

10087

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 Navigable Area Hydrographic
Field No. FA-10-2-83
Office No..... H-10087

LOCALITY

State Alaska
General Locality .. Westside of Admiralty Island
Locality Hawk Inlet

19 83

CHIEF OF PARTY
CDR W.F. Forster

LIBRARY & ARCHIVES

DATE March 1, 1985

☆U.S. GOV. PRINTING OFFICE: 1980-766-230

Area 6
Chs

17316
17300

16016-14

TO SIGN OFF SEE
"Record of Application"

HYDROGRAPHIC TITLE SHEET

H-10087

INSTRUCTIONS - The Hydrographic Sheet should be accompanied by this form,
filled in as completely as possible, when the sheet is forwarded to the Office.

FIELD NO.

FA-10-2-83

State AlaskaGeneral locality Westside of Admiralty IslandLocality Hawk InletScale 1:10,000, Insert 1:2500(JD 130) (JD 135)
Date of survey May 10 - May 15, 1983Instructions dated 9 July 1982Project No. OPR-0362-FA-83Vessel 2020, 2023, 2024, 2025, 2026, 2027, MonArk-3, Whaler-2Chief of party CDR W. F. ForsterSurveyed by LT S. Ramsey, LT T. Rulon, ENS P.T. Steele, ENS J.A. Koch, ENS T. Tisch
Ross Fineline FathometerSoundings taken by echo sounder, hand lead, ~~etc.~~ (S/N 1047, 1046, 1097, 1036)Graphic record scaled by FAIRWEATHER PersonnelGraphic record checked by FAIRWEATHER PersonnelVerification A. A. LucenoAutomated plot by PMC Xynetics PlotterEvaluation C. R. DaviesSoundings in fathoms feet at MLW MLLWREMARKS: All times are in UTC. Revisions and marginal notes in black by
evaluator.STANDARDS CK'D 3-A-BSC. Loy✓ AWOIS and SURF Hnd 9/85SC 4-7-97

1:63,360

ISLAND

HAWK INLET







CHATHAM

STRAIT

HAWK INLET CANNERY

H-10087
FA 10-2-83

	APRIL	MAY
SQ NM SOUNDING LINE	0	4
LNM SOUNDING LINE	0	164.1
BOTTOM SAMPLES	0	33
STATIONS RECOVERED	4	1
STATIONS ESTABLISHED	9	3
TIDE GAGE INSTALLATION	1	1
NANSEN CAST	0	2
WATER SAMPLES ANALYZED	0	16
LNM SIDE SCAN SONAR	0	5.3
HYDRO CONTROL STATIONS	0	13
HYDROGRAPHY	0	

-  STA. RECOVERED
 STA. ESTABLISHED
 TEMPORARY STA.
 T_g TIDE GAGE
 NANSEN CAST
 SIDE SCAN SONAR

SIDE SCAN SONAR
200 % COVERAGE
600 % COVERAGE

58 10 00

+ 58 05 00

134 55 00

13,450.00!

344500



Descriptive Report
Hydrographic Survey H-10087 (FA-10-2-83)

A. Project ✓

This hydrographic survey was conducted in accordance with Project Instructions OPR-0362-FA-83 Hawk Inlet, Alaska, dated 9 July 1982; Change No. 1: Supplement to Instructions, dated 14 September 1982; Change No. 2: Supplement to Instructions, dated 1 October 1982; Change No. 3: Supplement to Instructions, dated 12 October 1982; Change No. 4: Supplement to Instructions, dated 10 November 1982; Change No. 5: Supplement to Instructions, dated 16 March 1983. BS³ requirements (Change No. 2) were performed by the NOAA Ship DAVIDSON during the 1982 field season. The PMC OPORDER, The Hydrographic Manual, Fourth Edition, and the Data Requirements Letter updated 14 April 1983 (Appendices Q and R) are also applicable. *Change No. 6, dated August 18, 1983*

B. Area Surveyed ✓

The area covered by this survey (H-10087) lies on the westside of Admiralty Island, Alaska. The survey is a navigable area survey of Hawk Inlet. ⁰⁶The seaward limits extend from the southern shoreline at 58°06'04"N, 134°48'00"W, northwest to 58°04'25"N, 134°48'40"W, due north to 58°06'06"N, 134°48'40"W and northeast to the shoreline at 58°06'24"N, 134°48'03"W.

Hydrography for this survey was completed between May 10 (JD 130) and May 15 (JD 135), 1983.

C. Sounding Vessels ✓

Hydrographic data acquisition was conducted with Jensen survey launches FA-3 (2023), FA-4 (2024), FA-5 (2025), FA-6 (2026), AVON (2027), MonArk 3, and Whaler 2. The FAIRWEATHER (2020) was used to obtain all Nansen cast data for this survey.

A total of 5.3 miles of side scan sonar data was collected by FA-4 (2024) during this survey.

On JD 132 a transducer malfunction of FA-3 developed, and the launch was removed from hydrographic operations for the remainder of the project.

No other unusual sounding vessel configurations were employed.

D. Sounding Equipment and Corrections to Echo Soundings ✓

All survey launches were equipped with Ross Fineline 5000 narrow beam echo sounders. See Table I, Sounding Equipment, for a list of equipment by launch and date. Belt tension and phase checks were performed daily and when paper was changed, except on JD 130 (2025) when only bottom samples were acquired. Fathometer initial was checked frequently during operation for correct paper alignment. All data was scanned, at least twice, to compare analog values to corresponding digitized values and to insert peak and deeps between soundings.

Depths on this survey ranged from -1.7 to 98 fathoms.

Table I
Sounding Equipment

<u>Launch/Date</u>	<u>Instrument</u>	<u>Model</u>	<u>Recorder</u>	<u>Digitizer</u>	<u>Inverter</u>	<u>Transceiver</u>
FA-3 (2023) JD 130-132	Ross	Fineline 5000	1047	1047	1046	1046
FA-4 (2024) JD 130-135	Ross	Fineline 5000	1097	1046	1054	1048
FA-5 (2025) JD 130-135	Ross	Fineline 5000	1036	1036	1103	1054
FA-6 (2026) JD 130-135	Ross	Fineline 5000	1046	1054	1053	1047

On JD 131, the fathometer on FA-4 began making diagonal event marks. The problem was traced to a misaligned paper bed. The paper bed was adjusted and the problem corrected. The data for JD 131 was rescanned, and no data adjustment was necessary due to this problem.

On JD 132 the resonant frequency of the transducer on FA-3 changed and FA-3 was removed from hydrographic operations for the remainder of the project. When the resonant frequency of the transducer changed the trace was lost until the transceiver was adjusted to match. No sounding data had to be rejected due to this problem. With these exceptions, no equipment casualties were experienced and no data was lost due to sounding equipment failures.

Velocity of sound was calculated from two Nansen casts taken within and near the limits of this survey. See Table II, Nansen Casts.

Table II
Nansen Casts

<u>Cast#</u>	<u>Date</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Vicinity</u>
I	10 May	58°07'40.0"N	134°45'45.0"W	East of Station Druid
II	11 May	58°05'30.0"N	134°49'06.0"W	West of Inlet Entrance

Reversing thermometers were calibrated by Northwest Regional Calibration Center, Seattle in March, 1983. Salinity of water was determined with the use of Beckman salinometers, S/N's 59435 and 4919, also calibrated at Northwest Regional Calibration Center in April 1983. See Velocity Corrector Tables in Appendix D for applicable correctors.

Bar checks throughout the project period were used to confirm proper fathometer system function and to provide data to compute TRA correctors. Bar checks were performed twice daily when possible. Records show five launch days where, for various reasons, only one bar check was performed.

Weather conditions during this project were generally good, winds ranged from calm to 12 knots and seas from flat to 2 feet. No corrections for heave were required or applied.

Settlement and Squat for all launches was determined in Shilshole Bay, Seattle in March 1983. Calculations were performed in accordance with Section 4.9.4.2 of the Hydrographic Manual, 4th Edition. Launches were tested at speeds from idle to 2700 RPM, in 200 RPM increments. A Zeiss Ni 2 level was used to read a stadia rod held over the transducer when the launch speed was attained. A tide staff was read simultaneously with the stadia level to correct for tidal influences. The test results were used to plot settlement and squat curves. As explained in Section 4.9.2 of the Hydrographic Manual restrictive speeds for all launches were determined using 0.1 fathom as a maximum corrector. See Table III, Restricted Launch Speeds, for data collected in fathoms. The restricted RPM's listed in Table III were not used to collect data during this project, eliminating the need to apply settlement and squat correctors. For more information, see the Corrections to Echo Sounding Report for this project.

Table III

Restrictive Launch Speeds
(For surveys in fathoms.)

<u>Launch</u>	<u>Restrictive Speeds</u>
FA-3 (2023)	None
FA-4 (2024)	Above 2650
FA-5 (2025)	Above 2530
FA-6 (2026)	None

E. Hydrographic Sheets ✓

All field sheets were plotted aboard The FAIRWEATHER using the PDP 8 Computer (S/N 09524) and two Complot Plotters (S/N 5848-17 and S/N 6166-22). All the hydrographic data for this survey will be forwarded to the Pacific Marine Center in Seattle, Washington for verification and smooth plotting.

The final field sheet shows a 1:1000 scale enlargement of cannery piers.

All plotted soundings have been corrected for transducer depths and predicted tides.

F. Control Stations ✓

Horizontal control for the survey was performed by FAIRWEATHER personnel with assistance from Mr. Sandor Feher/MOP222. Conventional traverse and triangulation methods were used throughout the project. Station Anglo AZ MK 1983 (S/N 216) was positioned by the "A"-Point Method. One fixed aid to navigation, Hawk Inlet East Shoal Light 2, 1983 (S/N 204) was positioned by intersection methods. All control was based on the 1927 North American Datum. All field measurements and shipboard calculations were accomplished to Third Order Class I accuracy or better. For further details, see Horizontal Control Report, OPR-0362-FA-83, Hawk Inlet, Alaska, dated 2 June 1983.

<u>Station Name</u>	<u>Signal Number</u>
BAD 2 1925 r.m.	100
PREY 1982 r.m.	102
RAPTOR 1982 r.m.	104
CALM 1890 r.m.	106
GAUL 1983 d.m.	200
EAST SHOAL LIGHT 2 1983 n.m.d.*	202
CELT 1983 d.m.	204
DRUID 1983 d.m.	206
INCA 1983 d.m.	208
AZTEC 1983 d.m.	210
TP 1 1983 d.n.m.	212
ANGLO 1983 d.m.	214
ANGLO AZ MK 1983 d.m.	216

*Offshore control station

r=Recovered m=Marked (Monumented) n=Not d=Described

Station BAD 2 was located outside of the survey limits. All other stations were located within the survey limits.

G. Hydrographic Position Control ✓

Hydrographic position control was accomplished using Motorola Mini-Ranger III in standard range/range and range/azimuth configurations. Three point sextant fixes, and combinations of Mini-Ranger/Sextant control were used for all detached positions.

Table IV, Mini-Ranger Equipment by Vessel, is a listing of console and R/T units used on each sounding vessel and the dates for which they apply.

Table IV
Mini-Ranger Equipment by Vessel

<u>Vessel</u>	<u>Console/R/T Unit</u>	<u>JD</u>
FA-3	B0323/1649	130-131
FA-4	701/1538	130-134
FA-5	703/1419	130-134
FA-6	506042/1398	131-135

Mini-Ranger electronic correctors for the Hawk Inlet Survey were obtained from two baseline calibrations performed in conjunction with this survey. Initial correctors were determined from a taped distance baseline calibration performed on 7 May 1983 (JD 127) in Juneau. Final correctors for Consoles 701, 703 and B0323 were determined by averaging initial correctors with those that were obtained from the final electronically measured baseline calibrations on May 19th (JD 139) in Washington Bay and the baseline calibration performed on May 20th (JD 140) over a previously measured baseline in Juneau. Closing baseline calibration was not possible for Console 506042. For details, consult the Electronic Control Report OPR-0362-FA-83 for Hawk Inlet.

Baseline calibrations and system checks were conducted in accordance with Appendices M and S of the PMC OORDER. Details of the Baseline Calibrations in support of this survey are contained in Project OPR-0362-FA-83, Electronic Control Report. Critical or non-critical system checks were performed on a twice daily or daily basis. The systems checks confirmed the baseline correctors.

Methods used for the system checks included: Fixed Point Calibration Pole, Three Point Sextant Fix, and Launch to Launch Comparisons. The FAIRWEATHER developed a new technique for critical systems checks, utilizing a 100' R/T cable allowing R/T unit to be placed directly over a monumented station. All critical and non-critical systems checks consistently confirmed within 5 meters and usually within 1 meter. the corrector values determined from the baseline calibrations.

No unusual weather conditions adversely affected positional accuracy on this survey. No hydrography was conducted with weak or less than minimum required control geometry. All signal strengths were recorded automatically or manually annotated on line to insure that all hydrography run with less than minimum required signal strengths was plotted using time and course methods.

In all cases, the launch's Mini-Ranger R/T unit is located over the transducer thus eliminating the need for ANDIST correctors to be applied to the data.

The Abstract of Correctors to Electronic Position Control is included in the separates that follow text.

For additional details, consult the Electronic Control Report OPR-0362-FA-83 for Hawk Inlet dated 16 June 1983.

H. Shoreline✓

Shoreline for this survey was obtained from a 1:10,000 scale shoreline graphics based on 1981 photogrammetrically revised shoreline from the 1:40,000 inset on Chart 17316. The shoreline is four times the scale of the survey and is shown in brown on the field sheet. All shoreline data for support of this survey was provided by N/CG 232.

Field edit was not performed in conjunction with this Navigable Area Survey. Offshore features within the limits of the survey were delineated with hydrography.

The area delineated by hydrography conflicted with the shoreline supplied by N/CG 232. The following areas of discrepancy exist between the inshore limits of hydrography and the shoreline supplied by N/CG 232: 1) Hydrography north of 58°10'00"N indicates that the actual shoreline is approximately 160 meters south of the manuscript shoreline, 2) All hydrography between 58°06'30"N and 58°10'00"N suggest that manuscript shoreline should be shifted between 60 to 160 meters south. H-10087 survey data indicates that the inlet as it appears in this area on the manuscript should be widened up to 50 meters both to the East and West, 3) Hydrography south of 58°06'30"N and north of 58°05'00"N suggest that actual shoreline is 150 m south of the manuscript location with the exception of the shoal by station Raptor at 58°05'55"N, 134°47'10"W which was found to agree with the manuscript, 4) Hydrography south of 58°05'00"N and west of 134°47'00"W indicate that actual shoreline is approximately 100 meters south and 50 meters west of the manuscript location of the shoreline.

See EVAL Report
Section 2

In addition to the above generalized disagreements, ten other major discrepancies were found such that the manuscript shoreline had to be completely revised in order to conform with hydrography. These areas are identified by arrows on the final field sheet. The shoreline on the final field sheet is intended for orientation purposes only and is not recommended for charting purposes.

concur

FAIRWEATHER recommends that additional controlled photography be obtained, to allow compilation of new shoreline manuscripts, for the Hawk Inlet area before charting.

concur

I. Crosslines✓

11.2 nautical miles of crosslines comprise 15.1% of the 74.2 nautical miles of mainscheme hydrography.

Crossline soundings agree with mainscheme soundings within 10% of the depth in all but three instances. A summary of these discrepancies is listed in Table V, Crossline Comparison Discrepancies.

Table V

Crossline Comparison Discrepancies

<u>Crossline Sounding</u> <u>Fix Number</u>	<u>Depth</u>	<u>Mainscheme Sounding</u> <u>Fix Number</u>	<u>Depth</u>	<u>Latitude</u>	<u>Longitude</u>
2782	6.0 5.8	20653	4.5	58°06'09"N	134°46'20"W
2392 + 1	9.3 8.7	2214 + 3	9.3✓	58°05'33"N	134°46'21"W
2387 + 4	9.0 8.5	2493 + 1	11.1 9.4	58°05'38"N	134°47'15"W

These discrepancies were resolved by examining the fathograms for several soundings in both directions of the soundings in question. The examination showed that the discrepancies were due to a steeply sloping bottom. *Concur*

In all cases where these discrepancies exist, the shoaler sounding should be used for charting purposes.

J. Junctions

As per Project Instructions, junctioning was not performed with any other survey. However, the proposed cable crossing area in Change No. 2 to the Project Instructions was surveyed by the NOAA Ship DAVIDSON (H-10060) which falls within a portion of this survey. *see EVAL Report Section 5*

K. Comparison with Prior Surveys ✓

Three AWOIS items were assigned to this survey and investigated with the following results;

#50470 - Wreck of an old steamer reported salvaged: The shoreline was visually searched at low water for a distance of 300 meters in both directions from the reported position of 58°07'18"N, 134°45'10"W, along with 50 meter sounding lines in the same vicinity (POS 2172-2183, and POS 6000-6005). No remains could be found, verifying that the wreck was salvaged. It is recommended that this wreck not be charted. *Concur*

#50471 - Remains of dolphin reported at 58°05'08.6"N, 134°46'18.83"W: Remains of the dolphin were visually located and found to be a cluster of three submerged piles projecting 1.0 foot above the bottom (Refer to Position #2487 for a diagram of the remains). It is recommended that these remains be charted as a cluster of three pilings at 58°05'11"N, 134°46'21"W. *See Section 7 EVAL Report*
Adolphin uncovers 1 foot mslw on Smooth Sheet

#50472 - Abandoned cannery and piers reported in ruins at 58°07'30"N, 134°45'10"W: The cannery and piers were found to be correct as charted (Hydro Positions 6155-6193). During survey operations, the local grounds-keeper informed FAIRWEATHER personnel that most of the existing buildings and piers will be removed. Current construction plans of the NORANDA Mining Co., 9000 Glacier Hwy, Juneau, AK., which will be refurbishing the area, include the establishment of a new pier. It is recommended that current cannery and piers remain on the chart until constructions has begun. *see EVAL Report Section 7*
Concur

For additional information, contact: Sam Smith, Project Engineer,
NORANDA Mining, 9000 Glacier Hwy, Juneau, AK (907) 789-4171.

The following comparisons were made between this survey and prior Survey H-2063, a 1:10,000 scale survey completed in 1890. 1) At the head of Hawk Inlet (north of 58°10'00"N), soundings are generally 1 fathom shoaler on the contemporary survey. Also, the shoal area on the western shore at 58°10'00"N, 134°46'00"W extends 300 yds. farther east than shown on prior Survey H-2063. 2) The area on H-10087 between 58°06'30"N and 58°10'00"N, depths are generally less than 10% shoaler than shown on H-2063. Exceptions to this are listed in Table VI, Discrepancies with Prior Surveys. In this portion of the survey, four areas of shoaling exist, three on the western shore, and one on the east. The three west shore areas are located at 58°09'03"N, 134°46'15"W; 58°08'12"N, 134°46'15"W; and 58°07'55"N, 134°46'15"W. The shoaling to the east is by the cannery ruins at 58°07'30"N, 134°45'12"W. In these four areas, shoaling has moved the zero fathom curve from 100 to 150 meters seaward of the previously surveyed position. 3) All soundings in the East Shoal Channel between 58°06'00"N and 58°06'30"N are generally 2 fathoms shoaler on H-10087 than on the prior survey. 4) East Channel Shoal has expanded both to the north and south since the prior survey was completed. The zero fathom curve for this shoal now lies in water previously surveyed between 0 and 6 fathoms on H-2063. 5) Soundings south of 58°06'00"N and east of 134°47'00"W agree within 10% of the prior survey soundings with the exception of those sounding located in Piledriver Cove or listed in Table VII. Shoaling at the entrance to Piledriver Cove at 58°05'11"N, 134°46'20"W has moved the zero fathom curve 200 meters north of its previously surveyed location. 6) All hydrography on this survey deeper than 15 fathoms west of 134°47'00"W agreed within 10% of the depths shown on H-2063. 7) Hawk Point Shoal located north of 58°05'30"N and between 134°46'30"W and 134°47'30"W was determined to be an average 2 fathoms shoaler on H-10087 than H-2063 for all hydrography inside the 10 fathom curve.

The shoreline as determined by inshore hydrography on H-10087 was in good agreement with the shoreline on H-2063, with the exception of those discrepancies discussed earlier in this section.

H-10087 was compared to three other prior surveys: H-2055, a 1:80,000 scale survey from 1890; H-4227 WD, a 1:40,000 scale wire drag survey from 1922; and H-4227 WD A_d W_k, a 1:40,000 scale wire drag survey completed in 1923. No discrepancies exist between H-10087 and these surveys.

Table VII
Discrepancies with Prior Surveys

<u>G.P.</u>	<u>H-2063 Depth</u>	<u>H-10087 Depth</u>
58°09'58"N, 134°45'47"W	10 3/4'	8.9
58°09'45"N, 134°45'02"W	17 1/2'	12'
58°09'24"N, 134°46'02"W	16'	14'
58°07'33"N, 134°45'28"W	39'	36' 6

Table VI (Cont'd)

<u>G.P.</u>	<u>H-2063 Depth</u>	<u>H-10087 Depth</u>
58°07'25"N, 134°45'38"W	42	38 ⁸
58°07'25"N, 134°45'51"W	39	38 ⁶
58°07'10"N, 134°45'26"W	40	33
58°06'58"N, 134°45'52"W	42	38 ⁵
58°06'50"N, 134°45'40"W	26	17
58°06'34"N, 134°45'31"W	6 1/2	3.3
58°06'32"N, 134°45'50"W	15 1/2	12.4
58°06'54"N, 134°46'14"W	28 1/2	24
58°05'41"N, 134°46'05"W	17 1/4	13
58°05'31"N, 134°46'27"W	10 1/4	8 1/2
58°05'23"N, 134°46'32"W	12 1/2	10
58°05'21"N, 134°46'15"W	14 1/4	12.3

It is recommended that, this survey supersede all prior surveys within their common areas of coverage.

L. Comparison with the Chart ✓

This survey was compared with a 4:1 expansion of the 1:40,000 scale inset on Chart 17316 (14 Ed. 30 OCT 82).

Comparison with the charted soundings and contours north of 58°10'00"N showed generally poor agreement with sounding discrepancies of up to 5 fathoms, and shoal contours off by as much as 200 meters (58°10'27"N, 134°44'56"W).

concur

Comparison with the chart between 58°10'00"N and 58°06'30"N showed marginal agreement with most soundings toward the middle of the inlet agreeing within 10% of the charted depth. Soundings toward the channel edges or in areas of rapidly changing bottom showed poor agreement with discrepancies of up to 20 fathoms (58°07'35"N, 134°46'03"W) on close inshore soundings. Zero fathom contours in this area showed a discrepancy of up to 100 m between H-10087 and the chart. This is readily apparent at 58°09'05"N, 134°46'13"W; 58°08'13"N, 134°46'10"W; and 58°07'57"N, 134°46'10"W.

concur

Comparison of H-10087 with the charted location of East Channel Shoal, the light and the nearby channel shows generally good agreement. However, hydrography indicates that east channel shoal has expanded up to 200 meters to the north, and up to three hundred meters to the south. Soundings in these areas disagree by as much as 2 fathoms.

concur

Hawk Point Shoal (Between $58^{\circ}05'30''N$ and $58^{\circ}06'00''N$, and between $134^{\circ}46'30''W$ and $134^{\circ}47'30''W$) is shown by this survey to extend up to 300 meters farther south than its charted position. The inshore soundings in this area range from 1 to 4 fathoms shoaler than indicated on the chart. The inshore contours determined by H-10087 for this area as well as the area that extends northward up Chatham Strait indicate that the charted zero fathom curve should extend between 100 and 300 meters seaward from its chartered location at several locations. *Concur*

Hydrography on H-10087 east of $134^{\circ}47'00''W$ and south of $58^{\circ}05'20''N$ has generally agreed within 1 fathom from the chart. Discrepancies noted in this area are: H-10087 discovered uncharted submerged rocks at $58^{\circ}05'13''N$, $134^{\circ}46'42''W$; $58^{\circ}05'10''N$, $134^{\circ}46'41.8''W$; and $58^{\circ}05'11''N$, $134^{\circ}46'38''W$; and the zero fathom curve in Piledriver Cove was found to be as much as 200 meters north of its charted location.

Generally soundings on H-10087 that lie south of $58^{\circ}05'00''N$ and west of $134^{\circ}47'00''W$, agree within 1 fathom of the charted depth. Exceptions to this are: (1) $58^{\circ}04'44''N$, $134^{\circ}47'48''W$ H-10087 depth 5.48 fm, charted depth 9 fm; (2) $58^{\circ}04'24''N$, $134^{\circ}48'04''W$, H-10087 depth 2.74 fm, charted depth 9 fm; (3) Uncharted rock found on H-10087 at $58^{\circ}04'38.5''N$, $134^{\circ}47'48''W$ submerged with least depth of 1.0 fm. Also the reef limits located at $58^{\circ}04'36''N$, $134^{\circ}47'41''W$ and $58^{\circ}04'10.5''N$, $134^{\circ}48'03.5''W$ have changed from these charted locations. Refer to the final field sheet for actual limits. *Field sheet data depicted on smooth sheet.*

All other soundings and contours not previously discussed showed good agreement with the exception of a 49 fathom depth charted at where H-10087 depths are 65-72 fathoms. No indication of shoaling was found in this vicinity, thus the discrepancy is attributed to the error introduced by the enlargement of the chart.

It is recommended that the hydrography from H-10087 supersede the charted depths in all cases. Comparison between the charted shoreline and H-10087 hydrography showed extremely poor agreement, areas too numerous to list. Refer to section H of this report for recommendations. Factors such as a steeply sloping bottom, shoaling and the errors that were introduced during photo enlargement would account for the discrepancies noted between H-10087 and the Chart 17316. *Concur*

M. Adequacy ✓

This survey is complete, and fully adequate to supersede all prior surveys in their common areas. There is no incomplete or sub-standard portion. No additional field work is necessary. *See Entry Report Section 9*

N. Aids To Navigation ✓

Two aids to navigation were located within the survey area: Entrance Buoy "1", Fl 4 sec G, at $58^{\circ}05'32.36''N$, $134^{\circ}46'41.79''W$ and East Shoal Light #2 a Fl 4 sec Red Light at $58^{\circ}06'13.078''N$, $134^{\circ}46'15.877''W$. Characteristics of both aids were verified with respect to the U.S. Coast Guard Light List, 1983 Edition, and NOS Chart 17316. ✓

Both aids to navigation were found to be off the published Light List positions as follows: Hydrographic positioning of Entrance Bouy 1 (POS No. 2400) located this aid 71 meters to the north of the Light List position. & the geodetically positioned East Shoal Light #2 was more than 73 meters to the west of published position (See Horizontal Control Report, OPR-0362-FA-83 Hawk Inlet for geodetic position information on this light). The 1983 Light List positions are approximate and confirmed by the present survey.

Both aids with the newly determined positions effectively serve the purpose of identifying shoal areas. A letter to the Commanding Officer, 17th Coast Guard District, Juneau, expressing these changes as well as additional dangers to navigation for this area is included with the separates that follow the text.

No changes were found in charted submarine cable areas.

NOAA Form 76-40, Nonfloating Aids or Landmarks for charts is included with the separates following the text.

O. Statistics

Table VIII

Survey H-10087 Statistics

Vessel	Avon	Wh. 2	MonArk 3	2023	2024	2025	2026	Total
Positions	2	6	26	453	548	551	888	525773 420475 2718 2284
Naut. Miles	0	0	0	485	59.8	23.0	27.5	158.8
Sq. Miles	0	0	0	5/4	6/4	3/4	2/4	4.0
Bottom Samples	0	0	0	0	0	33	0	33 27

Additional information used for this survey was collected as follows: Tides were supported by two tide stations along with the primary tide station at Juneau. See OPR-0362-FA-83 Field Tide Note for details. Velocity information was obtained from two Nansen Casts, see OPR-0362-FA-83 Corrections to Echo Soundings Report for additional information. No current or magnetic stations were established in conjunction with this survey.

P. Miscellaneous ✓

An extensive development was conducted in the area of 58°05'52"N, 134°47'39"W in an attempt to verify the existence of what appeared to be a side echo of a 10.5 fathom shoal detected by FA-3 on JD 131 (See fathogram POS 200). 600% side scan coverage of this area (POS # 2784-2800, 2841-2858), and 1.2 NM of star developments (POS 2859-2871) on JD 134, subsequently proved this feature to be due to fish activity.

Side scan sonar was also used to supplement hydrography in East Shoal Channel. 200% coverage verified that there were no dangers to navigation in this vicinity. *concur*

Q. Recommendations ✓

A submarine power cable is proposed that will cross Chatham Strait from Whitestone Harbor to Hawk Point, proceed up the west shore of Hawk Inlet, then cross the inlet at $58^{\circ}07.5'N$ to a point where the cannery ruins are presently located. It is recommended that contact be made with Mr. Robert J. Cross, Administrator, Alaska Power Administration, P.O. Box 50, Juneau, Alaska 99802 for a status report on this project such that it can be charted when completed. ✓

Photography should be flown in the survey area to provide accurate shoreline manuscripts. *concur*

Copies of this survey should be provided to the following people:

Robert J. Cross, Administrator
Alaska Power Administration
P.O. Box 50
Juneau, AK 99802

Buzz Ritter
General Delivery
Hawk Inlet, Alaska

There are no further recommendations except those previously mentioned in this report.

R. Automated Data Processing ✓

All range/range and range/azimuth hydrography was processed in accordance with the Hydrographic Data Requirements Letter (Appendix Q) Change No. 2 dated April 14, 1983. For range/range hydro, all peaks, deeps, and sounding corrections were put on the corrector tape. With range/azimuth data, all peaks and deeps that were inserted on arcs were edited onto the master tape with an interpolated range assigned to them. For range/azimuth inserts that were not located on arcs, the inserts were either edited onto the master as a short word or onto the corrector tape being positioned by time and course.

The majority of the large number of soundings and detached positions in the area of the cannery ruins $58^{\circ}07'30''N$, $134^{\circ}45'10''W$ were not plotted on the final field sheet for H-10087.

In some areas, large amounts of data were omitted from smooth plotting to maintain clarity of the final field sheet. The following positions were not plotted on the final field sheet: 2784-2800, 2841-2871, 4647-4666, and 6267-6348.

The following list of hydroplot programs were used for data acquisition and processing during this survey.

<u>Number</u>	<u>Program Name</u>	<u>Version Dates</u>
PALOGH. BN	R/R + R/AZ Hydrologger	04/08/83
RK 112	R/R Real Time Plot	08/04/81
FA 181	R/AZ Logger	02/23/78
RK 201	Grid, Signal and Lattice Plot	04/18/75
RK 211	R/R Non Real Time Plot	02/02/81
RK 212	Visual Station Table Load	04/01/74
RK 216	R/AZ Non Real Time Plot	02/09/81
RK 407	Geodetic Inverse/Direct Computations	09/25/78
RK 300	Utility Computations	10/21/81
RK 330	Reformat and Data Check	05/04/76
PM 360	Electronic Corrector Abstract	02/02/76
AM 500	Predicted Tide Generator	11/10/72
RK 530	Layer Corrections for Velocity	05/10/76
RK 561	H/R Geodetic Calibration	12/01/82
AM 602	Elinore	12/08/82

S. Referral to Reports✓

The following is a list of the reports for OPR-0362-FA-83, Hawk Inlet that were submitted separately from the descriptive report and hydrographic records:

<u>Report</u>	<u>Date of Submission</u>
Horizontal Control Report	June 19, 1983
Electronic Control Report	July 1983
Coast Pilot Report	July 1983
Geographic Names Report	July 1983
Corrections to Echo Soundings Report	July 1983

RECEIVED

MAY 26 1983

PACIFIC MARINE CENTER



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY

NOAA Ship FAIRWEATHER S220
1801 Fairview Avenue East
Seattle, Washington 98102

23 May 1983

Commander
17th Coast Guard District
P.O. Box 3-5000
Juneau, Alaska 99802

Dear Sir:

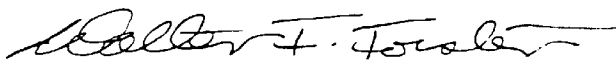
The NOAA Ship FAIRWEATHER has recently completed hydrographic survey operations of Hawk Inlet on the west side of Admiralty Island. During this project the following hazards to navigation were found on charts 17300 and 17316.

1. A 5.9 fathom shoal at Mean Lower Low Water 0.7 NM 024°T from Hawk Inlet East Shoal Light #2. Shoal extends from 58°06'27"N, 134°45'48"W to 58°06'53"N, 134°45'48"W with the least depth located at 58°06'51"N, 134°45'45"W.
2. A 3.2 fathom shoal at MLLW 0.58 NM 160°T from Hawk Point at 58°05'14"N, 134°46'43"W.
3. A 1.8 fathom shoal at MLLW 0.66 NM 165°T from Hawk Point at 58°05'09"N, 134°46'46"W.
4. A 0 fathom shoal at MLLW 0.7 NM 174°T from Hawk Point at 58°05'05"N, 134°46'56"W.
5. A 8.4 fathom shoal at MLLW at 1.1 NM 183°T from Hawk Point at 58°04'42"N, 134°47'12"W.
6. Revised limits of a reef which bears at MLLW 1.1 NM 181°T from Hawk Point. Reef extends north from 58°04'37"N, 134°47'23"W to 58°04'43"N, 134°47'29"W.
7. Rock awash at MLLW 1.1 NM 200°T from Hawk Point at 58°04'39"N, 134°47'49"W.
8. Revised limits of a reef 1.63 NM 201°T from Hawk Point. Reef extends from 58°04'15"N, 134°48'05"W to 58°04'19"N, 134°48'07"W.
9. A 9.8 fathom shoal at MLLW 1.53 NM 205°T from Hawk Point at 58°04'24"N, 134°48'18"W.
10. A 5.5 fathom shoal at MLLW 1.1 NM 200°T from Hawk Point at 58°04'45"N, 134°47'44"W.
11. A 7.0 fathom shoal at MLLW 0.24 NM 294°T from Hawk Point at 58°05'52"N, 134°47'28"W.
12. An uncharted rock which is visible at Mean Higher High Water (MHHW), 1.2 NM 317°T from Hawk Point at 58°06'39"N, 134°48'35"W.



13. Revised limits of a 4.6 fathom shoal on the south shore of Hawk Point. Shoal now extends from 58°05'35"N, 134°46'36"W 0.28 NM at 270°T to 58°05'35"N, 134°47'07"W, and northward 0.3 NM at 358°T to 58°05'54"N, 134°46'36"W. Least depth of 0.9 fathom is located at 58°05'40"N, 134°46'37"W, which is 0.59 NM at 199°T from Light #2.
14. Revised limits of East Shoal adjacent to Light #2. This shoal which bares 0 fathom at MLLW at 315°T extends from 58°05'47"N, 134°45'58"W 0.25 NM to 58°05'58"N, 134°46'17"W and continues 0.25 NM at 003°T to Light #2.
15. Least depth for centerline of the channel leading into Hawk Inlet adjacent to Light #2 was found to be 6.2 fathoms at MLLW at 58°05'59"N, 134°46'23"W.
16. A revised geographic position for East Shoal Light #2 was found to be 58°06'13.075"N, 134°46'15.877"W.
17. Buoy #1 at the entrance to Hawk Inlet was found to be off the Light List position. The revised position is 58°05'32.36"N, 134°46'41.79"W.

Sincerely,


Cdr. Walter F. Forster, NOAA
Commanding Officer
NOAA Ship FAIRWEATHER

Attachments

cc: Director, Pacific Marine Center
Chart Information Section, N/CG222



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY

NOAA Ship FAIRWEATHER S220
1801 Fairview Ave. East
Seattle, Washington 98102

June 11, 1983

Commander
Seventeenth Coast Guard District
P.O. Box 3-5000
Juneau, Alaska 99802

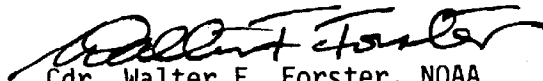
Dear Sir:

Notice to Mariners NR. 22, dated 31 May 1983 erroneously listed Dangers to Navigation discovered by the NOAA Ship FAIRWEATHER for Alaska-Ewan Bay-Washington Bay-Chatam Strait (Page 9 of 12 pages). The Notice to Mariners should be corrected to read, Alaska-Rowan Bay-Washington Bay-Chatham Strait-Hydrographic Information.

The following Dangers to Navigation was published in Notice to Mariners NR. 22, dated 31 May 1983 for Alaska-Southeast-Hawk Inlet-Hydrographic Survey Information and is submitted as written confirmation of the discovery.

1. Submerged pilings, cluster of three, 1.0 feet below MLLW, 1.05 nautical miles, 183° True from Hawk Inlet Light 2 at 58°05'11.05"N 134°46'21.35"W for charts 17300 and 17316.

Sincerely,


Cdr. Walter F. Forster, NOAA
Commanding Officer

cc: N/MOP - Director, Pacific Marine Center
N/CG222 - Chart Information Section





U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
NOAA Ship FAIRWEATHER S220
1801 Fairview Ave. East
Seattle, WA 98102

21 June 1983

Commander
17th Coast Guard District
P.O. Box 3-5000
Juneau, Alaska 99802

Dear Sir:

The following danger to navigation was discovered by the NOAA Ship FAIRWEATHER during hydrographic survey operations in Hawk Inlet, Alaska, and is supplement information to the FAIRWEATHER's letter dated 22 May 1983, affecting charts 17300 and 17316:

18. An uncharted rock awash at Mean Lower Low Water,
3.92 nautical miles from East Shoal Light #2 bearing
006° T at 58°10'07.75"N, 134°45'29.79"W.

Sincerely,

Christian Andreasen

Christian Andreasen
CDR NOAA
Commanding Officer

cc: N/MOP - Director, Pacific Marine Center
N/CG222 - Chart Information Section





U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY

NOAA Ship FAIRWEATHER

June 15, 1983

TO : N/OMS - Wesley V. Hull
THRU : N/MOP - Charles K. Townsend
FROM : S220 - Commanding Officer
NOAA Ship FAIRWEATHER
SUBJECT: Currents, OPR-0362-FA-83, Hawk Inlet, Alaska

In accordance with section 8.2.(1-2) of project instruction OPR-0362-FA-83, Hawk Inlet, Alaska, the following information regarding tidal currents is provided:

1. No anomalous currents or tidal conditions were observed in or near the project area during this survey. Local residents could provide no further information on this subject.
2. A strong current was observed at the entrance to Hawk Inlet between East Shoal Light #2 and the western shore. The time of maximum current was approximately 2 to 3 hours before and after high water. Maximum current was estimated to be 4 to 5 knots with the flood current setting towards 002°T and the ebb current setting towards 182°T. The highest current was observed to lie just west of the centerline of the channel. During times of maximum currents, rips were seen in vicinity of East Shoal Light #2. Mariners are advised to exercise caution when navigating through this area at times of maximum currents.
3. No difficulties were encountered by FAIRWEATHER while navigating in and around this project area.

RECOMMENDATION: Hydrographic vessels need a simple current meter to deploy in the field that will measure current velocity and directions. The meters need not be as sophisticated as standard meters used by current survey vessels. Such meters could be deployed by anchored skiffs in sheltered operational areas and add considerable accuracy to reports on currents.



Approval Sheet

During field operations, the Commanding Officer inspected all field sheets and data on a daily basis. All survey sheets, reports and records are accurate. This survey is complete and shall require no additional field work.

Submitted by:

Jeffery A Koch

Jeffery A. Koch
ENS NOAA

Approved by:

Christian Andreasen

Christian Andreasen
CDR NOAA
Commanding Officer

Relieved Cdr Forster on 6/17/83

HYDROGRAPHIC CONTROL STATIONS /
OPR-0362-FA-83
ALASKA
CHATHAM STRAIT
HAWK INLET

PREY 1982 NGS QUAD N581343 DAVIDSON 1982
102 7 58 04 15693 134 47 51091 250 0024 000000

RAPTOR 1982 NGS QUAD N581343 DAVIDSON 1982
104 1 58 05 46919 134 47 04633 250 0036 000000

CALM 1890-1922 NGS QUAD N581343 1017
106 2 58 06 17401 134 47 58469 250 0020 000000

GAUL 1983 NGS QUAD N581343 FAIRWEATHER 1983
200 4 58 05 22343 134 46 05400 250 0033 000000

EAST SHOAL LIGHT 2 NGS QUAD N581343 FAIRWEATHER 1983
202 4 58 06 13075 134 46 15877 139 0077 000000

CELT 1983 NGS QUAD N581343 FAIRWEATHER 1983
204 4 58 06 27907 134 45 32145 250 0042 000000

DRUID 1983 NGS QUAD N581343 FAIRWEATHER 1983
206 3 58 07 38010 134 46 06886 250 0012 000000

INCA 1983 NGS QUAD N581343 FAIRWEATHER 1983
208 4 58 07 51133 134 45 22861 250 0021 000000



AZTEC 1983 NGS QUAD N581343 FAIRWEATHER 1983
210 3 58 08 24689 134 46 00027 250 0010 000000

TP 1983 NGS QUAD N581343 FAIRWEATHER 1983
212 3 58 09 35602 134 46 08462 254 0016 000000

ANGLO 1983 NGS QUAD N581343 FAIRWEATHER 1983
214 0 58 10 06115 134 46 04332 139 0018 000000

ANGLO AZ MK 1983 NGS QUAD N581343 FAIRWEATHER 1983
216 6 58 10 09093 134 45 10338 250 0013 000000

DOL 1983 NGS QUAD N581343 FAIRWEATHER 1983 (HYDRO)
217 0 58 07 26980 134 45 15925 252 0000 000000

RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	
POSITIONS DETERMINED AND/OR VERIFIED	 W. F. Forster
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	<input type="checkbox"/> PHOTO FIELD PARTY <input checked="" type="checkbox"/> HYDROGRAPHIC PARTY <input type="checkbox"/> GEODETIC PARTY <input type="checkbox"/> OTHER (Specify) _____ FIELD ACTIVITY REPRESENTATIVE _____ OFFICE ACTIVITY REPRESENTATIVE _____ <input type="checkbox"/> REVIEWER _____ <input type="checkbox"/> QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE _____
INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION' (Consult Photogrammetric Instructions No. 64,	
OFFICE I. OFFICE IDENTIFIED AND LOCATED OBJECTS Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object. EXAMPLE: 75E(C)6042 8-12-75	FIELD (Cont'd) B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object. EXAMPLE: P-8-V 8-12-75 74L(C)2982 II. TRIANGULATION STATION RECOVERED When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery. EXAMPLE: Triang. Rec. 8-12-75 III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH Enter 'V-Vis.' and date. EXAMPLE: V-Vis. 8-12-75 **PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.

Field Tide Note
OPR-0362-FA-83
West Side Admiralty Island, Hawk Inlet

The primary tide gage (945-2210) Juneau, Alaska served as reference station for the navigable area survey of Hawk Inlet (H-10087) on the West Side Admiralty Island, as stated in Project Instructions OPR-0362-FA-83. Third-order levels were run from the reading mark of the ETG to three permanent bench marks on 22 April 1983 (JD 112). Closure was within the acceptable limits set forth by the Hydrographic Manual, Fourth Edition, Section A.8.4.

As per project instructions, the tide correctors of zero minutes added to the times of predicted tides. All times of both predicted and recorded tides were based on Universal Coordinated Time (UTC). All predicted tides were acceptable for hydrography with no discrepancies in data attributable to tide errors.

Two tide gages were utilized for this project.

Hawk Inlet, Alaska

Tide station (945-2292) Hawk Inlet located at latitude $58^{\circ}07'37''^{\text{N}}$ ^{39.4}, longitude $134^{\circ}45'15''^{\text{W}}$ was the gage that controlled the project area north of latitude $58^{\circ}06.2'20''^{\text{N}}$. On 21 April 1983 (JD 111) the tide staff, stilling well, and Fisher Porter gage s/n 7601A 1469M15 were installed. Both staff and float well were secured to wood piles. Gage was installed directly over PVC stilling well.

Opening 3rd order levels were run to five established permanent bench marks on 26 April 1983 (JD 116). Closing levels were run on 14 May 1983 (JD 134). Closures were within acceptable limits set forth by the Hydrographic Manual. A comparison of opening to closing levels shows no sign of any vertical movement in the marks or tide staff. Staff value of the zero line on analog tide records was 20.03 feet.

Fisher Porter gage s/n 7601A 1469M5 worked well during the entire project period. Gage was removed by tide observer after the FAIRWEATHER left the working area to fulfill the 30 day minimum requirement stated in Section 5.8.2 of the Project Instructions.

Hawk Inlet Entrance

Tide station (945-2296) Hawk Inlet Entrance located on a small island at latitude $58^{\circ}05'09''^{\text{N}}$, longitude $134^{\circ}46'33''^{\text{W}}$ was control for hydrography in the vicinity of Hawk Inlet Entrance and the area south of latitude

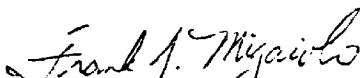
58°06.0'N in Hawk Inlet.

On 10 May 1983 (JD 130) the tide staff and Bristol bubbler gage s/n 63A2920 were installed. Staff assembly was anchored to a vertical rock face. The orifice was secured to an eye bolt set in rock. Tubing leads up rocks to gage secured to rock outcropping above MHHW line. The gage was removed on 15 May 1983 (JD 135).

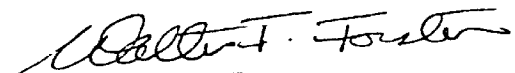
Opening 3rd order levels were run to three temporary bench marks as described in Level Records on 10 May 1983 (JD 130). Closing levels were run on 14 May 1983 (JD 134). Closures were within the acceptable limits set forth by the Hydrographic Manual. A comparison of opening to closing levels shows no sign of any vertical movement in the marks or tide staff. Staff value of the zero line on analog tide records were 0.4 feet.

Bristol bubbler s/n 63A2920 worked well during the project period with one exception. On 13 May 1983 (JD 133) at 1950 UTC to 14 May 1983 (JD 134) at 1845 UTC, there was no marigram trace because the ink well went dry. Hydrography was run during this down time. Due to time restraints the Hawk Inlet entrance gage was removed before the 4 hour period of post hydrography could be met, as stated in Section 5.8.4 of the Project Instruction. The required 3 hour (12 min. interval) comparison was done on 11 May 1983 (JD 131). Discrepancies of up to 0.12 feet are attributed to the wave action and resultant surge at the staff site.

Submitted by


Frank J. Migaiolo
ENS NOAA

Approved by


Walter F. Forster
CDR NOAA
Commanding Officer

DATE: September 7, 1983

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): 945-2292 Hawk Inlet, AK
945-2294 Hawk Inlet Entrance, AK

Period: April 29 - May 15, 1983

HYDROGRAPHIC SHEET: H-10087

OPR: 0362

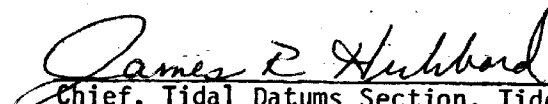
Locality: Hawk Inlet, Admiralty Island, Alaska

Plane of reference (mean lower low water): 945-2292 = 1.57 ft.
945-2294 = 3.56 ft.

Height of Mean High Water above Plane of Reference is 945-2292 = 14.7 ft.
945-2294 = 14.6 ft.

REMARKS: Recommended Zoning:

1. North of latitude $58^{\circ}06.2'N$ zone direct on 945-2292, Hawk Inlet, Alaska.
2. South of $58^{\circ}06.2'N$ zone direct on 945-2294, Hawk Inlet Entrance, Alaska.


Chief, Tidal Datums Section, Tides & Water
Levels Branch

HYDROGRAPHIC SURVEY STATISTICS

H-10087

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT
SMOOTH SHEET		1	SMOOTH OVERLAYS: POS., ARC, EXCESS		8
DESCRIPTIVE REPORT		1	FIELD SHEETS AND OTHER OVERLAYS		1
DESCRIP- TION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR- GRAMS	PRINTOUTS	ABSTRACTS/ SOURCE DOCUMENTS
ACCORDIAN FILES	1				
ENVELOPES					
VOLUMES	4				
CANIERIS					
BOXES					

SHORELINE DATA

SHORELINE MAPS(List):

PHOTOBATHYMETRIC MAPS(List):

NOTES TO THE HYDROGRAPHER(List):

SPECIAL REPORTS(List):

NAUTICAL CHARTS(List):

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY		AMOUNTS		
		VERIFICATION	EVALUATION	TOTALS
POSITIONS ON SHEET				2282
POSITIONS REVISED		10		
SOUNDINGS REVISED		81	5	
CONTROL STATIONS REVISED (Elevations)		12		
		TIME - HOURS		
		VERIFICATION -	EVALUATION	TOTALS
PRE-PROCESSING EXAMINATION Pre-Verification		2		2
VERIFICATION OF CONTROL		6	1	7
VERIFICATION OF POSITIONS		113	8	121
VERIFICATION OF SOUNDINGS		161	11	182
VERIFICATION OF JUNCTIONS		2	1	3
APPLICATION OF PHOTOBATHYMETRY				
SHORELINE APPLICATION/VERIFICATION				
COMPILATION OF SMOOTH SHEET		97	160	257
COMPARISON WITH PRIOR SURVEYS AND CHARTS			10.0	10
EVALUATION OF SIDESCAN SONAR RECORDS		2	2	4
EVALUATION OF WIRE DRAGS AND SWEEPS				
EVALUATION REPORT (Verifier's Report)		4	18	22
OTHER Resolution of T-1 Problem		2		2
Digitization		45		45
TOTALS		389	67	655
Pre-processing Examination by		Beginning Date	Ending Date	
Verification of Field Data by		Beginning Date	Ending Date	
A. A. Luceno		October 19, 1983	October 1, 1984	
Verification Check by		Time(Hours)	Ending Date	
S. H. Otsubo, J. S. Green		57	December 5, 1984	
Evaluation and Analysis by		Time(Hours)	Ending Date	
C. R. Davies		67	November 8, 1984	
Inspection by		Time(Hours)	Ending Date	
D. Hill		2	12-21-84	

PACIFIC MARINE CENTER

EVALUATION REPORT

REGISTRY NO: H-10087

FIELD NO: FA-10-2-83

Alaska, Westside of Admiralty Island, Hawk Inlet

SURVEYED: May 10 - May 15, 1983

SCALE: 1:10,000, Inset 1:2,500

PROJECT NO: OPR-0362-FA-83

SOUNDINGS: Ross Fineline Fathometer,
Handlead
Fathoms and tenths of fathoms

CONTROL: Mini-Ranger III
Range-Range
Range/Azimuth

Chief of Party.....Cdr. W. F. Forster

Surveyed by.....Lt. S. Ramsey
Lt. K. Andreen
Lt. T. Rulon
Ens. J. Koch
Ens. T. Tisch

Automated Plot by.....PMC Xynetics Plotter

Verified by.....A. A. Luceno

Evaluated by.....C. R. Davies

1. INTRODUCTION

H-10087 is a navigable area survey conducted in accordance with the following:

Project Instructions OPR-0362-DA-82, dated July 9, 1982
Change No. 1, dated September 14, 1982
Change No. 2, dated October 1, 1982
Change No. 3, dated October 12, 1982
Change No. 4, dated November 10, 1982
Change No. 5, dated March 16, 1983
Change No. 6, dated August 18, 1983

H-10087 (1983), a 1:10,000 scale survey, encompasses all of Hawk Inlet on Admiralty Island and extends into Chatham Strait to longitude 134°48'45"W.

During office processing, the following data were changed:

- a) Projection parameters were changed to center the hydrography on the smooth sheet and to change the projection to polyconic.
- b) Tide levels corrections used on H-10087 are from observed tides (see Tide Note).

Numerous abstracts and supplements no longer relevant after data processing have been removed from the Descriptive Report and filed with the field records.

2. CONTROL AND SHORELINE

All horizontal control stations used for controlling hydrography were established in accordance with Third Order Class I or better geodetic standards. The smooth sheet was plotted using published NGS coordinates for existing stations and preliminary adjusted field positions for newly established stations.

Hydrographic positioning was conducted using the Motorola Mini-Ranger III configured in both range-range and range-azimuth modes, and three-point sextant fixes for detached positions. Baseline calibrations were performed before and after completing the project.

All remaining information affecting the positioning and station control of this survey is listed in paragraphs F and G of the Descriptive Report, the Horizontal Control Report and the Electronic Control Report for OPR-0362-FA-83.

Shoreline is not portrayed on the smooth sheet; however, several conflicts exist between the hydrography and the shoreline as delineated on the photogrammetrically revised chart shoreline. The hydrographer's discussion of this problem is adequate and the evaluator is in concurrence with the recommendation to revise the chart from controlled photography.

3. HYDROGRAPHY

Crossline soundings are in good agreement. The hydrography within the limits of H-10087 was adequate to determine the bottom configuration and least depths. Standard depth curves were adequately drawn.

4. CONDITION OF SURVEY

The hydrographic records and reports are adequate and conform to the requirement of the Hydrographic Manual with the following exceptions:

- a) Each control station in the water area should be described briefly and a notation made on the field sheet (Hydrographic Manual 4.2.5).
- b) Of the three uncharted submerged rocks north of Piledriver Cove mentioned in section I of the Descriptive Report, only one submerged rock (latitude 58°05'13"N, longitude 134°46'42"W) is supported by field data, position 6445, rock covered one foot. The other two rocks (latitude 58°05'10"N, longitude 134°46'41"W, and latitude 58°05'10.7"N, longitude 134°46'37.0"W) are not supported by detached positions and are depicted on the smooth sheet as rocks covering at MLLW with estimated depths.

5. JUNCTIONS

The Project Instructions did not specify any junctioning requirements. However, in accordance with Change No. 2, the NOAA Ship DAVIDSON performed a survey, H-10060 (1982), for the proposed cable crossing at the mouth of Hawk Inlet. H-10087 joins H-10060 (1982) and soundings and depth curves are in agreement. The junctional note is inked accordingly.

6. COMPARISON WITH PRIOR SURVEYS

H-2063 (1890) 1:10,000

H-2055 (1890) 1:80,000

The present survey soundings generally compare within $\pm 2-3$ fathoms of prior survey soundings, except where noted in the hydrographer's Descriptive Report. These differences are attributed to the relative accuracy of the data acquisition techniques and shoaling at the mouths of streams.

Reefs and ledges are generally confirmed by the present survey. The present delineation of these features within the limits of hydrography is depicted on the smooth sheet.

H-10087 (1983) is adequate to supersede the prior information within the limits of hydrography.

H-4227WD (1922-23) 1:40,000

This wire drag survey barely overlaps H-10087. H-10087 does not conflict with H-4227WD within the common area.

7. COMPARISON WITH CHART

Chart 17316, 13th Edition, June 10, 1978.

- a) Hydrography -- Presently charted soundings originate with the prior surveys discussed in section 6. There are no charted rocks within the limits of H-10087.

The Descriptive Report discussion of AWOIS items is supplemented as follows:

#50471 - This AWOIS item required disposition of twenty-four single piles located throughout the center of Two Island Cove (now charted as Piledriver Cove). These features were not investigated and should be retained as charted.

#50472 - Although the cannery and piers were found to be charted correctly relative to each other, their actual positions as located by the survey, are approximately 100 meters to the north. These piers should be charted according to Inset 1 - Cannery Piers, of this smooth sheet.

The abandoned marine railway, charted at latitude 58°07'23"N, longitude 134°45'03"W was not found or addressed during the survey. It should be retained as charted.

The submerged ruins charted at latitude 58°07'40"N, longitude 134°45'24"W were not found or addressed during this survey. This feature should be retained as charted.

A wrecked barge was located during survey operations at latitude 58°07'08.06"N and longitude 134°45'10.36"W. It is 15 meters wide, 23 meters long, lying in sand and silt and is awash at MLLW.

The area covered by H-10087 was examined for dangers to navigation, several were found and were forwarded by the NOAA Ship FAIRWEATHER and the Pacific Marine Center to the Seventeenth Coast Guard District and to DMAHTC via Automated Notice to Mariners system (see letters attached).

- b) Controlling Depths -- There are no controlling depths within the limits of H-10087.
- c) Aids to Navigation -- There is one fixed aid and one floating aid within the limits of H-10087.

<u>Light List Name</u>	<u>Light List Number</u>	<u>Latitude N</u>	<u>Longitude W</u>
Hawk Inlet East Shoal Light	3265	58°06'13.073"	134°46'15.88"
Hawk Inlet Entrance Lighted Buoy 1	3264	58°05'32.27"	134°46'41.67"

These aids adequately serve the purposes intended.

The geographic name shown on the smooth sheet originated from this chart.

H-10087 is adequate to supersede the hydrography on chart 17316 within the common area.

8. COMPLIANCE WITH INSTRUCTIONS

H-10087 adequately complies with the project instructions except as noted in Section 4, Condition of Survey.

9. ADDITIONAL FIELD WORK

H-10087 is a good Navigable Area Survey and additional hydrographic field work is not required at this time. Additional photogrammetric shoreline work is recommended as discussed by the hydrographer in Section H.

Respectfully submitted,

Charles R. Davies

Charles R. Davies
Cartographer
November 8, 1984

This survey has been examined by me and it meets the Charting and Geodetic Services survey standards and requirements for use in nautical charting except as noted in the Evaluation Report. The survey is recommended for approval.

James S. Green
James S. Green
Supervisory Cartographer

ATTACHMENT TO DESCRIPTIVE REPORT FOR H-10087


I have reviewed the smooth sheet, accompanying data, and reports of this hydrographic survey. Except as noted in the Evaluation Report, the hydrographic survey meets or exceeds Charting and Geodetic Services (G&GS) standards, complies with instructions, and is accurately and completely represented by the smooth sheet and digital data file for use in nautical charting.

 12-27-84
Chief, Nautical Chart Branch (Date)

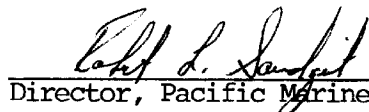
CLEARANCE:

N/MOP2:LWMordock

SIGNATURE AND DATE:

 12/27/84

After review of the smooth sheet and accompanying reports, I hereby certify this survey is accurate, complete, and meets appropriate standards with only the exceptions as noted above. The above recommendations are forwarded with my concurrence.

 12-27-84
Director, Pacific Marine Center (Date)

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

Hydrographic Index No. 111E

