10189

Diagram No. 8502-2

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey ... Hydrographic

Field No. ... FA-10-4-85

Registery No. ... H-10189

LOCALITY

State ... Alaska

General Locality ... Shelikof Strait

Sublocality ... Cape Kayakliut to Cape Kilokak

1985

CHIEF OF PARTY
CAPT J.W. Carpenter

LIBRARY & ARCHIVES

DATE ... October 20, 1986

☆U.S. GOV. PRINTING OFFICE: 1985—566-054

NOAA FORM 77-28 (11-72)

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

REGISTER NO.

H-10189

HYDROGRAPHIC TITLE SHEET

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 10-4-85

State Alaska

General locality Shelikof Strait

Locality Cape Kayakliut to Cape Kilokak

Scale 1:10,000 Date of survey July 27-September 13, 1985

Instructions dated March 2, 1984 Project No. OPR-P146-FA-85

Vessel NOAA Ship FAIRWEATHER SS220 (2020), 2023, 2024, 2025, 2026

Chief of party Captain John W. Carpenter, NOAA

Surveyed by LT Kenny, LT Moen, LTJG Salmore, LTJG Timmons, ENS Hurst, ENS Brezenski
ENS Krozer, ENS Abbott, ENS Cone, CST Krick

Soundings taken by echo sounder, hand lead, pole pneumatic depth guage

Graphic record scaled by FAIRWEATHER Personnel

Graphic record checked by FAIRWEATHER Personnel

Verification by R.N. Mihailov, J. Shofner Automated plot by PMC Xynetics Plotter

Evaluation by I. Almacen, A. Luceno

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

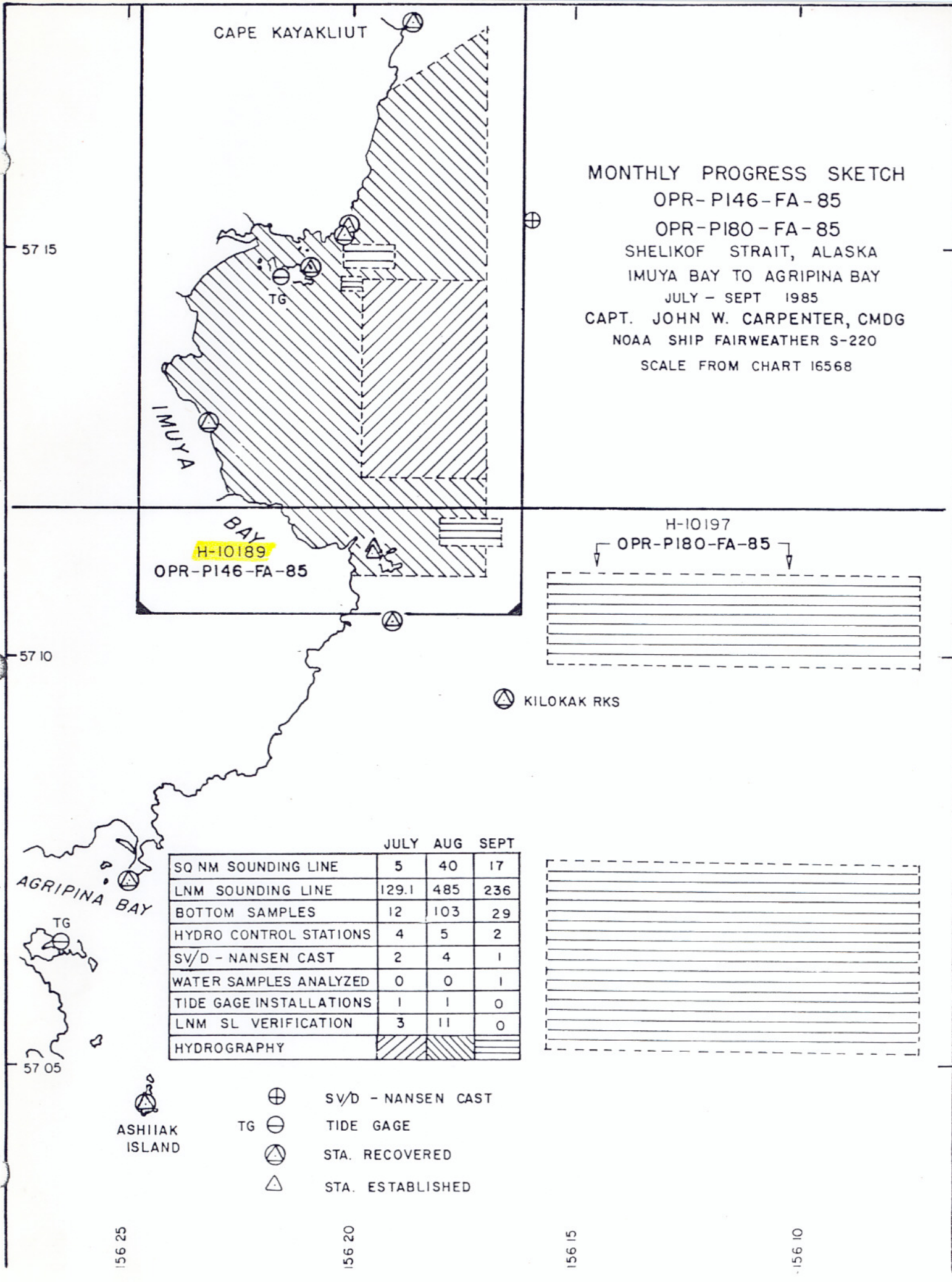
REMARKS: Marginal notes in black were made during the evaluation of H-10189 at the Pacific Marine Center, Seattle, Washington. Separates are filed in the back of the accordian folder.

STANDARDS CK'D 10-21-86
C. Loy

SC 4897 AWOIS/SURF MSM 11/4/86
RWW 8/14/92

NOAA FORM 77-28 SUPERSEDES FORM C&GS-537.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1978-665-010-1174



MONTHLY PROGRESS SKETCH

OPR-P146-FA-85

OPR-P180-FA-85

SHELIKOF STRAIT, ALASKA

IMUYA BAY TO AGRIPINA BAY

JULY – SEPT 1985

CAPT. JOHN W. CARPENTER, CMDG

NOAA SHIP FAIRWEATHER S-220

SCALE FROM CHART 16568

	JULY	AUG	SEPT
SQ NM SOUNDING LINE	5	40	17
LNM SOUNDING LINE	129.1	485	236
BOTTOM SAMPLES	12	103	29
HYDRO CONTROL STATIONS	4	5	2
SV/D - NANSEN CAST	2	4	1
WATER SAMPLES ANALYZED	0	0	1
TIDE GAGE INSTALLATIONS	1	1	0
LNM SL VERIFICATION	3	11	0
HYDROGRAPHY			

A. Project

This survey was conducted during the 1985 field season in accordance with Project Instructions, OPR-P146-FA-85, Shelikof Strait, Alaska, dated March 2, 1984; Change No. 1 dated May 9, 1984; Change No. 2 dated May 17, 1985; Change No. 3 dated June 17, 1985; and Change No. 4 dated July 26, 1985. PMC OPORDER, the Hydrographic Manual (fourth edition), and the Hydrographic Survey Guidelines are also applicable.

This sheet is designated as "AT" in the project instructions.

B. Area Surveyed

This survey is bound on the north by a line extending from the shoreline at latitude 57/16.7N, longitude 156/19.4W, offshore to latitude 57/17.8N, longitude 156/17.0W. The southern boundary is 57/10.8N; the eastern boundary is 156/17.0W; the western boundary is the shoreline.

This survey commenced on July 28, 1985 (DN 209) and was completed on September 13, 1985 (DN 256).

C. Sounding Vessels

Jensen survey launches FA-3 (2023), FA-4 (2024), and FA-6 (2026) were used to collect hydrographic and shoreline verification data. Jensen survey launch FA-5 (2025) was used to collect hydrographic data and bottom samples. FAIRWEATHER (2020) conducted the sound velocity casts and collected some bottom samples.

No unusual sounding vessel configurations were used. No significant problems were encountered.

D. Sounding Equipment and Corrections to Echo Soundings

FAIRWEATHER's four survey launches were equipped with dual-beam Raytheon DSF-6000N echo sounders to obtain soundings during this survey. See Table I for a list of equipment used by vessel and date.

Table I
Sounding Equipment

Vessel	Date	Instrument/Model	Recorder
FA-3 (2023)	DN 209 to DN 253	Raytheon DSF-6000N	A 121 N
FA-4 (2024)	DN 209 to DN 253	Raytheon DSF-6000N	B 048 N
FA-5 (2025)	DN 209 to DN 253	Raytheon DSF-6000N	A 113 N
FA-6 (2026)	DN 209 to DN 254	Raytheon DSF-6000N	B 039 N

Echo-sounding equipment was monitored continuously while on line. All hydrographic data was scanned at least twice to insert peaks and deeps between soundings and to ensure proper depth digitization. The effects of excess wave and swell action were adjusted at this time.

Diver's least depths were obtained using a Lietz Fiberglass tape measure or pneumatic depth guage manufactured by 3-D Instruments, Inc. (s/n 8302079 N). Data acquisition using this gauge consisted of the following procedure: the orifice of the gauge was attached to a 150-foot air hose which was held in place at the least depth position by divers. A surface tender, using air from a scuba tank, pressurized the system three times and then recorded the averaged gauge value.

FAIRWEATHER's four survey launches were tested for settlement and squat on March 12, 1985 (DN 71) in Shilshole Bay, Seattle, Washington. Measurements were conducted in accordance with Section 4.9.4.2 of the Hydrographic Manual. It was determined that there were no applicable settlement and squat corrections for any launch when performing surveys in fathoms. Refer to the Corrections To Echo Soundings Report for details concerning methods used for settlement and squat tests.

One bar check was performed daily, wind and seas permitting. Bar checks were normally done at three fathoms, though if time and seas permitted, seven-fathom checks were done.

Bar checks combined with the velocity correctors determined launch TRA values. For this survey, all launches were determined to have a TRA of 0.3 fathoms. All launch soundings on the final field sheet were plotted using this TRA value.

Wind and sea conditions occasionally made it necessary to visually average the depth profile to correct for heave action. When heave averaging was required, soundings were corrected in accordance with Section 4.9.3.2 of the Hydrographic Manual and Hydrographic Survey Guideline Number 31.

Velocity correctors were determined from seven SV/D casts. The dates and locations of the casts are shown in Table II. The casts showed the water column to be stable; therefore, the casts were averaged to form one velocity corrector table (Velocity Table No. 1). Since survey depths did not exceed 56 fathoms within the two-week time period before cast number 16 was taken (the last cast of the survey), sound velocity data deeper than 56 fathoms on cast number 16 were not used in the final table determination. A preliminary velocity table was applied to all echo-sounder soundings plotted on the final field sheets (a copy is contained in the appendix).

Table II
Velocity Casts

Cast No.	Date (DN)	Latitude	Longitude
10	209	57/15/06	156/16/18
11	213	57/18/06	156/08/54
12	224	57/14/30	156/15/48
13	234	57/13/12	156/20/30
14	241	57/13/12	156/20/30
15	241	57/13/12	156/16/18
16	256	57/14/12	156/16/24

The SV/D casts were performed using a Plessy Model 9040 Environmental Profiling System (s/n 5647). This instrument was calibrated at the Northwest Regional Calibration Center (NRCC) in February 1985. An onboard PDP8/e FOCAL computer program was used to convert the frequency readings of the SV/D system to engineering units for determination of sound velocity profiles. Two Nansen bottles, one at the surface and one at depth, and/or surface temperatures were also taken during SV/D casts as a check on the Plessy system. They were not used in the determination of the velocity table. Calibration data for the reversing thermometers and salinometer can be found in the Corrections to Echo-Soundings Report.

Sounding corrections determined for this survey apply to both the narrow- and wide-beam sounding data. The narrow-beam return was digitized for this survey.

TC/TI tapes were made in accordance with PMC OPORDER, Appendix Q, dated April 16, 1985. Printouts of TC/TI tapes are included in Appendix D of this report.

Field examination of the tide marigrams from the Imuya Bay tide gauge showed a marked difference between actual tides and predicted tides over certain time periods (differences in the tide range of up to 4 feet were noted, see the comparison sheet attached to the Field Tide Note). These tide discrepancies are believed to be the cause of disjointed contour lines found in a few areas on the final field sheet. Smooth tides should remedy these problems. For more information refer to the Field Tide Note in the appendix following this report.

Predicted tide correctors were applied to the soundings plotted on the field sheets for this survey. The tide correctors used were from the 1985 West Coast of North and South America Tide Tables. Kodiak, Alaska was the reference station for this survey with times and heights corrected to Lee's Cabin, Wide Bay, Alaska, and were interpreted by program AM 500. For further information refer to Appendix B, "Field Tide Note".

E. Hydrographic Sheets

The final field sheets were plottted aboard FAIRWEATHER using a PDP8/e computer and complot plotter.

Sheet	Scale	Skew	Dimensions
FA-10-4E-85	1:10,000	90	20 x 58 in
FA-10-4W-85	1:10,000	90	20 x 54 in
Development A	1:5,000	90	7 x 5 in
Development B	1:5,000	0	17 x 32 in
Development C	1;5,000	90	18 x 30 in

All field records will be sent to the NOAA Pacific Marine Center, N/MOP21, for verification and smooth plotting.

F. Control Stations

All horizontal control stations used on this survey were recovered and/or established by FAIRWEATHER personnel. All geodetic positions were based on the North American 1927 Datum. Conventional traverse methods were used throughout this survey. No anomalies in control adjustment or in closures were encountered. All positions meet or exceed Third Order, Class I specifications. (Signal Listing dated Dec. 20, 1985 was used on this survey.)

Stations used in support of this survey are shown in Table III.

Table III
Hydrographic Control Stations

Station Name	Signal Number
KAYAK 1923	402
SHANE AZ, 1982	404
SHANE, 1982	406
IMU 1944	407
SOUTH, 1982	408
WRECK 1944	410
KILO 1944	412
GUPPY, 1985	414
GUPPY RM 1, 1985	415
GUPPY RM 2, 1985	418

For abstracts, computations, and additional information, refer to the Horizontal Control Report, OPR-P146-FA-85; H-10189.

G. Hydrographic Position Control

Hydrographic positioning control was accomplished using the Motorola Mini-Ranger III System. The control configurations consisted of range-range and range-azimuth for all positioning control including detached positions.

The following table (Table IV) is a listing of console and R/T units for each sounding vessel.

Table IV
Mini-Ranger Equipment by Vessel

Vessel Number	DN	Console Number	R/T Number
2023	209	703	E2716
	210-238	506042	B1212
	239-256	B0323	B1398
2024	209	B0323	B1398
	210-249	716	C1875
	251-256	716	C1875
2025	210-236	703	E2716
	239-249	506042	B1212
	250	716	C1875
	252-253	703	E2716
2026	210-238	B0323	B1398
	246-251	703	E2716
	254	703	E2716
2020	221	716	C1875

Mini-Ranger electronic correctors were determined from baseline calibrations. The final correctors were determined by averaging initial correctors with ending correctors; however, in some cases this was not possible and only the beginning correctors were used. For more detailed information see Electronic Control Report, OPR-P146-FA-85; H-10189.

On DN 219 transponder code A blew a fuse, field repairs failed to correct the problem and the transponder was returned to PMC. Therefore, no ending baseline calibration was possible for this code.

On DN 233 Mini-Ranger console-R/T pair B0323/B1398 blew the video interface due to a faulty R/T cable. Before the problem was diagnosed console-R/T pair 703/E2716 was connected to the same faulty R/T cable and the problem recurred. Both console-R/T pairs required baseline calibrations before they could be used again (accomplished DN 235 and 246).

On DN 249 Mini-Ranger console 506042 overheated. The resulting repairs accomplished on DN 263 made another baseline calibration necessary for this console-R/T pair (506042/B1212); therefore, this equipment was not used for the remainder of the survey.

On DN 251 transponder code B malfunctioned; the code could not be received by any console-R/T pairs. Transponder code B was found to have a bad code card and could not be field repaired; the transponder was returned to PMC. Therefore, no ending baseline calibration was possible for this code.

Hydrographic positioning equipment was critically system checked at least once per week unless adverse weather conditions prohibited their completion. Critical system checks were accomplished using either theodolite cuts or sextant angles. All hydrographic positioning equipment was found to be accurate within the limits set forth by the PMC OPORDER. ✓

The positional accuracy of this survey was not adversely affected by unusual weather conditions. In all cases, the launch R/T units were located directly over the transducers thus eliminating the need for ANDIST correctors.

H. Shoreline

Shoreline details for this survey are from a 1:10,000 scale mylar enlargement of TP-00717, a 1:20,000 scale, Class III, registered shoreline manuscript. All verified features from the shoreline manuscript are in black ink on the final field sheet with changes recorded in red ink. New features are displayed in black ink. ✓

There are no conflicts between hydrography and the manuscript high water line. Two new islets were found during shoreline verification. One islet is located at latitude 57/11/18N, longitude 156/19/19W (positions 3219,3220). A detached position could not be obtained on the second islet as a boat could not safely navigate on the ledge in that area. The islet is shown on the field sheet as position approximate at latitude 57/13/38N, longitude 156/23/19W, and is also visible on the aerial photograph. An islet at latitude 57/12/15N, longitude 156/22/53W, on the shoreline manuscript was not found and should not be charted. *see EVAL. RPT.* *concur.*

Two reefs depicted on the shoreline manuscript in the vicinity of latitude 57/14/51N, longitude 156/20/48W were found to bare at high water. They are shown in black on the final field sheet.

A ledge depicted on the manuscript in the vicinity of latitude 57/12/03N, longitude 156/22/45W, was found not to be continuous as indicated, but broken with the ledge turning inshore towards a boulder beach. All other changes to ledge limits are minor.

All manuscript rocks were found. In addition, some new rocks were located that fringe the shoreline in a few areas. They are displayed in black on the final field sheet.

Two wrecks were also visible at low water which were not indicated on the manuscript. One of the wrecks is a fishing vessel approximately twenty-meters long oriented in a north-south direction. The center of the vessel is at latitude 57/14/50N, longitude 156/22/14W. The other wreck is AWOIS item number 50101. For further information see section K, Comparison with Prior surveys.

No control stations are located seaward of the high water line. ✓

I. Crosslines

A total of 29.0 nautical miles of crosslines were run on this survey comprising 10.3% of the main scheme hydrography. All crossline and mainscheme soundings agree within one fathom, meeting the specifications of the Hydrographic Manual, Section 4.6.1. ✓

In some cases, a different vessel was used for crosslines than was used for mainscheme. In these instances, equally good agreement was obtained at the crossings.

J. Junctions

This survey junctions to the east with H-10040 (1:20,000; 1982-1984) and to the north with H-10026 (1:10,000; 1982). Agreement is good with all junction soundings agreeing within one fathom. No contemporary survey junctions to the south with this survey. ✓

K. Comparison with Prior Surveys

No prior survey was compared to this survey per project instructions. Charted soundings were obtained from BP-39177 (1:20,000; 1944 Reconnaisance Survey) and T-8615 (1:20,000; 1944 Field Inspection). These soundings are discussed in Section L, Comparison with the Chart.

The following AWOIS items are within survey limits.

AWOIS ITEM #	Description
50101	Wreck Latitude 57/11/~~18.27~~ 17.5N Longitude 156/19/~~54.01~~ 59.0W
50740	Pinnacle Rock Awash Latitude 57/14/~~52.50~~ 53.2N Longitude 156/20/~~22.80~~ 23.3W
50276	Five-Fathom Shoal Latitude 57/11/36.00N Longitude 156/17/03.00W

AWOIS descriptions

50101 - This AWOIS item was investigated and located. Detached positions were taken on three visible obstructions (the significant parts of the wreckage). A winch baring 11° feet at MLLW is located at latitude 57/11/17.8N, longitude 156/19/59.59W (position number 4616). A one-foot diameter pipe bares 12° feet at latitude 57/11/16.99N, longitude 156/19/59.46W (position number 4615). The engine block bares 11° feet at latitude 57/11/~~55.67~~ 17.7N, longitude 156/19/57.57W (position number 4614). See EVAL RPT.

50740 - This AWOIS item was investigated and located. A rock baring 1 foot at MLLW was found at latitude 57/14/53.19N, longitude 156/20/23.34W (position number 9000). A second rock with a least depth of 2.4 fathoms surrounded by 7 fathoms was found by divers 100 meters north of the AWOIS item at latitude 57/14/55.67N, longitude 156/20/19.61W (position number 9005).

50276 - This AWOIS item was investigated by reducing line spacing to 15 meters over a minimum one-half mile diameter search area around the position (see Development B). The least depth found in the area was 9.7 fathoms; therefore, fifteen meter spacing constitutes 100% coverage with the DSF-6000N wide beam. FAIRWEATHER recommends deletion of the five-fathom shoal charted at latitude 57/11/36N, longitude 156/17/03W. The 0.9 ~~0.8~~-fathom shoal and the surrounding depths on survey H-10040 development "A" (position number 4418) in the vicinity of latitude 57/12/01N, longitude 156/17/00W, should be charted in lieu of the presently charted five-fathom shoal. concur.

L. Comparison with the Chart

This survey was compared to Preliminary Chart Number 16568, 5th Edition, December 9, 1978 (scale 1:106,600).

Sounding agreement between charted soundings and H-10189 is good with overall agreement within two fathoms. Soundings in one area did differ from those charted by up to nine-fathoms shoaler and twelve-fathoms deeper.

The area of discrepancy is bounded by latitudes 57/11.85N and 57/11.00N and longitudes 156/17.20W and 156/18.10W. The most significant difference was between a charted seven-fathom sounding and an observed sixteen-fathom sounding at latitude 57/11.60N, longitude 156/17.60W. This position falls within 0.14 nautical miles of AWOIS item 50276, the five-fathom shoal investigated in Development B. There were no indications of shoaling in this area. For further information see Section K, Comparison with Prior Surveys. It is recommended that the present survey's soundings be charted in this area. ✓

In addition to Development B, there were two other development sheets produced for this survey:

Development A - Line spacing was reduced to fifteen meters to determine the least depth of a ~~9.8~~-fathom shoal located at latitude 57/12/46.8N, longitude 156/17/46.1W. The depths in the vicinity of the shoal were found to steadily increase to forty fathoms at a 0.2-nautical mile radius. ✓

Development C - Line spacing was reduced to fifteen meters within a 0.7-nautical mile diameter circle over an irregular area in the vicinity of latitude 57/14/51N, longitude 156/19/52W. Significant depths were retained. Least depth found was 7.6 fathoms. ✓

All charted rocks appear on the shoreline manuscript (elevation/depth information was recorded using reference numbers) except for the rock at latitude 57/14/~~52.5~~53.2N, longitude 156/20/~~22.8~~23.3W (AWOIS item no. 50740). A detached position was obtained for this rock (see section K).

Diver least depths over shoal areas discovered during the course of the survey were determined using a pneumatic guage or tape measure. Dive positions are noted on the Detached Position Listing.

Two dangers to navigation were noted on this survey. They were reported to the Seventeenth Coast Guard District and DMAHTC. A high point on a rock ridge (position number 9004), at latitude 57/13/36.39N, longitude 156/20/39.73W, had a least depth of 6.~~8~~9 fathoms obtained and is considered a danger to navigation. The ~~9.8~~10.1-fathom shoal investigated on Development A was also reported as a danger. Refer to Appendix XI of this report, Danger to Navigation Correspondence, for more information.

M. Adequacy of Survey

This survey is sufficiently complete and adequate to supersede prior surveys. No additional field work is necessary.

N. Aids to Navigation

There are no aids to navigation or landmarks located with the limits of this survey.

O. Statistics

Vessel	2020	2023	2024	2025	2026	Total
Positions	5	2015	2018	153	910	5101*
Reference Numbers	0	6	15	0	9	30
Nautical Miles	0	228.5	234.6	0	125.2	588.3
Square Miles	0	0	0	0	0	26.6
Bottom Samples	5	0	0	139	0	144
Velocity Casts	6	0	0	0	0	6
Tide Stations	1	--	--	--	--	1

* - Of the 5101 positions, 459 positions were designated "Not To Be Smooth Plotted" resulting in 4642 positions that will be office processed.

No magnetic or current stations were established during this survey.

P. Miscellaneous

No unusual submarine features were observed during this survey. A surface current of two to three knots was estimated by divers in the vicinity of latitude 57/11/00N, longitude 156/18/30W, while a twenty-knot northeasterly wind was blowing.

In accordance with the project instructions, bottom samples were not submitted to the Smithsonian Institution.

Q. Recommendations

None.

R. Automated Data Processing

The following programs were used for data acquisition or processing.

Number	Program Name	Version Date
RK 112	Range-Range Real Time Plot	04/23/84
RK 116	Range-Azimuth Real Time Plot	10/01/84
RK 201	Grid, Signal and Lattice Plot	04/18/75
RK 211	Range-Range Non-Real Time Plot	02/13/84
RK 212	Visual Station Table Load	04/01/74
RK 216	Range-Azimuth Non-Real Time Plot	02/12/84
RK 300	Utility Computations	10/21/80
RK 330	Reformat and Data Checker	05/04/76
PM 360	Electronic Corrector Abstract	02/02/76
RA 362	330/602 Combined	08/20/84
AM 500	Predicted Tide Generator	11/10/72
RK 407	Geodetic Inverse/Direct Computation	09/25/78
AM 602	Elinore	12/08/82
RK 530	Layer Corrections for Velocity	05/10/76
RK 562	Theodolite Calibration	09/05/84

S. Referral to Reports

The following reports will be submitted separately:

Report	Date
Horizontal Control Report	11/85
Electronic Control Report	11/85
* Corrections to Echo Soundings Report	11/85
Coast Pilot Report	11/85

* Filed with the field records

KWW 8/12/92

SIGNAL LISTING (FINAL)
FOR
OPR-P146-FA-85

KAYAK 1944
402 0 57 17 46575 156 18 43595 250 0024 000000

SHANE AZ 1982
404 0 57 15 11226 156 20 12941 250 0032 000000

SHANE 1982
406 0 57 15 06808 156 20 16067 250 0033 000000

IMU 1944
407 4 57 14 44493 156 20 57361 250 0023 000000

SOUTH 1982
408 0 57 12 52088 156 23 13934 250 0021 000000

WRECK 1944
410 0 57 10 22614 156 19 27087 250 0010 000000

KILO 1944
412 0 57 09 29499 156 16 40665 250 0009 000000

GUPPY 1985
414 0 57 11 13509 156 19 34712 250 0025 000000

GUPPY RM 1 1985
415 0 57 11 12999 156 19 34716 250 0034 000000

GUPPY RM 2 1985
418 0 57 11 13521 156 19 ~~25160~~ 35159 250 0025 000000

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
NOAA Ship FAIRWEATHER
1801 Fairview Ave. East
Seattle, Washington 98102

October 25, 1985 1703-01.05:MRK

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

Dear Sir:

This letter confirms my radio message, R 281730Z OCT 85.

The following items were noted by the NOAA Ship FAIRWEATHER during survey operations in Imuya Bay, Shelikof Strait, Alaska (survey H-10189) and are considered dangers to navigation. Questions concerning this survey may be directed to Chief, Nautical Chart Branch, telephone (206) 526-6835.

The following statements are recommended for inclusion in the Local Notice to Mariners:

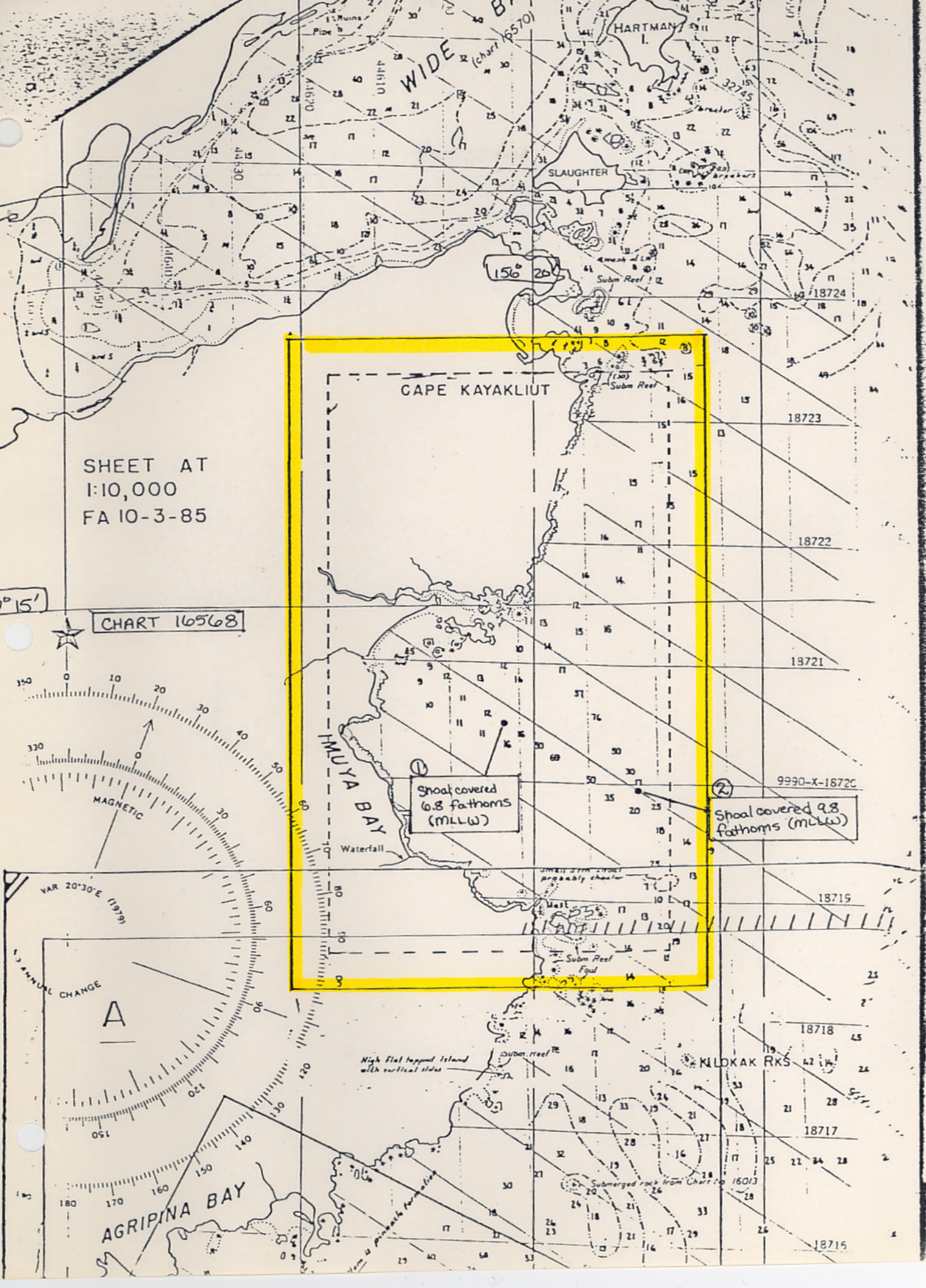
1. "An uncharted shoal covered by 6.8 fathoms (MLLW based on predicted tides) is at latitude 57/13/36.4N, longitude 156/20/39.7W bearing 332 degrees true, 4.6 nautical miles from Kilokak Rocks (Chart 16568)."

2. "An uncharted shoal covered by 9.8 fathoms (MLLW based on predicted tides) is at latitude 57/12/46.8N, longitude 156/17/46.1W bearing 350 degrees true, 3.25 nautical miles from Kilokak Rocks (Chart 16568)."

Sincerely,

John W. Carpenter
Captain, NOAA
Commanding Officer

cc: N/CG222 - Chart Information Section
N/MOP21 - Nautical Chart Branch


WIDE B
HARTMAN I.
SLAUGHTER
156° 20'
Subm Reef
CAPE KAYAKLIUT
SHEET AT
1:10,000
FA 10-3-85
CHART 16568
18724
18723
18722
18721
9990-X-18720
18719
18718
18717
18716
MUYA BAY
Shoal covered 6.8 fathoms (MLLW)
Shoal covered 9.8 fathoms (MLLW)
Waterfall
Subm Reef Foul
KILOKAK RKS
High flat topped island with vertical sides
Submerged rock from Chart No 16013
AGRIPINA BAY
MAGNETIC
VAR 20°30'E (1979)
ANNUAL CHANGE
A

RTTUZYUW RUHPTEB0297 3011730-UUUU--RUHPSUU.
ZNR UUUUU
R 281730Z OCT 85
FM NOAAS FAIRWEATHER
TO CCGDSEVENTEEN JUNEAU AK
INFO NOAAMOP SEATTLE WA
DMAHTC WASHINGTON DC//NVS//
ACCT CM-VCAA
BT
UNCLAS
DANGERS TO NAVIGATION
1. THE FOLLOWING DANGERS WERE NOTED DURING SURVEY OPERATIONS IN IMUYA BAY, SHELIKOF STRAIT, ALASKA (SURVEY H-10189). ALL ITEMS PERTAIN TO CHART 16568. DEPTHS ARE REFERENCED TO MLLW BASED ON PREDICTED TIDES.
   A. AN UNCHARTED SHOAL COVERED BY 6.8 FM IS AT LATITUDE 57/13/36.4N, LONGITUDE 156/20/39.7W, BEARING 332 DEGREES TRUE, 4.6 NAUTICAL MILES FROM KILOKAK ROCKS.
   B. AN UNCHARTED SHOAL COVERED BY 9.8 FM IS AT LATITUDE 57/12/46.8N, LONGITUDE 156/17/46.1W, BEARING 350 DEGREES TRUE, 3.25 NAUTICAL MILES FROM KILOKAK ROCKS.
2. CONFIRMATION LETTER CONTAINING SAME INFORMATION WILL BE SENT.
BT
#0297

NNNN

CO
XO
OPS

TOP
28/1853Z OCT 85
Hand Delivered Juneau Command

X. Approval Sheet

The final field sheets and the accompanying records have been reviewed for accuracy, completeness, compliance with project instructions, and adherence to required standards and procedures. The Commanding Officer monitored field work and inspected selected portions of the data on a daily basis. This survey is complete and requires no additional field work. The data is forwarded for final review and processing.

Submitted by:

Thomas W. Hurst
Ensign, NOAA

Reviewed by:

Maureen R. Kenny
Maureen R. Kenny
Lieutenant, NOAA
Field Operations Officer

Approved by:

John W. Carpenter
John W. Carpenter
Captain, NOAA
Commanding Officer

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

DATE: 12/12/85

Marine Center: Pacific

OPR: P 146

Hydrographic Sheet: H-10189

Locality: Imuya Bay, Shelikof Straits, AK

Time Period: July 18 - September 13, 1985

Tide Station Used: 945-8427 Imuya Bay, AK

Plane of Reference (Mean Lower Low Water): 2.40 ft.

Height of Mean High Water Above Plane of Reference: 10.9 ft.

Remarks: Recommended Zoning:

Zone Direct

James R. Hubbard
Chief, Tidal Datum Quality
Assurance Section

NOAA FORM 76-155
(11-72)

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

SURVEY NUMBER

H-10189

GEOGRAPHIC NAMES

Name on Survey Imuya Bay FA-10-4-85	A ON CHART NO. 16568	B U.S. Quad # Ugashic (A-2)	C	D FROM LOCAL INFORMATION	E U.S. Quad. # Ugashic (B-1)	F U.S. Quad # Ugashik (B-2)	G Manuscript # TP-01148	H Manuscript # TP-00717	K	
Cape Kayakliut	X				X					1
Cape Kilokak		X						X		2
Imuya Bay	X	X				X		X		3
Kilokak Creek							X			4
Shelikof Strait	X				X			X		5
Alaska Peninsula	x							x		6
Alaska (Title)										7
										8
										9
										10
										11
										12
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										16
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NOAA FORM 76-155 SUPERSEDES C&GS 197

☆ U.S. G.P.O. 1972-769-565/516 REG.#6

NOAA FORM 77-27(H)
(9-83)

U.S. DEPARTMENT OF COMMERCE

REGISTRY NUMBER
H-10189

HYDROGRAPHIC SURVEY STATISTICS

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	SMOOTH OVERLAYS: POS., ARC, EXCESS	4
DESCRIPTIVE REPORT	1	FIELD SHEETS AND OTHER OVERLAYS	5

DESCRIPTION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR-GRAMS	PRINTOUTS	ABSTRACTS/ SOURCE DOCUMENTS	
ACCORDION FILES	3					
ENVELOPES						
VOLUMES	6					
CAHIERS						
BOXES						

SHORELINE DATA

SHORELINE MAPS (List): Registered Class III, Manuscript TP-00717

PHOTOBATHYMETRIC MAPS (List):

NOTES TO THE HYDROGRAPHER (List):

SPECIAL REPORTS (List):

NAUTICAL CHARTS (List): Chart 16568

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			4754
POSITIONS REVISED			36
SOUNDINGS REVISED			109
CONTROL STATIONS REVISED			
	TIME-HOURS		
	VERIFICATION	*EVALUATION*	*TOTALS*
PRE-PROCESSING EXAMINATION			
VERIFICATION OF CONTROL			
VERIFICATION OF POSITIONS	89.5		89.5
VERIFICATION OF SOUNDINGS	144.0		144.0
VERIFICATION OF JUNCTIONS			
APPLICATION OF PHOTOBATHYMETRY			
SHORELINE APPLICATION/VERIFICATION			
COMPILATION OF SMOOTH SHEET	66.0		66.0
COMPARISON WITH PRIOR SURVEYS AND CHARTS		14.0	14.0
EVALUATION OF SIDE SCAN SONAR RECORDS			
EVALUATION OF WIRE DRAGS AND SWEEPS			
EVALUATION REPORT		31.0	31.0
GEOGRAPHIC NAMES			
OTHER* Digitizing			13.0
*USE OTHER SIDE OF FORM FOR REMARKS — TOTALS	299.5	45.0	

Pre-processing Examination by J.D. Wilder	*Beginning Date* 12/3/85	*Ending Date* 12/18/85
Verification of Field Data by Robert Mihailov , J. Shofner	*Time (Hours)* 299.5	*Ending Date* 7/30/86
Verification Check by S. Otsubo, B. Olmstead,	*Time (Hours)* 92.5	*Ending Date* 7/22/86
Evaluation and Analysis by I. Almacen, A. Luceno	*Time (Hours)* 45	*Ending Date* 8/26/86
Inspection by D. Hill	*Time (Hours)* 1	*Ending Date* 8/26/86

☆ U.S. GOVT. PRINTING OFFICE 1983: 764-006/6061

PACIFIC MARINE CENTER
EVALUATION REPORT
H-10189

1. INTRODUCTION

H-10189 was accomplished by NOAA Ship FAIRWEATHER in accordance with the following project instructions:

OPR-P146-FA-84, dated March 2, 1984
Change Number 1 dated May 9, 1984
Change Number 2 dated May 17, 1985
Change Number 3 dated June 17, 1985
Change Number 4 dated July 26, 1985

This is a basic survey of the southwest portion of Shelikof Strait, covering the area from Cape Kayakliut to Cape Kilokak including Imuya Bay. It is bounded by latitude 57°17'45" to the north, by latitude 57°10'50" to the south, by longitude 156°17'00" to the east and by the shoreline to the west.

The shoreline from Cape Kayakliut to Cape Kilokak is very irregular and mostly foul with islets, rocks, ledges and kelp. The nearshore bottom is rough and generally composed of rocks, sand and mud. As depths increase the bottom becomes more uniform. Depths range from 0 to 98 fathoms.

Predicted tides based on the Kodiak, Alaska gage were used during field processing. Tide correctors used for the reduction of final soundings reflect approved hourly heights zoned from Imuya Bay, Shelikof Strait, Alaska.

The field sheet parameters have been revised to center the hydrography on the smooth sheet, and to change the projection to polyconic. The velocity and electronic correctors have been checked during office processing and found to be adequate.

A digital file for this survey has been generated and includes categories of information required to comply with N/CG2 Hydrographic Survey Guideline No. 23, Completion of Digital Hydrographic Surveys, September 7, 1983. Certain descriptive information, however, may not be included in the digital record due to the restrictions of the presently available cartographic codes. The user should refer to the smooth sheet for complete information.

2. CONTROL AND SHORELINE

Hydrographic control and positioning are adequately discussed in sections F and G of the hydrographer's report and in the Horizontal and Electronic Control Reports for OPR-P146-FA-85.

Horizontal control station positions used during hydrography are field and NGS published positions based on North American datum of 1927.

The applicable shoreline manuscript is TP-00717 at a scale of 1:20,000 enlarged to the scale of the survey. This map is registered Class III, and originates from photography dated June 1976.

As observed by the hydrographer, there are no significant changes to the high waterline shown on TP-00717. There are, however, some changes to ledge configuration and the location of isolated offshore rocks particularly in the vicinity of latitude 57°15'00"N, longitude 156°21'00"W and Cape Kilokak. The changes to ledge configuration were transferred directly from the field sheet to the smooth sheet. The changes in rock location were supported by hydrographic positions and are plotted at their computed locations. Foul area limits are drawn to reflect the hydrographer's comments and labelled as indicated on the field sheet.

The three (3) islets located during this survey and plotted on the field sheet at latitude 57°14'52.5"N, longitude 156°20'46.5"W, latitude 57°14'49.5"N, longitude 156°26'49.5"W and latitude 57°11'18.0"N, longitude 156°19'19.0"W were transferred directly to the smooth sheet in red. Some hydrographic fixes were observed along the shoreline of these islets and are considered adequate to accurately delimit these features.

The grass covered islet with approximate position at latitude 57°13'38.0"N, longitude 156°23'19.0"W was transferred from the field sheet and shown with a dashed red line on the smooth sheet. Better positioning may be obtained photogrammetrically since this feature appears on aerial photography used to compile TP-00717.

An islet shown on TP-00717 at latitude 57°12'15"N, longitude 156°22'53"W was not found on this survey and therefore should not be charted.

3. HYDROGRAPHY

Soundings at line crossings are in good agreement. The depth curves could be completely and adequately drawn. Delineation of the bottom configuration and the determination of least depths are adequate. Brown depth curves were added to highlight shoal soundings not normally covered by standard depth curves.

4. CONDITION OF SURVEY

The hydrographic records and reports are adequate and conform to the requirements of the Hydrographic Manual, 4th Edition, revised through Change Three, except as noted in the Preprocessing Examination Report, dated December 17, 1985.

5. JUNCTIONS

H-10189 junctions with the following surveys:

Survey	Year	Scale	Color	Area
H-10026	1982	1:10,000	Adjoins	North
H-10040	1982-84	1:20,000	Adjoins	East

Soundings were transferred from H-10026 and H-10040 to effect an adequate junction.

The smooth sheets for these surveys have been forwarded to Rockville so comparisons were made using file copies. Soundings are generally in good agreement, however, portions of the depth curves in the junction areas should be adjusted to conform with this survey.

There are no contemporary surveys to the south; however, a comparison with charted depths reveals good agreement with the present survey.

6. COMPARISON WITH PRIOR SURVEYS

There are no prior surveys of the area, except a 1944 reconnaissance survey (BP-39177, scale 1:20,000) and topographic map T-8615 (1944). Neither of these documents was available during processing; however, data originating from these surveys and shown on the chart are generally in good agreement, indicating a fairly stable bottom.

AWOIS items 50101, 50740 and 50276 are adequately discussed in section K of the hydrographer's report.

H-10189 is adequate to supersede the prior surveys within their common areas.

7. COMPARISON WITH CHART

Chart 16568, 5th (Preliminary) Edition, dated December 9, 1978; scale 1:106,600.

a. Hydrography - Charted information originates from the prior surveys discussed in Section 6 of this report. For further detail see section L of the hydrographer's report.

Geographic names appearing on the smooth sheet are plotted in accordance with this chart.

H-10189 is adequate to supersede charted hydrography within the common area.

A Dangers to Navigation Report (copies appended) concerning two (2) uncharted shoals located on this survey, was submitted by the hydrographer on October 28, 1985 to the 17th Coast Guard District in Juneau, Alaska. No additional dangers were identified during office processing.

b. Controlling Depths - There are no charted channels with controlling depths within the limits of this survey.

c. Aids to Navigation - There are no fixed or floating aids within the limits of this survey.

8. COMPLIANCE WITH INSTRUCTIONS

H- 10189 adequately complies with the project instructions noted in section 1 of this report.

9. ADDITIONAL FIELD WORK

This is a good basic survey. No additional field work is recommended.

Isagani A. Almacen
Cartographer

This survey has been examined and it meets Charting and Geodetic Services standards and requirements for use in nautical charting. The survey is recommended for approval.

Dennis Hill
Chief, Hydrographic Section

ATTACHMENT TO DESCRIPTIVE REPORT FOR H-10189

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 (C&GS) standards, complies with instructions, and is accurately and completely represented by the smooth sheet and digital data file for use in nautical charting.

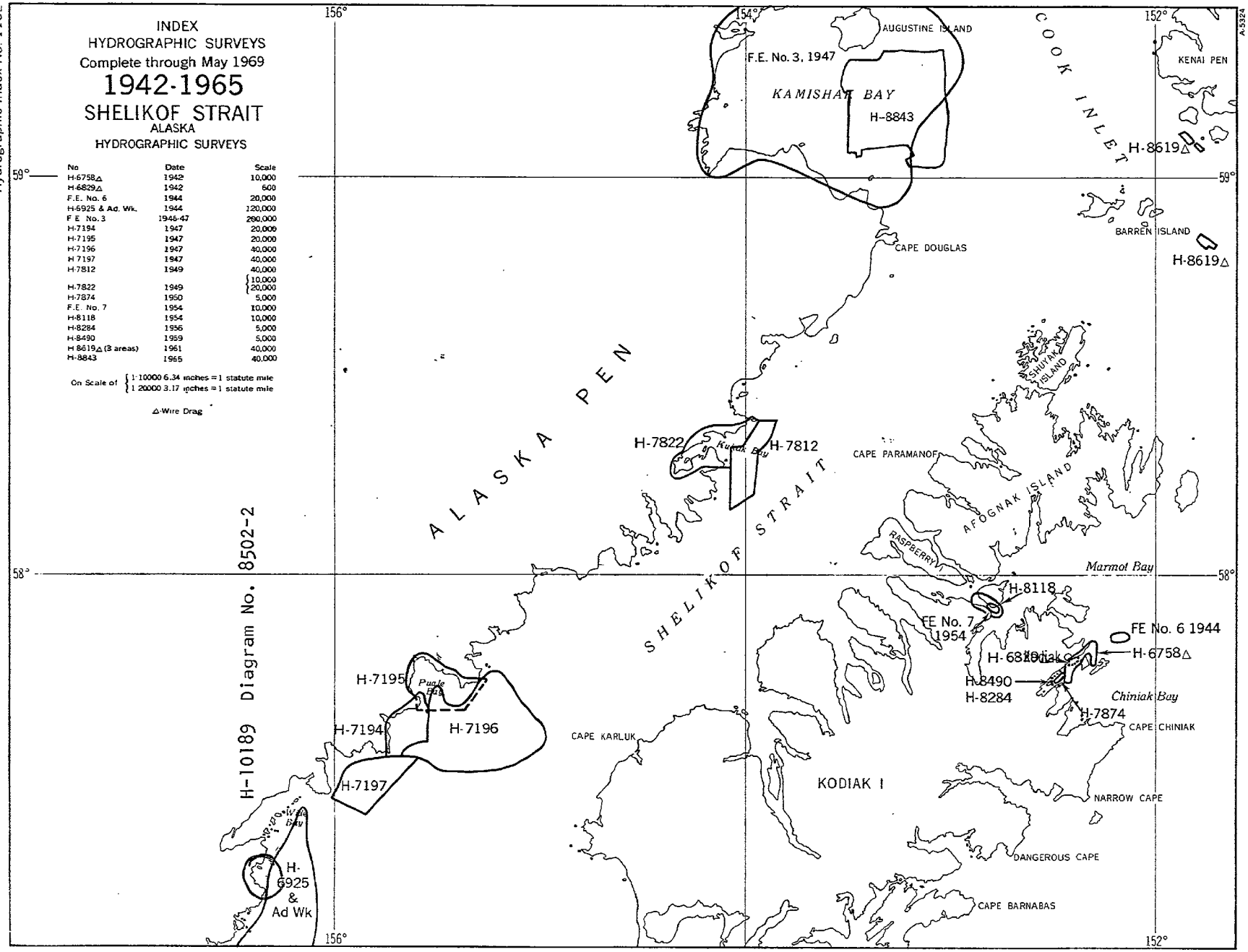
Thomas W. Richards 9/9/86
Chief, Nautical Chart Branch (Date)

CLEARANCE: SIGNATURE AND DATE:

N/MOP2:LWMordock Larry W. Mordock 9/9/86

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.

Robert L. Faught 9/9/86
Director, Pacific Marine Center (Date)


INDEX
HYDROGRAPHIC SURVEYS
Complete through May 1969
1942-1965
SHELIKOF STRAIT
ALASKA
HYDROGRAPHIC SURVEYS
No | Date | Scale
H-6758△ | 1942 | 10,000
H-6829△ | 1942 | 600
F.E. No. 6 | 1944 | 20,000
H-6925 & Ad. Wk. | 1944 | 120,000
F E No. 3 | 1946-47 | 200,000
H-7194 | 1947 | 20,000
H-7195 | 1947 | 20,000
H-7196 | 1947 | 40,000
H 7197 | 1947 | 40,000
H-7812 | 1949 | 40,000
H-7822 | 1949 | 10,000 / 20,000
H-7874 | 1950 | 5,000
F.E. No. 7 | 1954 | 10,000
H-8118 | 1954 | 10,000
H-8284 | 1956 | 5,000
H-8490 | 1959 | 5,000
H 8619△ (3 areas) | 1961 | 40,000
H-8843 | 1965 | 40,000
On Scale of 1:10000 6.34 inches = 1 statute mile
1:20000 3.17 inches = 1 statute mile
△-Wire Drag
Hydrographic Index No. 116E
H-10189 Diagram No. 8502-2
DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Survey
Washington, D.C.
A-5324
156°
154°
152°
59°
58°
AUGUSTINE ISLAND
F.E. No. 3, 1947
KAMISHAK BAY
H-8843
COOK INLET
KENAI PEN
H-8619△
BARREN ISLAND
H-8619△
CAPE DOUGLAS
ALASKA PEN
SHUYAK ISLAND
H-7822
Kukak Bay
H-7812
CAPE PARAMANOF
AFOGNAK ISLAND
SHELIKOF STRAIT
RASPBERRY
Marmot Bay
H-8118
FE No. 7
1954
FE No. 6 1944
H-6758△
H-8490
H-8284
Chiniak Bay
H-7874
CAPE CHINIAK
H-7195
Puale Bay
H-7194
H-7196
H-7197
CAPE KARLUK
KODIAK I
NARROW CAPE
DANGEROUS CAPE
CAPE BARNABAS
Kiliuda Bay
H-6925 & Ad Wk

NOAA FORM 75-96
(10-83)

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

MARINE CHART BRANCH

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10189

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.
1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
16570	3-16-87	Ralph B. Rose	(Full) ~~Part~~ Before (After) Marine Center Approval Signed Via
			Drawing No. 10 Appld in full
16568	3-16-87	Joseph Pierce	(Full) ~~Part~~ Before (After) Marine Center Approval Signed Via
			Drawing No. 7 Applied in full
16013	2-17-89	Ed Martin	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 28, EXAM APPLY THRU L-1CX66\85 & ARCS
513	3-6-89	Ed Martin	(Full) ~~Part Before~~ (After) Marine Center Approval Signed Via
			Drawing No. 19
16006	3-20-90	John Pierce	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 26 Exam, NC through chart 16013
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.

SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED.