S/N 67A 16205) was found to read 0.25 feet higher than the staff.

Leveling was done at Bartlett Cove on three occasions: On September 29 - 30, upon installation, leveling was accomplished to five bench marks; on October 16, upon removal of the ADR gage, levels were run to six bench marks; on October 27, upon removal of the Bristol Bubbler gage, levels were run to two bench marks. The data is given below:

<u>BENCH MARKS</u>	<u>DIFFERENCES IN ELEVATION (M)</u>		
	<u>Sept 29-30</u>	<u>Oct 16</u>	<u>Oct 27</u>
(a) - 10	+2.271	+2.272	+2.268
10 - 9	+0.168	+0.170	+0.171
10 - 1	-0.137	-0.146	
1 - 2	{+1.332	+0.658	
2 - 3		+0.674	
3 - 4	-0.860	-0.867	

The leveling gave no evidence of staff movements.

WILLOUGHBY ISLAND

Two Bristol Bubbler (0 - 30 feet) tide gages were installed at this historic site on September 24 and September 25, 1980. The redundancy was designed to prevent data loss due to gage malfunction. The gage designation, serial number, and color code for data recording are listed below:

<u>GAGE</u>	<u>S/N</u>	<u>COLOR CODE</u>
A	64 A 11033	Blue
B	67 A 16209	Red

Two tide staffs were installed to cover the entire range of tide. The lower staff, staff "a", was a 2" pipe driven to refusal in the bottom. The upper staff, staff "b", was lag bolted to a vertical rock face and guyed to eyebolts set in the rock. Leveling showed that the upper staff scale was 2.1 feet lower than the lower staff. Consequently, 2.1 feet were added to all upper staff readings to make them correspond with the zero on the lower staff.

Gage A was installed on September 25, 1980 and operated satisfactorily throughout the project. Shortly after installation the time was reset on the gage to start the gage on dry paper. This avoided possible sprocket hole tearing and other problems usually associated with consistently wet weather. On September 27, 1980, the paper was changed. The time was reset on October 22, 1980, when the gage was discovered to be approximately seven minutes slow. The gage was removed on October 26, 1980.

A series of comparisons between the staffs and gage A were made on September 25, with the following results. The nine comparisons made near low water showed gage A read 2.00 feet higher than the staffs (referenced to zero on the lower staff, staff a). The eighteen comparisons made near high water showed gage A read 1.76 feet higher than the staffs. Twenty-six comparisons made between September 27 and October 26 showed gage A read 2.00 feet higher than the staffs. The anomalous staff/gage relationship at high water on September 25 is suspected to have been an observer error. However, all developments and item investigations in this project were accomplished between September 29 and October 25, 1980. During that period the staff/gage relationship was consistently 2.00 feet.

Gage B was installed on September 24, 1980 at 1710 GMT on September 25, the orifice was found exposed at an extreme low tide. The orifice was moved to a deeper location and at 1745 GMT, the gage was reset to the correct time. On September 28, 1980, between 1300 GMT and 1900 GMT, the gage gained 20 minutes, apparently by jumping one sprocket hole. This problem has been extensively documented in memoranda from the RAINIER and McARTHUR to the Pacific Tides Party, and is usually attributed to use of Graphic Control Corporation chart paper. The time gain was discovered on September 30, 1980, and the gage was reset at 1656 GMT on that date. The gage time was reset on October 7, 1980 when it was discovered nine minutes slow. The gage functioned properly from October 7 until its removal at the end of the project, on October 26, 1980.

A similar situation exists for Gage B staff/gage relationships as was noted for Gage A. A series of staff/gage comparisons was made on September 25, 1980 with the following results. Nine comparisons made near low water showed gage B read 1.10 feet higher than the staffs (referenced to zero on the lower staff, staff a). Eighteen comparisons made near high water showed gage B read 0.80 feet above staffs. Twenty-nine further comparisons were made between September 27 and October 26, 1980, showed gage B read 1.1 feet higher than the staffs. The staff/gage results are consistent for the time of the developments and item investigations, however, and should be used to reduce the soundings and rock heights obtained.

Levels were run to five bench marks upon installation and removal of the tide gage with following results.

<u>BENCH MARKS</u>	<u>DIFFERENCES IN ELEVATION (M)</u>	
	<u>Sept 24-25</u>	<u>Oct 26</u>
(a) - 5	4.730	4.736
(b) - 5	3.811	3.816
5 - 4	7.169	7.174
4 - 2	-3.588	-3.591
2 - 3	-2.652	-2.658
3 - 1	0.634	0.631

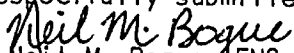
No change in elevation of bench marks was noted. The leveling showed that the upper staff, staff b, read 2.1 feet too low, relative to the zero on the lower staff, staff a, consequently all staff readings on the upper staff were increased by 2.1 feet to make them correspond to the zero on the lower staff.


RECOMMENDATIONS

It is recommended, as noted above, that all ADR data from Bartlett Cove be rejected and the Bristol Bubbler data be used to reduce the soundings obtained on Developments 1, 2, and 3 on DA-20-2-79 (H-9848).

The soundings obtained during the investigation of item 12 should be reduced using data from the Willoughby Island gage. A tide gage installed in Berg Bay by the DAVIDSON in 1979 showed that tides in Berg Bay closely resembled those at the Willoughby Island site.

The Willoughby Island data should also be used to reduce the rock heights obtained during the item investigations on DA-20-1-79 (H-9847).

Respectfully submitted,

 Neil M. Bogue, ENS, NOAA

Approved and forwarded,

 N. C. Austin, CDR, NOAA
 Commanding Officer

May 12, 1981

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Pacific Marine Center:

Hourly heights are approved for

Tide Station Used (NOAA Form 77-12): 945-2534 Bartlett Cove, Alaska

Period: October 12-13, 1980

HYDROGRAPHIC SHEET: H-9848

OPR: 0-135

Locality: Glacier Bay, Alaska

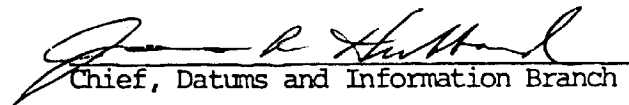
Plane of reference (mean lower low water): 6.6 ft.

Height of Mean High Water above Plane of Reference is 13.4 ft.

REMARKS: Recommended Zoning:

From latitude 58°20.0' north to 58°27.5' zone direct on Bartlett Cove.

From 58°27.5' north to 58°29.5' zone on Bartlett Cove and apply
x1.05 range ratio.


Chief, Datums and Information Branch

GEOGRAPHIC NAMES

H-9848

Name on Survey

A ON CHART NO. 17300
 21st Ed. 3/1779
 B ON PREVIOUS SURVEY
 C ON U.S. QUADRANGLE
 D FROM LOCAL
 E INFORMATION
 F ON LOCAL MAPS
 G P.O. GUIDE OR MAP
 H GRAND McNALLY
 I ATLAS
 J U.S. LIGHT LIST
 K T-Sheets

Name on Survey	A	B	C	D	E	F	G	H	I	J	K
Beardslee Entrance									T-12800		1
Glacier Bay	X								T-12642		2
Glacier Bay National Monument									T-12801		3
Lester Island	X								T-12642		4
Point Carolus	X								T-12801		5
Ripple Cove									T-12800		6
Rush Point	X								T-12800		7
Sitakaday Narrows									T-12800		8
Young Island	X								T-12642		9
									T-12799		10
											11
											12
											13
											14
											15
											16
											17
											18
											19
											20
											21
											22
											23
											24
											25

Approved: *[Signature]*
 Chief Geographer - NCG 2x5
 11 MAY 1983

APPROVAL SHEET

FOR

SURVEY H-9848

- A. All revisions and additions made on the smooth sheet during verification have been entered in the magnetic tape records for this survey. A new final position print-out has been made. A new final sounding print-out has been made.
- B. The verified smooth sheet has been inspected, is complete, and meets the requirements of the Hydrographic Manual. Exceptions are listed in the verifier's report.

Date: 2/24/82



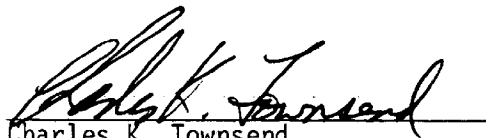
Chief, Verification Branch

ADMINISTRATIVE APPROVAL

H-9848

Point Carolus to Young Island, Glacier Bay, Alaska

The smooth sheet and reports of this survey have been examined and the survey is adequate for charting and to supersede common areas of prior surveys.



Charles K. Townsend
Director
Pacific Marine Center

3/11/82
Date

HYDROGRAPHIC SURVEY STATISTICS

H-9848

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	BOAT SHEETS & PRELIMINARY OVERLAYS	821
DESCRIPTIVE REPORT	1	SMOOTH OVERLAYS: POS ⁵ & ARC, EXCESS ⁶	11

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES						
CAHIERS	X		2 Ra			
VOLUMES	X					
BOXES			1 - Smooth Plo - 1 Sound Vol			

T-SHEET PRINTS (List) T-12642, T-12799, T-12800, T-12801

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	TOTALS
POSITIONS ON SHEET			1557
POSITIONS CHECKED		1557	
POSITIONS REVISED		1745	
SOUNDINGS REVISED		148	
SOUNDINGS ERRONEOUSLY SPACED		--	
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED		--	
	TIME - HOURS		
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)	10		
VERIFICATION OF CONTROL		11	
VERIFICATION OF POSITIONS		34	
VERIFICATION OF SOUNDINGS		135	
COMPILATION OF SMOOTH SHEET		31	
APPLICATION OF TOPOGRAPHY		3	
APPLICATION OF PHOTOBATHYMETRY		--	
JUNCTIONS		5	
COMPARISON WITH PRIOR SURVEYS & CHARTS		8	
VERIFIER'S REPORT		28	
OTHER			
TOTALS	10	251	261

Pre-Verification by James S. Green	Beginning Date Nov. 27, 1979	Ending Date Nov. 27, 1979
Verification by Russ Davies	Beginning Date June 26, 1980	Ending Date Oct. 27, 1981
Verification Check by James Stringham, James S. Green	Time (Hours) 44	Date Dec. 29, 1981
Marine Center Inspection by HTT	Time (Hours) 10	Date March 9, 1982
Quality Control Inspection by S R Baumgardner	Time (Hours) 115	Date Jan 17, 1983
Requirements Evaluation by	Time (Hours)	Date

G. W. Jones 7 hrs 4/15/83

REGISTRY NO. 9848

The magnetic tape containing the data for this survey has not been corrected to reflect the changes made during evaluation and review.

When the magnetic tape has been updated to reflect the final results of the survey, the following shall be completed:

MAGNETIC TAPE CORRECTED

DATE _____ TIME REQUIRED _____ INITIALS _____

REMARKS:

PACIFIC MARINE CENTER
VERIFIER'S REPORT

REGISTRY NO. H-9848

FIELD NO. DA-20-2-79

Alaska, Glacier Bay, Point Carolus to Young Island

SURVEYED: August 23 - September 21, 1979
August 22 - October 13, 1980

SCALE: 1:20,000

PROJECT NO.: OPR-0135-DA-79,80

SOUNDINGS: Ross Finline Model 5000

CONTROL: Raydist, Mini-Ranger,
Range/Range Mode

Chief of Party Cdr. C. William Hayes
Cdr. Ned C. Austin

Surveyed by Lt. Cdr. D. Seidel
Lt. Cdr. A. Bodnar
Lt. B. Mezger, Lt. C. Cavin
Lt. (JG) L. Haas, Ens. E. McDougal
Ens. T. Peasley, Ens. D. Actor
Ens. S. Konrad, Ens. N. Bogue

Automated Plot by PMC Xynetics Plotter

Verified by Russ Davies

1. INTRODUCTION

H-9848 (DA-20-2-79) is a basic hydrographic survey conducted in accordance with Project Instructions OPR-0135-DA-79, Glacier Bay, Alaska, dated July 25, 1979 and Change No. 1 dated August 8, 1979. Additional work was done during 1980 under Project Instruction OPR-0135-DA-80, Glacier Bay, Alaska, dated June 6, 1980 and Change No. 1, August 1, 1980; Change No. 2, August 29, 1980; Change No. 3, September 24, 1980; and Change No. 4, October 3, 1980. The area surveyed is a section of Glacier Bay located between latitude 58°21'00"N and 58°30'00"N and longitude 135°56'00"W and 136°07'00"W.

Projection parameters used to prepare the boatsheet have been revised to center the hydrography on the smooth sheet. Parameters used by the Pacific Marine Center are appended in the smooth printout.

Predicted tides from Juneau, Alaska corrected to Bartlett Cove, Glacier Bay, Alaska were used to reduce smooth field sheet soundings by a PDP 8/e computer utilizing program AM500. Approved tides from Bartlett Cove gage used for final reduction of the smooth soundings.

2. CONTROL AND SHORELINE

Section F and G of the ship's descriptive report describes the horizontal control adequately. Calibration procedures and electronic control system are explained in Section G of the ship's report. The shoreline was transferred ~~in pencil~~ from T-12642, 12799, 12800, 12801 reviewed Class III manuscripts, scale 1:10,000, reduced to 1:20,000. Dates of photography and Field Edit are listed below:

	<u>Date of Photography</u>	<u>Date of Field Edit</u>	<u>Scale</u>
T-12642	July 1961; June 1964, July 1972	Postponed	1:10,000
T-12799	June 1964, July 1972	Postponed	1:10,000
T-12800	June 1964, July 1972	Postponed	1:10,000
T-12801	June 1964, July 1972	Postponed	1:10,000

See Section H of the ship's report for further information.

3. HYDROGRAPHY

Crossline soundings were found to be in good agreement. The development of the bottom configuration, determination of least depth, and depth curves are adequate. Standard depth curves were adequately drawn, ~~except for portions of the zero fathom depth curve. Several brown curves were added to emphasize shoal features.~~

4. CONDITION OF SURVEY

The smooth sheet and accompanying overlays, hydrographic records, and reports are adequate and conform to the requirements as stated in the Hydrographic Manual.

5. JUNCTIONS

a. H-9848 (1979-80) junctions to the north with H-9847 (1979-80) and to the east with H-8815 (1964) and H-8816 (1964). ~~No contemporary survey exists to the south.~~
But junction effected with H-10333 (1990) on south.

H-9847 (1979-80) and H-8816 (1964) shows good agreement and the junction note is inked accordingly. H-8815 (1964) shows good agreement and junction note is inked accordingly except the following: an area at latitude 58°27'25"N and 135°58'00"W was noticed to be shoaling southward; the ten fathom curve should be adjusted to conform with H-9848 (1979-80). ~~A partial butt junction was completed in this vicinity during Q.C.~~ *9 KM 8-8-8*

b. The following soundings were transferred from H-8815 (1964) to H-9848 (1979-80):

<u>Soundings</u>	<u>Latitude</u>	<u>Longitude</u>
10 ⁴	58°27'28"N	135°58'18"W
22	58°27'27"N	135°58'38"W
29	58°26'20"N	135°58'35"W
30	58°26'20"N	135°58'16"W
31	58°26'20"N	135°58'07"W
31	58°26'20"N	135°57'59"W

6. COMPARISON WITH PRIOR SURVEY

<u>Survey</u>	<u>Year</u>	<u>Scale</u>
H-6339	1938	1:20,000
H-6340	1938	1:20,000
H-6457	1939	1:20,000

H-6339, H-6340, and H-645⁷ are in good agreement with H-9848. What difference there is in depth can be attributed to the difference in survey methods used in the past, isostasy, a general uplift of landmass following the retreat of glaciers, and on the 1964 earthquake.

The following soundings and symbols were transferred from H-6339 (1938), 1:20,000 scale: *Several rky bottom characteristics were also carried forward.*

<u>Soundings</u>	<u>Latitude</u>	<u>Longitude</u>
5	58°22'1 ³ 8"N	136°01'5 ⁸ 9"W
Islet	58°22'38"N	136°02'00.5"W

The islet at latitude 58°22'38"N and longitude 136°02'00.5"W was transferred from H-6339, 1938, to H-9848 in red ink. The ship personnel observed a ^{corrected} height of ~~six~~^{four} feet on Julian day 286 and recorded this information on development plot number two, scale 1:2,500. The position and height of the islet plotted on the enlargement agrees with the prior information. However, the prior position does not agree with the islet plotted on T-12801. The smooth sheet displays both islets, one in pencil from T-12801 and one inked in red from prior H-6339. *Prior islet removed during QC.*

The following soundings were transferred from H-645⁷ (1939), 1:20,000 scale: *and rky bottom characteristics*

<u>Sounding</u>	<u>Latitude</u>	<u>Longitude</u>
46	58°29'0 ² 4"N	136°00'20"W
5	58°29'05"N	136°00'27"W
51	58°29'00"N	136°00'56"W

Except as noted above

H-9848 (1979-80) is adequate to supersede all prior soundings and features within H-9848 limits.

7. COMPARISON WITH THE CHART

17302, 13th ed., May 13, 1978, scale 1:80,000 and chart

a. A chart comparison was made with Chart 17300, 21st Ed. March 27, 1979, scale 1:209,978. The charted hydrography originates primarily with the previously discussed prior surveys. The present survey is adequate to supersede the charted hydrography. *See Q.C. RPT.*

b. Aids to Navigation

One floating aid, Black can #1 at latitude 58°28'10.7"W and longitude 136°03'10"W, is located on H-9848 (1979-80). The above aid adequately marks the intended feature.

8. COMPLIANCE WITH INSTRUCTIONS

H-9848 (1979-80) complies with the Project Instructions OPR-0135-DA-79, Glacier Bay, Alaska dated July 25, 1979 and Change No. 1 dated August 8, 1979; and Project Instruction OPR-0135 DA-80, Glacier Bay, Alaska dated June 1980 as amended by Change No. 1 dated August 1, 1980, Change No. 2 dated August 20, 1980, Change No. 3 dated September 24, 1980 and Change No. 4 dated October 3, 1980.

9. ADDITIONAL FIELD WORK

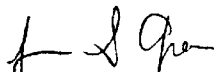
With the additional work done in 1980 to delineate the three shoals areas located at $58^{\circ}21'00''\text{N}$ and $136^{\circ}00'00''\text{W}$, $58^{\circ}22'20''\text{N}$ and $136^{\circ}01'30''\text{W}$ and $58^{\circ}24'10''\text{N}$ and $136^{\circ}02'50''\text{W}$, H-9848 (1979-80) is an adequate basic survey and no additional field work is necessary.

Respectfully submitted,



Russ Davies
Cartographic Technician
December 15, 1981

Examined and Approved



James S. Green
Chief, Verification Branch



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
 NATIONAL OCEAN SURVEY
 Pacific Marine Center
 1801 Fairview Avenue East
 Seattle, Washington 98102

RECEIVED

MAR 11 1982

PACIFIC MARINE CENTER

March 11, 1982

CPM3/JWC

TO: CPM - Charles K. Townsend *CKT*

FROM: CPM3 - John W. Carpenter *JWC*

SUBJECT: PMC Hydrographic Inspection Team Report for Survey H-9848

This survey is a basic hydrographic survey of Point Carolus to Young Island, Glacier Bay, Alaska. This survey was conducted by NOAA Ship DAVIDSON in 1979 in accordance with Project Instructions OPR-0135-DA-79 dated July 25, 1979 and Change No. 1 dated August 8, 1979, with additional work done in 1980 in accordance with Project Instructions OPR-0135-DA-80 dated June 6, 1980; Change No. 1 dated August 1, 1980; Change No. 2 dated August 29, 1980; Change No. 3 dated September 24, 1980; and Change No. 4 dated October 3, 1980.

The following item was noted:

Sounding lines in depths less than 20 fathoms were run at 200 meter spacing instead of the required 100 meter spacing between 58°26.1'N and 58°25.7'N.

The inspection team finds H-9848 to be a basic survey adequate to supersede common areas of prior surveys and charted hydrography. Administrative approval is recommended.

John W. Carpenter

 John W. Carpenter

James W. Wintermyre

 James W. Wintermyre

James W. Steensland

 James W. Steensland

Stanley H. Otsubo

 Stanley H. Otsubo



10TH ANNIVERSARY 1970-1980
National Oceanic and Atmospheric Administration
 A young agency with a historic
 tradition of service to the Nation



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration

NATIONAL OCEAN SERVICE
OFFICE OF CHARTING AND GEODETIC SERVICES
ROCKVILLE, MARYLAND 20852

N/CG242:SRB

October 26, 1984

TO: Roy K. Matsushige *RRM*
Chief, Hydrographic Surveys Branch

THRU: Chief, Standards Section *gpm*

FROM: S. R. Baumgardner *S.R. Baumgardner*
Quality Evaluator

SUBJECT: Quality Control Report for Survey H-9848 (1979-80), Alaska, Glacier Bay, Point Carolus to Young Island

A quality control inspection of survey H-9848 was accomplished to monitor the survey for adequacy with respect to data acquisition, delineation of the bottom, determination of least depths, navigational hazards, junctions, sounding line crossings, smooth plotting, shoreline transfer, decisions made and actions taken by the verifier, and the cartographic presentation of data. Revisions and additions to the smooth sheet, plus helpful comments made to the verifier, are identified on a one-half scale copy of the survey to be furnished the verifier. In general, the survey was found to conform to National Ocean Service standards and requirements except as stated in the Verifier's Report, and the HIT Report.

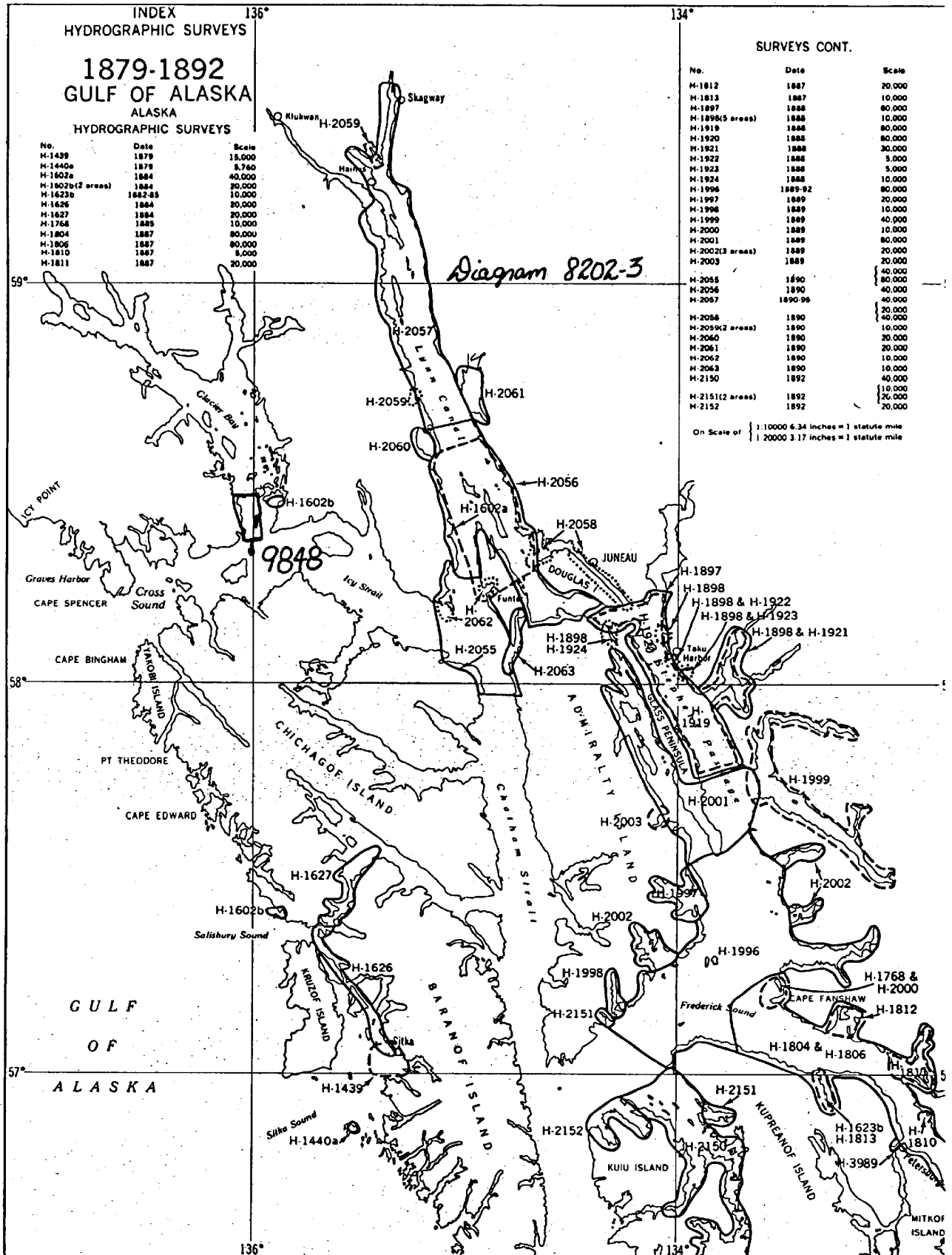
Chart 17300, 22nd Edition, chart 17302, 14th Edition, both of 1981, and chart 17318, 1st Edition of 1980, contain data from the smooth field sheet of the present survey (BP's 110863-64) and an unverified 1973 NOS survey (CL-699, 1979; BP's 107381-82). With the exception of the 5-fathom shoal, mentioned in section K, paragraph 5, of the Descriptive Report which should be retained, these data are considered superseded by the present survey.

cc:
N/CG241



DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Survey
Washington, D.C.

Hydrographic Index No. 111



INDEX
HYDROGRAPHIC SURVEYS

1879-1892
GULF OF ALASKA
ALASKA
HYDROGRAPHIC SURVEYS

No.	Date	Scale
H-1439	1879	15,000
H-1440a	1879	8,760
H-1502a	1884	40,000
H-1602b(2 areas)	1884	20,000
H-1623b	1882-85	10,000
H-1626	1884	20,000
H-1627	1884	20,000
H-1768	1885	10,000
H-1804	1887	80,000
H-1806	1887	80,000
H-1810	1887	5,000
H-1811	1887	20,000

SURVEYS CONT.

No.	Date	Scale
H-1812	1887	20,000
H-1813	1887	10,000
H-1897	1888	80,000
H-1898(5 areas)	1888	10,000
H-1919	1888	80,000
H-1920	1888	80,000
H-1921	1888	30,000
H-1922	1888	5,000
H-1923	1888	5,000
H-1924	1888	10,000
H-1996	1889-92	80,000
H-1997	1889	20,000
H-1998	1889	10,000
H-1999	1889	40,000
H-2000	1889	10,000
H-2001	1889	80,000
H-2002(3 areas)	1889	20,000
H-2003	1889	20,000
H-2055	1890	40,000
H-2056	1890	40,000
H-2057	1890-98	40,000
H-2058	1890	20,000
H-2059(2 areas)	1890	40,000
H-2060	1890	10,000
H-2061	1890	20,000
H-2062	1890	10,000
H-2063	1890	10,000
H-2150	1892	40,000
H-2151(2 areas)	1892	10,000
H-2152	1892	20,000

On Scale of 1:10000 6.34 inches = 1 statute mile
1:20000 3.17 inches = 1 statute mile

Diagram 8202-3

(see also No. 110)



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
OFFICE OF CHARTING AND GEODETIC SERVICES
ROCKVILLE, MARYLAND 20852

FEB 20 1986

N/CG24x1:DEW

TO: N/MOA - Wesley V. Hull
N/MOP - Robert L. Sandquist
FROM: N/CG2 - *J. Austin Yeager*
J. Austin Yeager

SUBJECT: Reports of Compliance for Hydrographic Surveys

I have decided that a special "Report of Compliance" is no longer required for those remaining hydrographic surveys processed under the Verification/Quality Control system in place prior to October 1982. You will no longer receive these reports. Statements made in the Verifier's Reports, modified as necessary by the Quality Control Reports, will suffice with regard to compliance with project instructions.

After their examination of the Descriptive Reports for Automated Wreck and Obstruction Information System (AWOIS) file revisions, Operations Section (N/CG241) personnel will insert a copy of this memorandum into each Descriptive Report to provide appropriate authority for the missing compliance report. In accordance with past practice, we will forward a copy of the Quality Control Report to you for your information.

cc:
N/CG22 - Nortrup



