10225

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-20-1-86

Registery No. ... H-10225

LOCALITY

State ... Alaska

General Locality ... Shelikof Strait

Sublocality ... Southeast of Navy Island

19 86

CHIEF OF PARTY
CAPT J.W. Carpenter

LIBRARY & ARCHIVES

DATE ... October 19, 1987

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

10225

Area 5
CHTS Ref Bp 131502-03 (ADVANCED COPY)

16568
16013
16006
531
530
560

TO SIGN OFF SCE
"RECORD OF APPLICATION"

NOAA FORM 77-28 (11-72)

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

HYDROGRAPHIC TITLE SHEET

REGISTER NO.

H-10225

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 20-1-86

State Alaska

General locality Shelikof Strait

Locality Southeast of Navy Island

Scale 1:20,000 Date of survey September 12-28, 1986

Instructions dated May 14, 1985 Project No. OPR-P180-FA-86

Vessel FAIRWEATHER (2020), 2025, 2024, 2023

Chief of party Captain John W. Carpenter

Surveyed by Lt. Kenny, Lt. Moen, Ens. Crozer, Ens. Abbott, Ens. Cone, Ens. Lynch
Ens, Bernard, Ens. Nodine, CST Krick

Soundings taken by echo sounder, hand lead, pole Raytheon DSF 6000N

Graphic record scaled by FAIRWEATHER Personnel

Graphic record checked by FAIRWEATHER Personnel

Verification Plotted by L. T. Deodato, I. A. Almacen Automated plot by PMC Xynetics Plotter

Evaluation Verification by I. A. Almacen

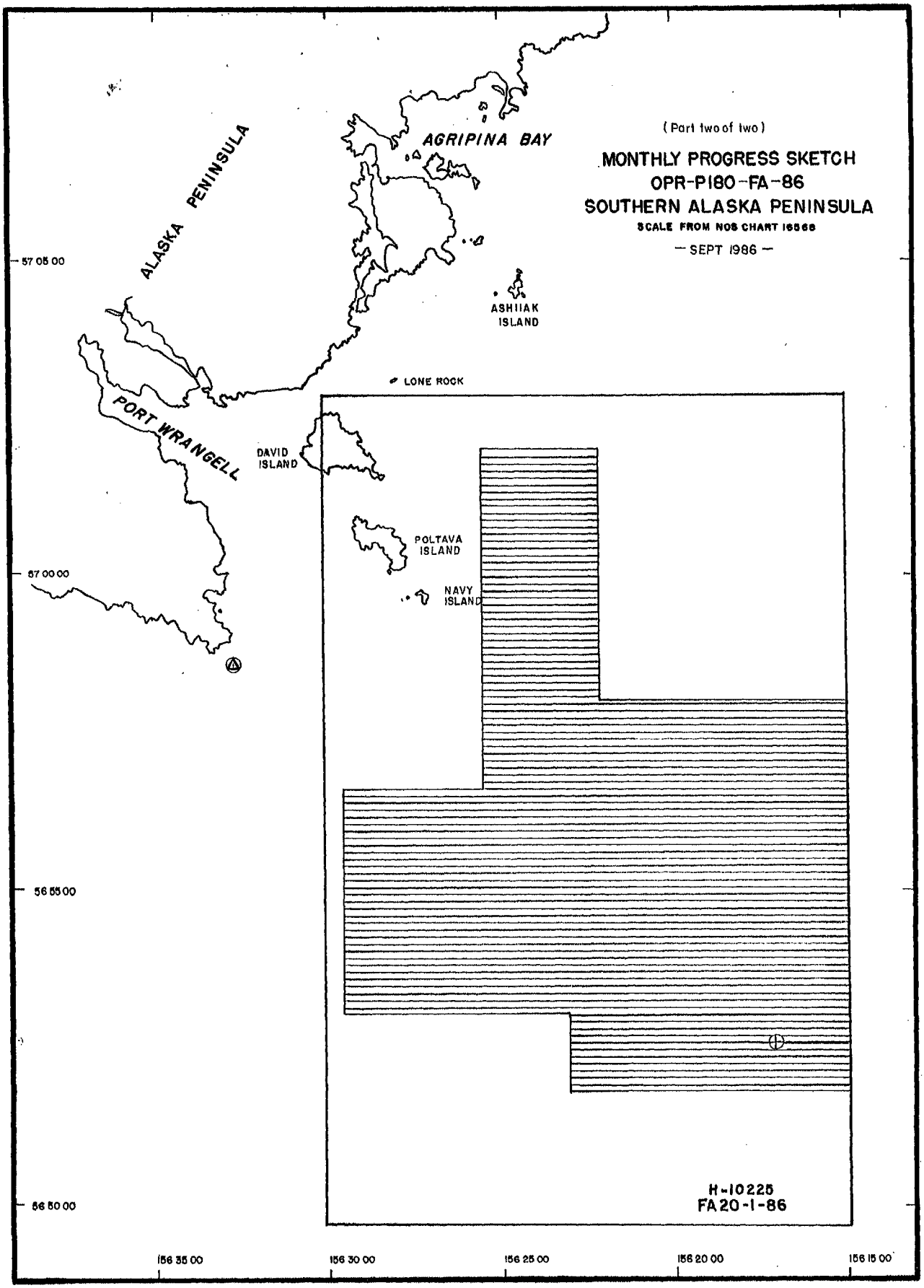
Soundings in fathoms ~~feet~~ at ~~MLW~~ MLLW and tenths of fathoms

REMARKS: Marginal notes in black are by the evaluator. Separates are filed with the hydrographic data.

AWOIS/SURF ✓ 10/16/87 - AAA

SC2-597

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


(Part two of two)
MONTHLY PROGRESS SKETCH
OPR-P180-FA-86
SOUTHERN ALASKA PENINSULA
SCALE FROM NOS CHART 16566
— SEPT 1986 —
ALASKA PENINSULA
AGRIPINA BAY
ASHIIAK ISLAND
LONE ROCK
PORT WRANGELL
DAVID ISLAND
POLTAVA ISLAND
NAVY ISLAND
57 05 00
57 00 00
56 55 00
56 50 00
156 35 00
156 30 00
156 25 00
156 20 00
156 15 00
H-10225
FA20-1-86

Descriptive Report
to Accompany Hydrographic Survey
H-10225 (FA-20-1-86)
NOAA Ship FAIRWEATHER S220
Captain John W. Carpenter, Commanding

A. Project

Hydrographic survey H-10225 was conducted during the 1986 field season in accordance with Project Instructions OPR-P180-FA-86, Southern Alaska Peninsula, Alaska dated May 14, 1985; Change No. 1 dated June 6, 1985; Change No. 2 dated June 26, 1985; Change No. 3 dated September 16, 1985; Change No. 4 dated April 7, 1986;*and Change No. 6 dated September 26, 1986. PMC OPORDER, the Hydrographic Manual (fourth edition) and the Hydrographic Survey Guidelines are also applicable.
* Change No. 5, dated June 9, 1986.

This survey falls within the limits of the sheet designated as "F" in the Project Instructions (approved sheet layout dated March 21, 1986).

B. Area Surveyed

Survey H-10225 was conducted in the state of Alaska on the southern side of the Alaska Peninsula south of Navy Island and east of Cape Providence.

The survey is generally bounded on the east by longitude 156/15/00, on the south by latitude 56°51'50", on the west by latitude 156°29'30", and on the north by 56°58'00". In addition, the northern section of the sheet contains a block of data, bounded on the north by latitude 57/02/00, on the east by 156°22'20", and on the west by longitude 156°25'30".

This survey commenced on September 12, 1986 (DN 255) and was completed on September 28, 1986 (DN 271).

C. Sounding Vessels

Hydrographic data for this survey was collected by four vessels. The NOAA Ship FAIRWEATHER S220 was designated as sounding vessel 2020 and three Jensen Survey Launches were designated 2023, 2024 and 2025, respectively. All sound velocity casts and bottom samples were collected by FAIRWEATHER. No unusual sounding vessel configurations were used and no significant problems were encountered during the survey.

D. Sounding Equipment and Corrections to Echo Sounding

The FAIRWEATHER and three survey launches, each equipped with dual-beam Raytheon DSF-6000N echo sounders, were used to obtain soundings for this survey. See Table I for a list of equipment by vessel, serial number, and day number.

Table I
Sounding Equipment
RAYTHEON DSF-6000N SERIAL NUMBERS

Vessel	Day Number	Recorder Serial No.
2023	DN 255-271	A121N
2024	DN 255-271	B049N
2025	DN 255-271	A113N
2020	DN 257-270	A113N

Echo-sounding equipment was monitored continuously while on line. All hydrographic data were scanned at least twice to insert peaks and deeps between soundings and to ensure proper depth digitization.

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 #31.

No mechanical problems that degraded data quality were encountered with the DSF-6000N echo sounders during this investigation. Bar checks at three fathoms were done daily, wind and seas permitting, to ensure that the Raytheon DSF-6000N echo sounders were operating properly. Sounding corrections determined for this survey apply to both the narrow- and wide-beam sounding data.

All of FAIRWEATHER's survey launches were tested for settlement and squat on June 10, 1986 (DN 161) and August 18, 1986 (DN 230) in Womens Bay, Kodiak, Alaska. The test results were used to plot settlement and squat curves for each launch (see Corrections to Echo Soundings Data submitted for OPR-P180-FA-86). 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. Also, historical data shows that settlement and squat correctors need not be applied to FAIRWEATHER. The ship collected data in depths greater than 38 fathoms.

An accurate determination of launch transducer depths was obtained through physical measurement. An oversized carpenter's square was constructed of angle iron, with foot and tenth markings noted on the rise. Divers held the foot of the carpenter's square flush against the transducer while the rise was leveled by personnel on the pier using a circular bubble level. On April 29, 1986 a transducer draft of 0.3 fathoms was recorded for all launches (full fuel tank, for both 0 people and 4 people on board. (See Corrections to Echo Sounders Data submitted for OPR-P180-FA-86.) FAIRWEATHER's transducer depth is 2.3 fathoms based on 13.8-foot draft.

Velocity correctors were determined from one SV/D cast in accordance with section 4.9.5.2 of the Hydrographic Manual. Program VELTAB was used to generate a velocity table from this data for the launches and an additional table was computed for the ship's draft. Table II shows the date and location of the cast.

Table II
Velocity Casts

Cast No.	Date DN	Latitude Longitude	Table No.	Applicable Dates (DN)
10	261	56/52.6N 156/17.1W	Table 8 Table 12 (ship)	255-268

The SV/D cast was performed using a Plessy Model 9040 Environmental Profiling System (s/n 5647). This instrument was calibrated at the Northwest Regional Calibration Center (NRCC) on February 4, 1986 (see Corrections to Echo Soundings Data). Sea surface temperatures and an XBT were taken during the SV/D cast as a check on the Plessy System. The reversing thermometers used with the Nansen bottles were calibrated at the NRCC.

TC/TI tapes were made in accordance with PMC OPORDER, Appendix Q, dated May 12, 1986. Printouts of TC/TI tapes are included in the separates following the text of this report.

Predicted tide corrections were applied to the soundings plotted on field sheets for this survey. The tide correctors used were from the 1986 West Coast of North and South America Tide Tables. H-10225 tide correctors use Kodiak, Alaska as the reference station using a height correction range ratio of "x1.32", a time correction of plus 0 hours 25 minutes at high water and plus 0 hours 40 minutes at low water. For further information, refer to the "Field Tide Note" in the separates following the Descriptive Report text.

E. Hydrographic Sheets

The field sheets for this survey were plotted using the FAIRWEATHER's PDP/8e computer and complot plotter. All hydrographic data from this survey will be forwarded to the Pacific Marine Center, Seattle, Washington for verification and smooth plotting.

Sheet	Scale	Skew	Dimensions
FA-20-1E-86	1:20,000	90	20 X 54 in.
FA-20-1W-86	1:20,000	90	20 X 54 in.
Dev. A	1:5,000	90	16 X 16 in.
Dev. B	1:5,000	90	20 X 22 in.

F. Control Stations

All horizontal control stations for this survey were established or recovered by FAIRWEATHER personnel. All new geodetic positions were established by conventional traverse methods and meet Third Order, Class I accuracy standards. All geodetic positions are based on the North American 1927 Datum. A list of all control stations used for this survey can be found in Appendix VI.

There are no control stations within the area surveyed.
Station NEAVY, 1940 is inside the limits of this sheet.

G. Hydrographic Position Control

Hydrographic position control was accomplished using the Motorola Mini-Ranger III system. The control configuration consisted of range/range for all positioning. Table III contains a list of console and R/T units for each sounding vessel.

All electronic control stations were positioned to Third Order, Class I accuracy or better.

Table III

Mini-Ranger Equipment by Vessel

Vessel Number	DN	Console/RT Number
2023	255-276	B0323/B1398
2024	255-269	506042/E2716
2025	255-256	703/B1108
2020	257-271	703/B1108

Mini-Ranger baseline calibrations (BLCs) were conducted in accordance with Appendices M and S of the PMC OPORDER.

Mini-Ranger correctors were obtained from BLCs performed in July/August and October, 1986. On DNs 199 and 202, beginning BLCs were conducted at Womens Bay in Kodiak, Alaska between two recoverable marks along a distance of 855.4 meters. Calibrations continued on DNs 207-208 between two points set along a beach at a distance of 924.4 meters in Agripina Bay, Alaska. The distance was measured by a Tellurometer CA-1000 (serial nos. 1047 and 1048). Ending BLCs were performed on DNs 276, 277 and 279 along a distance of 1253.6 meters between two recoverable marks in Juneau, Alaska. Table IV contains a list of all calibrations performed in support of this survey.

Table IV

Mini-Ranger Baseline Calibrations

DN	Console/RT Number	Transponder Codes
202	505042/E2716	5,7,8,9,A,B,C
	B0323/B1398	5,7,8,9,A,B,C
	703/B1108	5,7,8,9,A,B,C
207-208	506042/E2716	6,D
	B0323/B1398	6,D
	703/B1108	6,D
275-279	506042/E2716	5,6,7,8,9,A,B,C,D
	B0323/B1398	5,6,7,9,A,B,C,D
	703/B1108	5,6,7,8,9,A,B,C,D
290	B0323/B1398	8

Final correctors were determined using beginning BLC data only, as correctors obtained from ending BLCs agreed within 4 meters of the beginning correctors.

Final baseline correctors and minimum signal strengths can be found in the Electronic Control Data package submitted for OPR-P180-FA-86.

Electronic corrector abstracts are shown in Appendix V of this report.

Hydrographic positioning equipment was critically system checked at least once per week unless adverse weather prohibited it (at which point they were accomplished as soon as weather allowed). Non-critical system checks were conducted once per day. All hydrographic positioning equipment was found to be accurate within the limits set forth by the PMC OPORDER. Critical system checks were accomplished using the theodolite cut method. The instruments used were Wild brand theodolites with serial numbers T2-85652, T2-276503, T2-26336, T2-257219, T1-19288 and T1-13008.

In all cases, the launch R/T units were located directly over the transducers, thus eliminating the need for ANDIST correctors. Only the forward transducer was used on FAIRWEATHER when running ship hydrography. No ANDIST correctors are needed for this transducer.

H. Shoreline

H-10225 is located offshore; therefore, there are no applicable shoreline manuscripts.

See EVAL RPT sec. 2

I. Crosslines

All crosslines were run at a minimum of 45 degrees with respect to the mainscheme lines and account for 15% of total mainscheme sounding lines. Crosslines agree with mainscheme lines within one fathom except in areas of steep relief.

J. Junctions

Hydrographic survey H-10225 junctions with two surveys: to the northeast and east, H-10197, 1986, and to the north and west H-10214, 1986. Junctions between the sheets agree consistently within one fathom.

K. Comparision with Prior Survey

Survey H-10225 was compared to H-6925, 1943-1944, (1:200,000). Depths in the common areas range from 64 to 96 fathoms with agreement within 1 to 4 fathoms. No shoaling or significant features were found within the coincident regions of prior survey H-6925 and H-10225.

L. Comparison with Chart

This survey was compared to preliminary chart number 16568, 5th Edition, December 9, 1978 (scale 1:106,000).

All soundings on the chart south of latitude 57/00/00 originate from prior survey H-6925, and were discussed in section "K", Comparision with Prior Surveys. All other soundings on the chart were found to agree with the present survey within one fathom. These soundings are located in the northern most region of H-10225.

No AWOIS items are applicable to this survey.

No dangers to navigation were found.

M. Adequacy

This survey is complete and fully adequate to supersede the prior survey in their common areas. No additional field work is necessary.

See EVAL RPT sec. 9

N. Aids to Navigation

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

O. Statistics

Vessel	2020	2023	2024	2025	2026	Total
Positions	~~303~~ 280	~~368~~ 307	~~456~~ 375	Ø	0	~~1127~~ 965
Nautical Miles	96	104	110	0	0	310
Square Miles	-	-	-	-	-	38
Bottom Samples	25	0	0	6	0	31
Velocity Casts	1	0	0	0	0	1
Tide Stations	1	-	-	-	-	1
Days of Production (Hydrography only)	-	-	-	-	-	8

P. Miscellaneous

On September 16 (DN 259) it was found that all LORAN-C comparision data was invalid. This day's data should not be forwarded to the Coast Guard.

No unusual submarine features or anomalous tidal conditions were observed during this survey. No current observations were made.

Bottom samples were collected and forwarded to the Smithsonian Institution, Washington, D.C.

Q. Recommendations

Survey H-10225 falls within the limits of sheet "F" and is in itself a complete survey; however, portions of sheet "F" remain to be surveyed. This work should be accomplished during the 1987 field season and submitted as a separate survey.

See EVAL RPT sec. 9

R. Automated Data Processing

The following programs were used for data acquisition or processing.

Number	Program	Version Date
RK 112	Range-Range Real Time Plot	04/23/84
RK 201	Grid, Signal and Latice Plot	04/18/75
RK 221	Range-Range Non-Real Time Plot	07/25/86
RK 212	Visual Station Table Load	04/01/74
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 Computations	09/25/78
AM 602	Elinore	12/08/82
RK 530	Layer Corrections for Velocity	05/10/76
RK 562	Theodolite Calibrations	09/05/84
	VELTAB	02/01/85

S. Referral to Reports

The following data and reports will be submitted separately:

Report	Date
Horizontal Control Report	11/86
Electronic Control Data	11/86
Corrections to Echo Soundings Data	11/86
Coast Pilot Report	11/86

SIGNAL TAPE LISTING
OPR-P180-FA-86
FA-20-1-86
H-10225

GUPPY RM 1 1985
415 0 57 11 12998 156 19 34715 250 0034 000000

ASH 1944
419 0 57 04 36933 156 24 32675 250 0066 000000

NEAVY 1944
470 0 56 59 43183 156 27 16748 250 0028 000000

ALDER 1986
485 0 57 03 52078 156 29 14348 250 0047 000000

PRO 1944
500 0 56 58 33386 156 32 48468 250 0011 000000

FILE COPY

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

MAR 16 1987

N/CG241:AAA

Action:	Date to MOP
[illegible]	
[illegible]	
[illegible]	
[illegible]	

MEMORANDUM FOR: Rear Admiral Robert L. Sandquist, NOAA
Director, Pacific Marine Center

FROM: Captain Christian Andreasen, NOAA
Chief, Nautical Charting Division

SUBJECT: H-10225 Processing

I concur with your recommendation to process H-10225 as a complete survey. An additional sheet will be assigned to OPR-P180, or sheet "G" will be reoriented to cover the uncompleted area.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE

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

Action:	Date to MOP
MOP2	
Original	cc. HQ21
Initial	done 8/22/86
Remarks	

Norm: Consult with HQ21 and HQ76. Report to CO FA

August 19, 1986

TO: N/MOP - Robert L. Sandquist

FROM: Commanding Officer
NOAA Ship FAIRWEATHER S220

SUBJECT: Aerotriangulation Station and Shoreline Accuracy
for OPR-P180-FA-86

For project OPR-P180-FA-86, Southern Alaska Peninsula, FAIRWEATHER was supplied with 17 aerotriangulated hydrographic control stations (Job CM-8200, Cape Kilokak to Cape Kumlik, Alaska). This field season afforded the first opportunity to use some of the photogrammetric sites for hydrographic control.

To verify the location of station PR-12, launch critical system checks were accomplished using theodolite intersection. Differences of 15 to 20 meters from the Mini-Ranger baseline correctors were found. To verify other photo stations, a First-Order geodetic station (ASH) was occupied with horizontal angles (four-plate settings) turned from a First-Order station (PINA) to PR-72, PR-10, and PR-11. Using the computed distances from ASH to the aerotriangulated stations, differences between the observed and computed angles leads to positional errors of 17 to 18 meters (see Attachment A).

Third-Order, Class I positions were then determined for PR-12, PR-13, and PR-68. All three geodetic positions are approximately 18 meters west of the aerotriangulated positions (see Attachment A). This is the same error that was found with stations PR-72, PR-10, and PR-11, discussed above.

The majority of hydrography running west into the shoreline indicates that the high water line and ledge limits are west of where the shoreline manuscript depicts them. In many cases positive soundings are on or above the high water line. Comparison of detached positions on offshore rocks to the manuscript rock locations is difficult due to the rocks' large size and the launch orientation while taking the fix.

It is recommended that Job CM-8200 be reviewed as an 18-meter error to the east is suspected in both the aerotriangulated positions and the shoreline. FAIRWEATHER will not attempt to use any photogrammetric station positions from this project until the problem is resolved. Geodetic control has been extended south to Cape Providence as of this time.

It is felt that to best display manuscript data on the final field sheets all features from the manuscript (including shoreline) should be shifted 1.8 millimeters to the west before application to the final field sheets. As work is beginning on final field sheets H-10214 and H-10215, resolution

of this problem would be appreciated as soon as possible. If instructions have not been received before drafting is to begin, manuscript features will be shifted as described above.

Nautical Chart Branch may have an interest in knowing that the reference number method (PMC OPORDER, Appendix P) was used for verifying the majority of alongshore manuscript rocks. Time and weather conditions will not permit obtaining detached positions on these rocks before the end of the field season.

Attachments

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

September 18, 1986 N/CG2311:PD

TO: N/MOP - Robert L. Sandquist

FROM: N/CG2 - J. Austin Yeager

SUBJECT: Aerotriangulation Stations and Shoreline Accuracy for OPR-P180-FA-86

REF: Memorandum to N/MOP from Commanding Officer, NOAA Ship FAIRWEATHER, Same Subject, dated August 19,1986

The Commanding Officer, NOAA Ship FAIRWEATHER S220 has established that the control points furnished by the Aerotriangulation Unit, Photogrammetry Branch (PB), for Job CM-8200, Cape Kilokak to Cape Kumlik, Alaska, have a datum shift of approximately 18 meters. PB investigated this discrepancy and found it correct. When this project was bridged by aerotriangulation, the control points used were based on a 1948 geodetic adjustment. A new geodetic adjustment was performed in 1976. This adjustment caused a datum shift in longitude of approximately 1 second and .05 to .1 second in latitude.

Five geodetic control stations were selected from Job CM-8200 extending over the whole project. A comparison was made between the 1948 and 1976 adjustments.

Station	1948 Adjustment	1976 Adjustment	Datum Shift	Meters
Lagoon	57°06'02.626"	57°06'02.722"	.096"	2.97
1944	156°30'28.250"	156°30'29.290"	1.040"	17.50
Port	57°00'40.699"	57°00'40.792"	.093"	2.87
1944	156°35'41.795"	156°35'42.836"	1.041"	17.57
Yant	56°50'45.505"	56°50'45.579"	.074"	2.29
1944	157°06'22.039"	157°06'23.072"	1.033"	17.51
Sut	56°34'17.611"	56°34'17.673"	.062"	1.92
1925	157°12'56.916"	157°12'57.916"	1.000"	17.08
Lag	56°40'38.729"	56°40'38.779"	.050"	1.55
1954	157°31'53.263"	157°31'54.285"	1.022"	17.40

The mean value of this adjustment is 17.4 meters in longitude and 2.3 meters in latitude. This should be taken into consideration when applying these manuscripts.

A copy of this Memorandum will be inserted in each Descriptive Report for Job CM-8200.

cc:
N/MOP21 - Richards
N/CG22 - Nortrup
N/CG23 - Brewer
N/CG24 - Matsushige

XI. Approval Sheet

The final field sheet 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:

Maureen R. Kenny
for Brent M. Bernard
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: January 21, 1987

Marine Center: Pacific

OPR: P180

Hydrographic Sheet: H-10225

Locality: South of Navy Island, Shelikof Strait, Alaska

Time Period: September 12-28, 1986

Tide Station Used: 945-8471 Poltava Island, AK

Plane of Reference (Mean Lower Low Water): -0.71 Ft.

Height of Mean High Water Above Plane of Reference: 10.2 Ft.

Remarks: Recommended Zoning:

Zone Direct

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-10225

GEOGRAPHIC NAMES

Name on Survey	A ON CHART NO. 16568	B ON PREVIOUS SURVEY NO.	C ON U.S. QUADRANGLE MAPS	D FROM LOCAL INFORMATION	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H U.S. LIGHT LIST	K	
ALASKA (TITLE)	X									1
NAVY ISLAND (TITLE)	X									2
SHELIKOF STRAIT	X									3
										4
										5
										6
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										17
										18
				Approved:						19
										20
				Chief Geographer - N/CG2x5						21
										22
				JAN 6 1987						23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Pacific Marine Center
1801 Fairview Avenue East
Seattle, Washington 98102-3767

DEC 18 1986 N/MOP21x2/MM

TO: Commanding Officer
NOAA Ship FAIRWEATHER

FROM: N/MOP - Robert L. Sandquist

SUBJECT: Preprocessing Examination of H-10225, Alaska,
Southern Entrance to Shelikof Strait, South of Navy Island

Hydrographic survey H-10225 has been reviewed in accordance with Hydrographic Survey Guideline No. 15, and the Preprocessing Examination Critique for this survey is attached. Survey H-10225 is accepted for Pacific Marine Center processing.

The Preprocessing Examination Critique is designed to provide information which will be useful to the Command for maintaining the quality of future hydrographic surveys. I encourage you to use this information constructively. Your comments on specific critique items are welcome.

Attachment

cc: N/MOP2x1
N/MOP21x2
N/MOP211
N/CG2

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Pacific Marine Center
Nautical Chart Branch
7600 Sand Point Way NE
BIN C15700
Seattle, Washington 98115-0070

December 15, 1986 N/MOP21/TWR

TO: N/MOP - Robert L. Sandquist

FROM: N/MOP 21 - Thomas W. Richards

SUBJECT: Preprocessing Examination for H-10225

I. SURVEY INFORMATION

A. Field No. FA-20-1-86 Registry No. H-10225

B. State: Alaska

General Locality: Southern Entrance to Shelikof Strait

Sublocality: South of Navy Island

C. Project Instructions: OPR-P180-FA-85

Original dated: May 14, 1985

Change No. 1 dated: June 6, 1985
Change No. 2 dated: July 26, 1985
Change No. 3 dated: September 16, 1985
Change No. 4 dated: April 7, 1986
Change No. 5 dated: June 9, 1986
Change No. 6 dated: September 26, 1986

D. Date:

Field Work Commenced: September 12, 1986
Field Work Completed: September 28, 1986

plus 6 weeks = November 10, 1986

Data received at Marine Center: November 19, 1986

plus 1 month = December 19, 1986

Examination critique transmitted to field December 18, 1986

Target for completion of Marine Center processing June 18, 1987

II. PREPROCESSING EXAMINATION CRITIQUE

Hydrographic survey H-10225 was performed by personnel of the NOAA Ship FAIRWEATHER, CAPT John W. Carpenter, Commanding Officer. The following personnel supervised portions of the data acquisition: LT Kenny, LT Moen, ENS Crozer, ENS Abbott, ENS Cone, ENS Lynch, ENS Bernard, ENS Nodine and CST Krick.

In accordance with the Preprocessing Examination System set forth in Hydrographic Survey Guideline (HSG) No. 15, Section III, the following items are brought to your attention:

A. Danger to Navigation Report

There were no dangers to navigation reported by FAIRWEATHER as a part of survey H-10225.

No additional dangers were identified during the preprocessing examination.

B. Compliance with Instructions

The Descriptive Report states one tidal height ratio was applied to all soundings in this survey. Section 5.9 of the Project Instructions states this area should use three height ratios.

The Descriptive Report, Field Tide Note, and an entry in Separate X (Request for Approved Tides) states the tide station Poltava Island as station #945-8471. Change No. 6 of the Project Instructions lists this station as #945-8741. The correct station number for Poltava Island is 945-8471 (N/OMS12).

C. Final Field Sheets

The two areas within the sheet limits showing the greatest bottom relief were well developed in order to establish the least depths in these areas.

Most of the least depths brought forward from the development sheets and hand-plotted on the final field sheets are illegible due to the congestion of soundings in these areas. "Legibility of the final field sheet is important; its purposes are not met if significant data is obliterated" (PMC OPORDER Appendix Q, Section 1a, pp. 2).

Bottom sample descriptions are difficult to read where samples are taken within areas of closely-spaced sounding lines. "...the field sheet must portray neatly and legibly all ...bottom characteristics..." (HM 4.2.1).

Bottom samples containing more than one particular type of sediment are written on the final field sheets and in the sounding volume using punctuation marks (see Attachment A). Ampersands and commas shall not be used in bottom sample descriptions (HSG 36 Section 3).

D. Descriptive Report

The Descriptive Report was complete and well written.

E. Echograms

Ship personnel assigned depths to the digital file from some echogram traces which were indeterminable due to rapidly changing bottom topography (see Attachment B). "When recorded traces on the graphic record cannot be attributed with reasonable certainty to reflections from the bottom or from obstructions, they should not be recorded as soundings" (HM 4.9.8.2).

Some information in the echogram stamps was omitted or "non-standard" information was used (i.e., calendar dates used instead of day numbers) (see Attachment C). Explanatory notes and information should be given to make the field record information complete (HM 4.8.1 and 4.8.5.1, Figure 4-39).

G. Sounding Correctors

TC/TI tape listing lists the last day record for VESNO 2023 as DN 281 (see Attachment D). Sounding records show the last day of sounding for that vessel to be DN 261.

Velocity tables are submitted with the last entry in the long record of "000000". This entry should be the sheet number (Program RK210/211.18 documentation).

The depth units (ft/fm/m) listed in the Sounding Correction Abstracts are not identified.

H. Tide Data

The transmittal letter to N/OMS121 containing tide data is incorporated into Separate X (Request for Approved Tides) of the Descriptive Report. A copy of the actual letter requesting approved tides is not submitted. "A copy of the Request For Approved Tides form letter found in Appendix G must be attached" (PMC OPORDER Appendix Q, pp.27, Descriptive Report Appendices XI).

K. Special and/or Ancillary Reports

The Corrections to Echo Soundings Report and the Electronic Control Report are not available for consideration in this critique.

N. Survey Acceptance

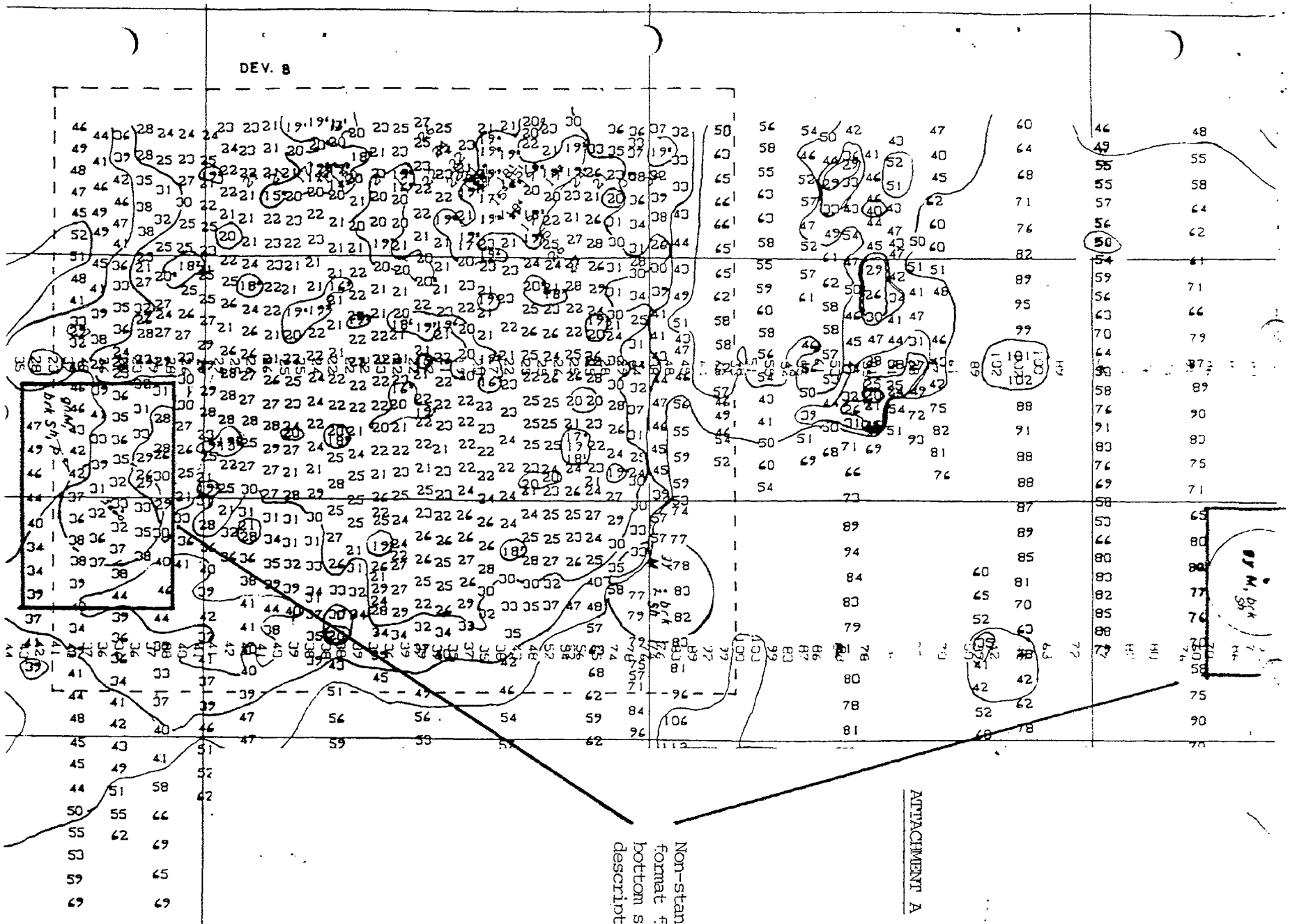
The preprocessing examination for H-10225 was conducted under the time constraints of HSG 15. All comments contained herein are based on a spot check of the data, and it is possible that some problem areas have not been addressed.

Except for the items noted in the critique, H-10225 is in compliance with the Project Instructions. I recommend that H-10225 be accepted for Nautical Chart Branch processing.

Prepared by:

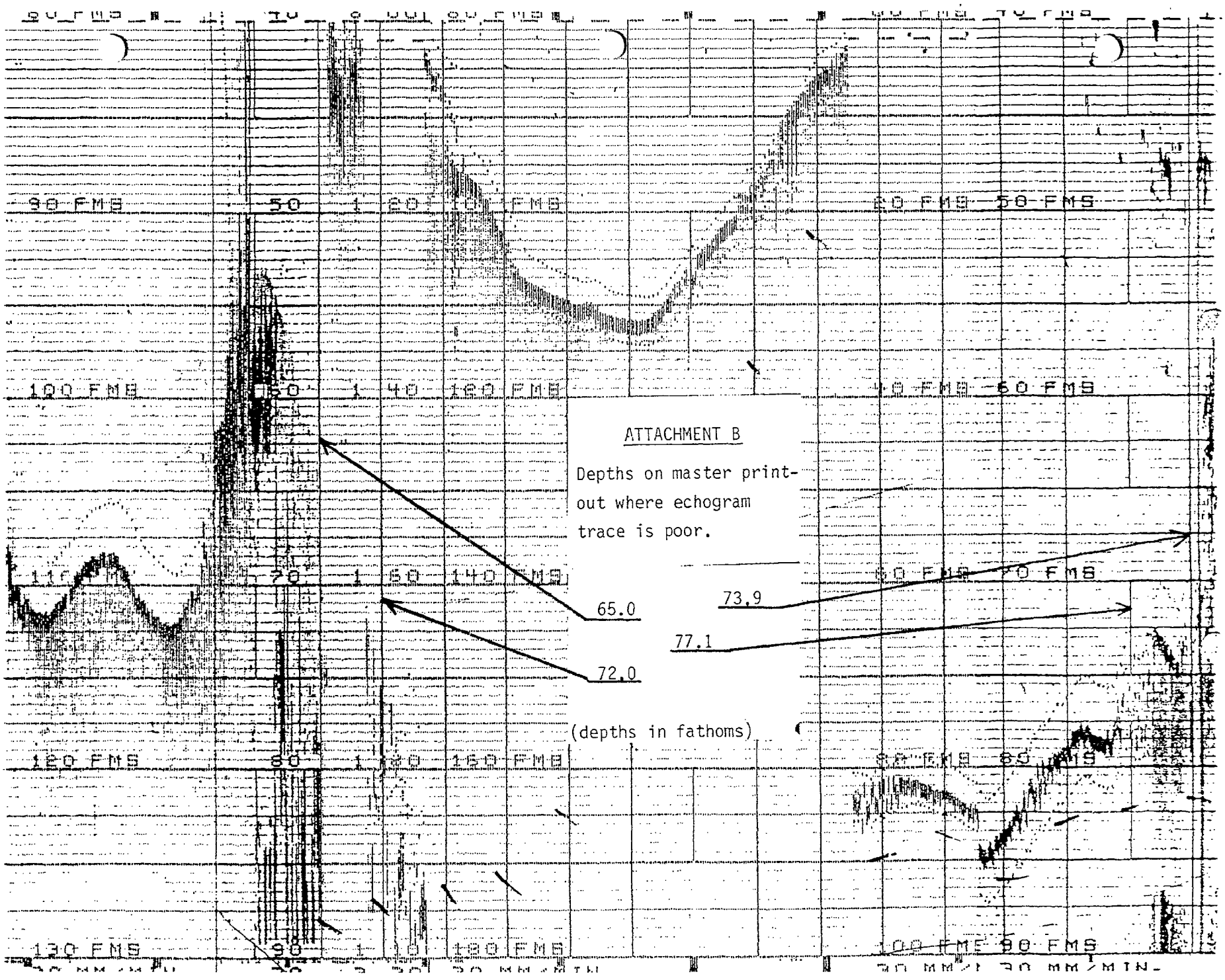
Marlene Mozgala

Marlene Mozgala
Lieutenant, NOAA Corps

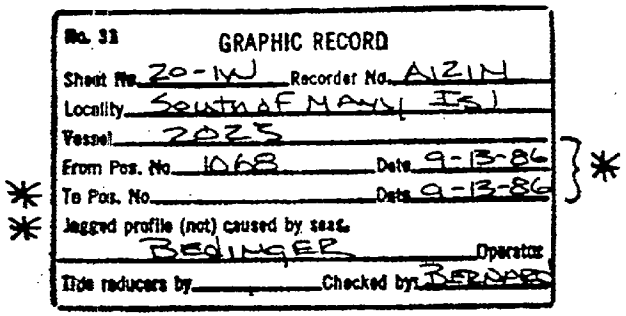


ATTACHMENT A

Non-standard format for bottom sample descriptions


ATTACHMENT B
Depths on master print-out where echogram trace is poor.
65.0
72.0
73.9
77.1
(depths in fathoms)

ATTACHMENT C



* Information to be completed or entered in standardized form

TC/TT TAPE LISTING
OPR-F180-FA-86
FA-20-1-86
H-10225

192409 0 0000 0000 258 202000 000000
184809 0 0023 0012 259 202000 000000
182817 0 0000 0000 268 202000 000000
230000 0 0000 0000 271 000000 000000

172013 0 0003 0008 255 202300 000000
~~181400~~ 0 0000 0000 ~~261~~ 000000 000000
203838 261

230157 0 0003 0008 255 202400 000000
003200 0 0000 0000 269 000000 000000

ATTACHMENT D

185900 0 0000 0000 256 202500 000000
201300 0 0000 0000 256 000000 000000

NOAA FORM 77-27(H) (9-81)

U S DEPARTMENT OF COMMERCE

HYDROGRAPHIC SURVEY STATISTICS

REGISTRY NUMBER: H-10225

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	4

DESCRIPTION	DEPTH/POS RECORDS	HORIZ. CONT RECORDS	SONAR-GRAMS	PRINTOUTS	ABSTRACTS/SOURCE DOCUMENTS	
ACCORDION FILES	1					
ENVELOPES						
VOLUMES	1					
CAHIERS						
BOXES						

SHORELINE DATA

SHORELINE MAPS (List): TP-01153

PHOTOBATHYMETRIC MAPS (List):

NOTES TO THE HYDROGRAPHER (List):

SPECIAL REPORTS (List):

NAUTICAL CHARTS (List): 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			1127
POSITIONS REVISED	—	—	704
SOUNDINGS REVISED	—	—	336
CONTROL STATIONS REVISED	—	—	—
	TIME-HOURS: VERIFICATION	EVALUATION	TOTALS
PRE-PROCESSING EXAMINATION	—	—	—
~~VERIFICATION OF CONTROL~~	—	—	—
VERIFICATION OF POSITIONS	42.5	—	42.5
VERIFICATION OF SOUNDINGS	64.0	—	64.0
~~VERIFICATION OF JUNCTIONS~~	—	—	—
~~APPLICATION OF PHOTOBATHYMETRY~~	—	—	—
~~SHORELINE APPLICATION VERIFICATION~~	—	—	—
COMPILATION OF SMOOTH SHEET	20.0	—	20.0
COMPARISON WITH PRIOR SURVEYS AND CHARTS	—	10.0	10.0
~~EVALUATION OF SIDE SCAN SONAR RECORDS~~	—	—	—
~~EVALUATION OF WIRE DRAGS AND SWEEPS~~	—	—	—
~~EVALUATION~~ REPORT	—	19.0	19.0
~~GEOGRAPHIC NAMES~~	—	—	—
OTHER: DIGITIZING	—	—	
USE OTHER SIDE OF FORM FOR REMARKS TOTALS	126.5	29.0	

Pre-processing Examination by: M. Mozgala	Beginning Date: 11/19/86		Ending Date: 12/18/86
Verification of Field Data by: L. Deodato, I. Almacen	Time (Hours): 126.5		Ending Date: 6/23/87
Verification Check by: S. Otsubo, B. Olmstead	Time (Hours): 23.5		Ending Date: 7/02/87
Evaluation and Analysis by: I. Almacen	Time (Hours): 29.0		Ending Date: 7/13/87
Inspection by: D. Hill	Time (Hours): 2.0		Ending Date: 7/29/87

PACIFIC MARINE CENTER
EVALUATION REPORT
H-10225

1. INTRODUCTION

H-10225 was accomplished by the NOAA Ship FAIRWEATHER in accordance with the following project instructions:

OPR-P180-FA-86, dated May 14, 1985
Change Number 1, dated June 6, 1985
Change Number 2, dated July 26, 1985
Change Number 3, dated September 16, 1985
Change Number 4, dated April 7, 1986
Change Number 5, dated June 9, 1986
Change Number 6, dated September 26, 1986

This is a basic hydrographic survey of a portion of Shelikof Strait, along the southeastern side of the Alaska Peninsula. The area is about 4 miles southeast of Navy Island, the southernmost and the smallest of the group of islands off Port Wrangell. The nearshore area up to 50 fathoms is rough and as depths increase towards the middle of the strait the bottom becomes more uniform. The bottom is composed mainly of sand and mud. Depths range from 11.4 to 128 fathoms.

Predicted tides for Kodiak, Alaska were used during field processing. Tide correctors used for the final reduction of soundings are based on approved hourly heights zoned from gage (945-8471) Poltava Island, Alaska.

The field sheet parameters have been revised to center the hydrography on the smooth sheet and to change the projection to polyconic. The field values for electronic control, velocity and TRA corrections have been checked during office processing and found to be adequate. The revised data is listed in the smooth position and sounding printouts.

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

Horizontal control and hydrographic positioning are adequately discussed in Sections F and G of the hydrographer's report and in the Horizontal and Electronic Control Reports for OPR-P180-FA-86.

Positions of horizontal control stations used during hydrography are either NGS published or field values based on the NA 1927 Datum. The computation of positions accomplished during office processing utilized these same values. The smooth sheet and accompanying overlays have been annotated with NA 1983 Datum adjustment ticks based on adjustment values determined by N/CG121.

Geographic positions based on the NA 1983 Datum may be plotted on the smooth sheet utilizing the NA 1927 Datum projection by applying the following corrections:

Latitude: 2.613 seconds or 80.8 meters
Longitude: -7.371 seconds or -124.5 meters

The year of establishment of control stations shown on the smooth sheet originates with the hydrographer's signal list and is subject to change pending certification of the data by NGS.

The applicable shoreline manuscript is TP-01153, compiled at the scale of 1:20,000. This is a registered Class III map, and originates from photography dated July 1982 and August 1983.

It was during this project that the hydrographer discovered a datum shift of approximately 18.0 meters in both the shoreline and aerotriangulated control points furnished by the Aerotriangulation Unit, Photogrammetry Branch for Job CM-8200 (See attached Memo to N/MOP from Commanding Officer, NOAA Ship FAIRWEATHER dated August 19, 1986). This discrepancy was due to the use of a 1948 rather than the new 1976 geodetic adjustment during aerotriangulation bridging. The mean adjustment values of 2.3 meters in latitude and 17.4 meters in longitude recommended by Photogrammetry Branch and contained in the attached memo from N/CG2, dated September 18, 1986 were used in compiling the smooth sheet for this survey. — Ref. L-198\88

3. HYDROGRAPHY

Hydrography within the limits of the sheet is adequate to:

a. Delineate the bottom configuration, determine least depths, and to draw the standard depth curves.

b. Reveal that there are no significant discrepancies or anomalies requiring further investigation.

c. Show that the survey had been properly controlled and soundings are correctly plotted.

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 No.3, the Hydrographic Survey Guidelines, and the PMC OPORDER, except as noted in the attached copy of Preprocessing Examination Report, dated December 15, 1986.

5. JUNCTIONS

H-10225 junctions with the following surveys:

Survey	Year	Scale	Area
H-10197	1985-86	1:20,000	East
H-10214	1986	1:20,000	North

H-10197 and H-10214 are still in processing and junction comparisons were made using preliminary sounding plots. Comparisons are good; however, soundings were transferred from both surveys to justify depth curves and to portray shoaler information within the adjoining areas. The junctions have been adequately effected.

There are no contemporary or prior surveys to the west, south, and southeast of this survey. Comparison with the few charted depths along these limits of the survey reveals good agreement.

6. COMPARISON WITH PRIOR SURVEYS

H-6925 (1943-44) 1:200,000

H-6925 provides the basic survey coverage of the entire area of this survey. Comparison with this sparsely sounded prior survey is satisfactory. No significant discrepancies were found between this prior survey and the present survey. H-10225 was accomplished with more accurate positioning and determination of critical depths through closer line spacing than was accomplished during the 1943-44 survey.

There are no pre-survey review/AWOIS items originating from this prior survey applicable to the present survey.

H-10225 is adequate to supersede the prior survey within their common areas.

7. COMPARISON WITH CHART

Chart 16568, 5th Edition, dated December 9, 1978; scale 1:106,000.

a. Hydrography - Most charted information originates from the prior survey H-6925 discussed in Section 6 of this report. Other charted soundings originate from miscellaneous sources. For more details see section L of the hydrographer's report.

There are no pre-survey review/AWOIS items originating from miscellaneous sources applicable to the survey

H-10225 is adequate to supersede charted hydrography within the common area.

Geographic names appearing on the smooth sheet have been approved by the Chief Geographer and are plotted in accordance with this chart.

There have been no danger to navigation reports submitted to the Coast Guard or DMA for this survey.

b. Controlling Depths - There are no 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-10225 adequately complies with the project instructions noted in section 1 of this report.

9. ADDITIONAL FIELD WORK

This is a good basic hydrographic survey. H-10225 was accepted for processing as a complete survey. However, the required coverage of the survey area indicated as Sheet "F" on OPR-P180 Sheet Layout was not accomplished. Additional fieldwork to complete the unsurveyed area will be assigned later as per attached memo from the Chief, Nautical Chart Division, dated March 16, 1987.

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-10225

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.

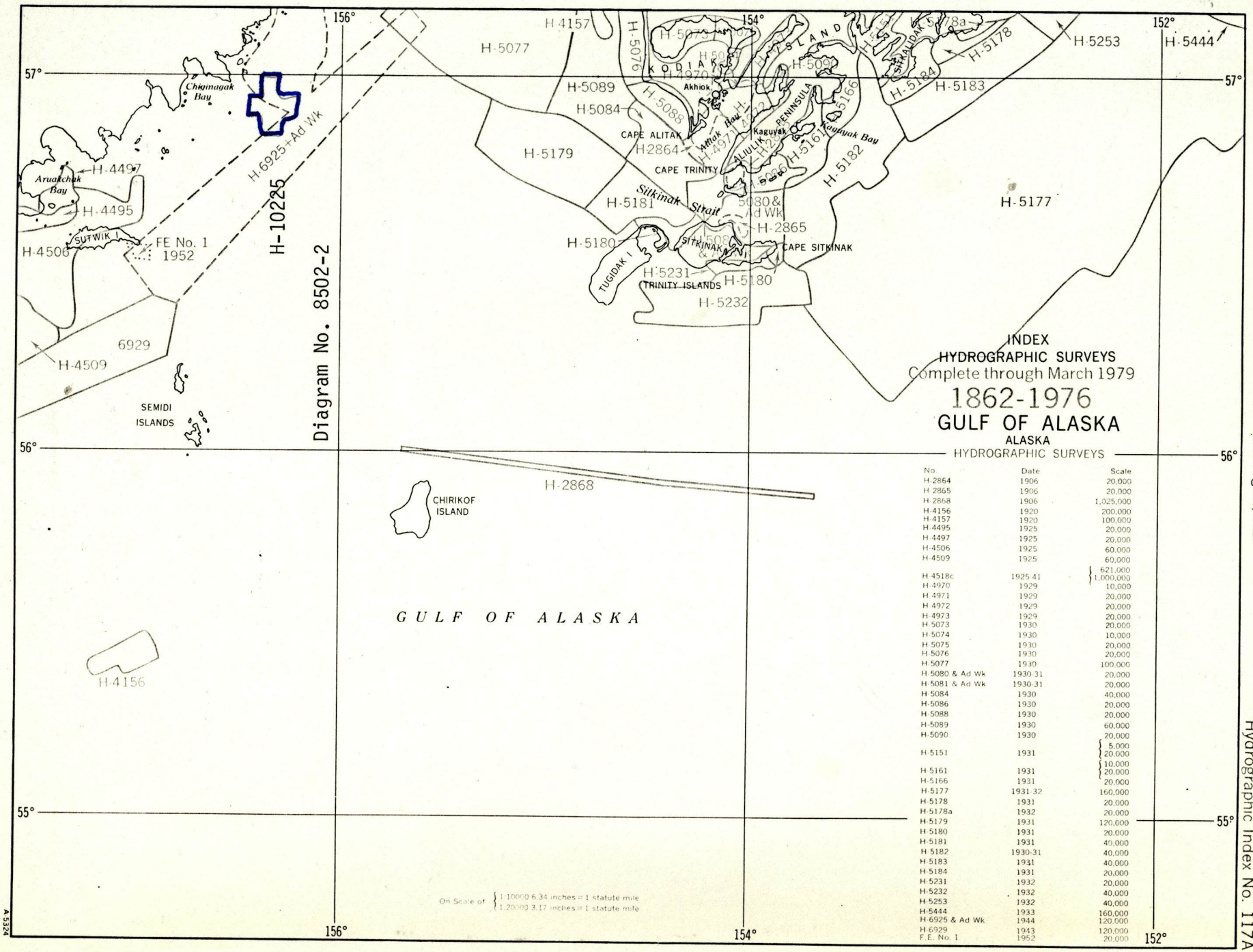
7-31-87
Chief, Nautical Chart Branch (Date)

CLEARANCE: SIGNATURE AND DATE:

N/MOP2:LWMordock 7-31-87

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.

7-31-87
Director, Pacific Marine Center (Date)



INDEX
HYDROGRAPHIC SURVEYS
Complete through March 1979

1862-1976
GULF OF ALASKA
ALASKA

HYDROGRAPHIC SURVEYS

No.	Date	Scale
H-2864	1906	20,000
H-2865	1906	20,000
H-2868	1906	1,025,000
H-4156	1920	200,000
H-4157	1920	100,000
H-4495	1925	20,000
H-4497	1925	20,000
H-4506	1925	60,000
H-4509	1925	60,000 621,000
H-4518c	1925.41	1,000,000
H-4970	1929	10,000
H-4971	1929	20,000
H-4972	1929	20,000
H-4973	1929	20,000
H-5073	1930	20,000
H-5074	1930	10,000
H-5075	1930	20,000
H-5076	1930	20,000
H-5077	1930	100,000
H-5080 & Ad Wk	1930-31	20,000
H-5081 & Ad Wk	1930-31	20,000
H-5084	1930	40,000
H-5086	1930	20,000
H-5088	1930	20,000
H-5089	1930	60,000
H-5090	1930	20,000
H-5151	1931	5,000 20,000
H-5161	1931	10,000 20,000
H-5166	1931	20,000
H-5177	1931-32	160,000
H-5178	1931	20,000
H-5178a	1932	20,000
H-5179	1931	120,000
H-5180	1931	20,000
H-5181	1931	40,000
H-5182	1930-31	40,000
H-5183	1931	40,000
H-5184	1931	20,000
H-5231	1932	20,000
H-5232	1932	40,000
H-5253	1932	40,000
H-5444	1933	160,000
H-6925 & Ad Wk	1944	120,000
H-6929	1943	120,000
F.E. No. 1	1952	20,000

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

Hydrographic Index No. 117A

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-10225

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
16568	6-6-88	JP	Full Part Before After Marine Center Approval Signed Via
			Drawing No. 7
16013	2-16-89	ED MARTIN	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 28, IMPROVE 50 & 100 FM CURVE
531	3-6-89	ED MARTIN	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 19
			Full ~~Part Before~~ After Marine Center Approval Signed Via
530	6-7-89	R. A. Lillis	Drawing No. 34
500	7-25-89	John Pierce	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 6 Examined, no corrections applied
16006	3-20-90	John Pierce	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 26 Examined, 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.

SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED.

appl to Stds 10-20-87 RH