

10215

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-10-1-86
Registry No. H-10215

LOCALITY

State Alaska
General Locality .. Alaska Peninsula
Sublocality Cape Kilokak to Vicinity of
..... Ashiak Island
.....
..... 19 86
.....
CHIEF OF PARTY
..... Capt. J.W. Carpenter

LIBRARY & ARCHIVES

DATE October 20, 1987

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

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Ref Bp 131504-05 (ADV. HYDRO)
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HYDROGRAPHIC TITLE SHEET

H-10215

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 10-1-86

State Alaska

General locality Alaska Peninsula

Locality Cape Kilokak to Vicinity of Ashiiak Island

Scale 1:10,000 Date of survey 6/18 - 9/14/86

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

Vessel FAIRWEATHER 2020, 2023, 2024, 2025, 2026, 2027

Chief of party Capt. J.W. Carpenter

Surveyed by LT Kenny, LTJG Hurst, LTJG Brezinski, ENS Crozer, ENS Abbott, ENS Cone,
ENS Bernard, ENS Nodine, CST Krick

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

Graphic record scaled by FAIRWEATHER Personnel

Graphic record checked by FAIRWEATHER Personnel

Verification by Robert N. Mihailov Automated plot by PMC Xynetics Plotter

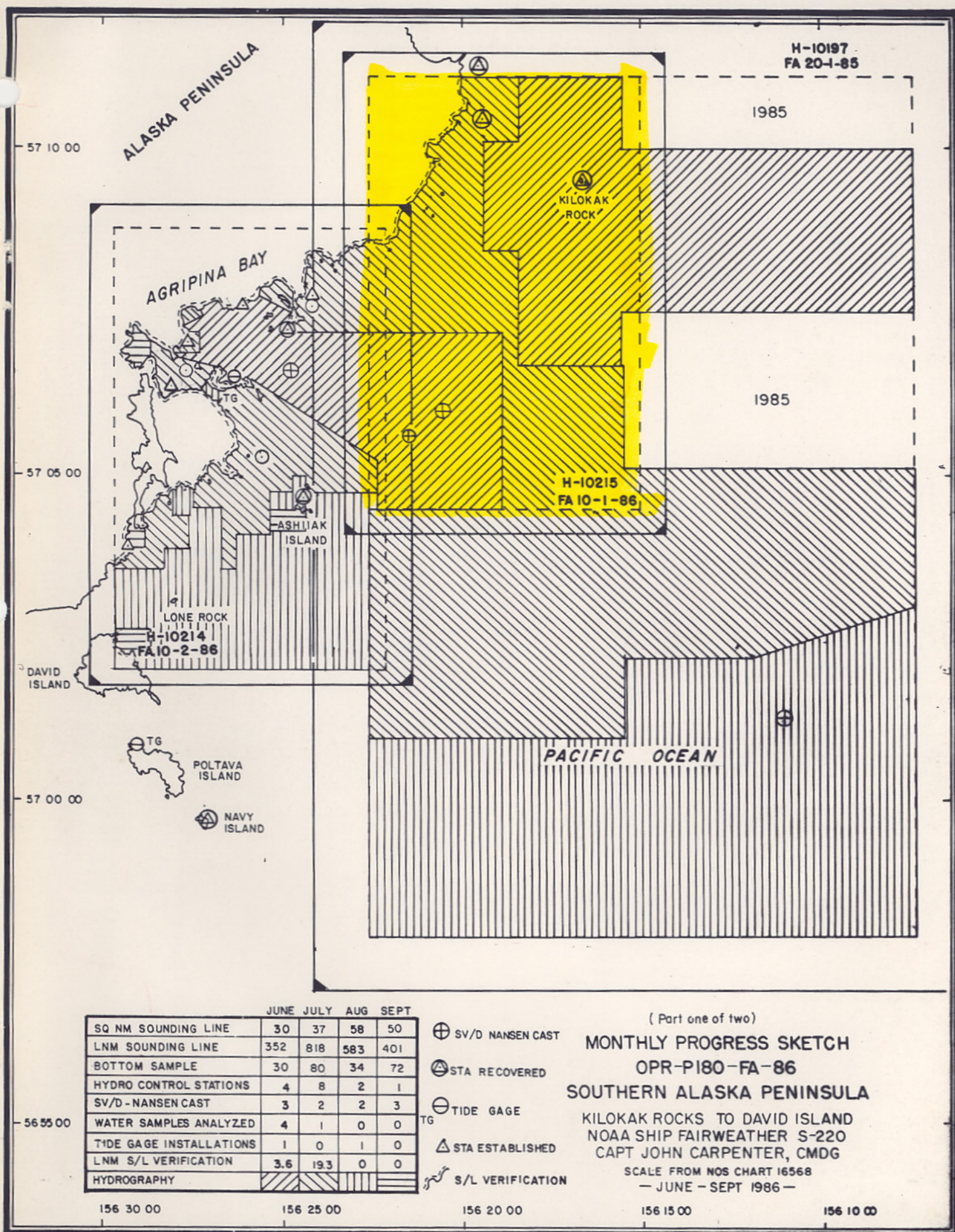
Evaluation by Gordon E. Kay

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

REMARKS: Comments in black are made by the evaluator. Separates have been
removed and filed with the survey records.

AWOIS/SURF Complete MSM 4/1/88

SC 25-97



Descriptive Report
to Accompany Hydrographic Survey
H-10215 (FA-10-1-86)
NOAA Ship FAIRWEATHER
Captain John W. Carpenter, Commanding

A. Project

Survey H-10215 is a basic hydrographic survey conducted during the 1986 field season. The survey was conducted in accordance with Project Instructions OPR-P180-FA-86, dated May 14, 1985; Change No. 1, dated June 6, 1985; and Change No. 4 dated April 7, 1986. PMC OORDER, the Hydrographic Manual (fourth edition) and the Hydrographic Survey Guidelines are also applicable. *SEE EVALUATION REPORT SECTION 1*

The purpose of this survey is to provide contemporary hydrographic surveys for the 1:80,000-scale charts to be published in the future. ✓

This sheet is designated "B" in the project instructions.

B. Area Surveyed

This survey was conducted in the general locality of Cape Kilokak and off the mouth of Agripina Bay, including Kilokak Rocks to the north.

The northern limit is latitude 57/11/00 N. The shoreline north of Agripina Bay bounds the survey on the west to latitude 57/08/30 N. South of this the western limit is longitude 156/22/20 W. The southern limit is latitude 57/04/30 N; the eastern limit is longitude 156/15/25 W. ✓

Field work began on June 18, 1986 (DN 169) and ended on September 14, 1986 (DN 257).

C. Sounding Vessels

Hydrographic data was collected using Jensen survey launches FA-3, FA-4, FA-5, and FA-6, vessel numbers 2023, 2024, 2025 and 2026, respectively. Shoreline verification was completed using a 17-foot MonArk, FA-7, vessel number 2027. FAIRWEATHER (2020) conducted all sound velocity casts and collected bottom samples. FA-5 was also used to collect bottom samples. ✓

The only unusual sounding vessel configuration was used in the shoreline delineation of Kilokak Rocks, as described in Section H, Shoreline.

No significant problems were encountered during the survey.

D. Sounding Equipment and Corrections to Echo Soundings.

All of FAIRWEATHER's 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 NUMBER

<u>Vessel</u>	<u>Day Number</u>	<u>Recorder Serial No.</u>
2023	DN 169-257	A121N
2024	DN 169-257	B049N
2025	DN 169-257	A113N
2026	DN 169-247	A104N
2026	DN 248-257	B048N

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 high- and low-frequency sounding data. ✓

In most instances, the high-frequency beam data was digitized. The low frequency was used when, due to steepness or suspended particles in the water column, the high frequency trace was lost. Also, if side echos produced least depths over peaks and reduced line spacing wasn't needed because of depth (e.g., in 80-fathoms of water), the low-frequency side-echo depth was recorded. This is noted on the raw computer printout with the annotation "low frequency trace" or "LFT". ✓

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 for speeds run when performing surveys in 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).

Velocity correctors were determined from eight SV/D casts in accordance with section 4.9.5.2 of the Hydrographic Manual. Program VELTAB was used. The casts showed the water column to be changing significantly; therefore, eight velocity tables were necessary. Table II shows the dates and locations of all casts.

Table II
Velocity Casts

<u>Cast No.</u>	<u>Date DN</u>	<u>Latitude</u> <u>Longitude</u>	<u>Table No.</u>	<u>Applicable</u> <u>Dates (DN)</u>
1	166	57/00.9N 155/58.5W	Table 1	168-170
3	179	57/04.0N 156/16.3W	Table 2	176-184
4	196	57/05.6N 156/21.7W	Table 3	188-199
6	212	57/05.6N 156/21.6W	Table 4	202-213
7	221	57/05.6N 156/21.36	Table 5	216-227
8	240	57/05.0N 156/22.2W	Table 6	230-241
9	249	57/06.0N 156/20.5W	Table 7	247-263
10	261	56/52.6N 156/24.7W	Table 8	255-268

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) on February 4, 1986 (see Corrections to Echo Soundings Data). Nansen bottles, sea surface temperatures, and/or XBT's were taken during the SV/D casts as a check on the Plessy System. The reversing thermometers used with the Nansen bottles were calibrated at the NRCC.

Diver's least depths were obtained using a Lietz Fiberglass tape measure or pneumatic depth gauge manufactured by 3-D Instruments, Inc. (s/n 8302079 N). Data acquisition using this gauge was in accordance

with Hydrographic Survey Guideline No. 55, with system checks performed to confirm accuracy standards at the beginning of every dive day. The pneumatic gauge was calibrated on April 9, 1986 by the Pacific Tide Party.

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 the field sheets for this survey. The tide correctors used were from the 1986 West Coast of North and South America Tide Tables. 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 final field sheets were plotted aboard the FAIRWEATHER using a PDP/8e computer and Houston Instruments DP-3 plotter. This survey consists of two final field sheets and two overlays on mylar.

<u>Sheet</u>	<u>Scale</u>	<u>Skew</u>	<u>Dimensions</u>
FA 10-1E-86	1:10,000	90	21.5x54
FA 10-1W-86	1:10,000	90	21.5x54

All hydrographic data for this survey will be forwarded to the Pacific Marine Center, Seattle, WA, for ~~verification~~ *office processing* and smooth plotting.

F. Control Stations

All horizontal control stations used in this survey were recovered or established by FAIRWEATHER personnel. All geodetic positions were based on the North American 1927 datum. New stations were located by conventional traverse, intersection and resection methods. No anomalies in control, adjustment or closures were encountered. All positions meet or exceed Third Order, Class I specifications.

Two stations are within hydrographic data limits: WRECK 1944 and KILO 1944. These stations are located on offshore islands.

Stations used in support of this survey are listed in Appendix VI, List of Stations. For additional information, refer to the Horizontal Control Report, OPR-P180-FA-86.

G. Hydrographic Position Control

Hydrographic position control was accomplished using the Motorola Mini-Ranger III system. The control configuration consisted of range/range and range/azimuth 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

<u>Vessel Number</u>	<u>DN</u>	<u>Console/RT Number</u>
2023	169-257	80323/B1398
2024	169-207	716/C1875
	217-251	703/B1108
	252-257	506042/E2716
2025	169-192	506042/E2716
	193-197	703/B1108
	198-203	716/C1875
	204-208	703/B1108
	209-216	506042/E2716
	223-247	506042/E2716
	252-256	703/B1108
2026	169-192	703/B1108
	193-207	506042/E2716
	208-245	716/C1875
	248-251	506042/E2716
2020	217-222	506042/E2716
	257	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 May, July/August and October, 1986. On DNs 132-133 beginning calibrations were conducted along a distance of 1054.8 meters between two recoverable points across Lake Union in Seattle, Washington. Beginning calibrations continued on DNs 134-135 between two recoverable points at a distance of 990.2 meters across Lake Union. On DNs 199 and 202 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 276-279 and DN 290 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
132-133	506042/E2716 B0323/B1398	5,7,8,9,A,B 5,7,9,B,C,D
134	506042/E2716 B0323/B1398 703/B1108	6,C,D 6,8,A 5,6,7,8,9,A,B
135	703/B1108 716/C1875	C,D 5,6,7,8,9,A,B,C,D
199	716/C1875	5,7*,8,9,A,B,C
202	⁶ 506042/E2716 B0323/B1398 703/B1108	5,7*,8,9,A,B,C 5,7*,8,9,A,B,C 5,7*,8,9,A,B,C ✓
207-208	506042/E2716 B0323/B1398 703/B1108 716/C1875	6,D 6,D 6,D 6,D
275-279	506042/E2716 B0323/B1398 703/B1108 716/C1875	5,6,7*,8,9,A,B,C,D 5,6,7*,9,A,B,C,D 5,6,7*,8,9,A,B,C,D No Ending BLC
290	B0323/B1398	8

* - This is a new code 7.

On DN 245 the modulator in RT unit C1875 failed and had to be replaced. As a result, no ending BLCs were obtained for console/RT pair 716/C1875. Critical and non-critical system checks verified beginning calibration correctors until the failure occurred. ✓

On DN 175 code 7 failed and could not be repaired in the field. This transponder was sent to PMC for repairs. As a result, no ending calibration was possible. Critical and non-critical system checks verified the beginning calibration correctors until the failure occurred. A new code 7 was received from PMC and was calibrated on DNs 199 and 202. This transponder was used for the remainder of the field season. ✓

Final correctors for data collected on DNs 169-198 were determined using beginning BLC data only, as correctors obtained from BLCs conducted on DNs 199-208 agreed within 5 meters of the beginning correctors. Final correctors applied to data collected after DN 208 ✓

were determined from the BLCs conducted on DNs 199-208 only, as they differed from correctors obtained from ending BLCs by no more than 4 meters.

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 except when equipment failures prohibited it. 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.

H. Shoreline

The shoreline for this survey was taken from 1:10,000 scale enlargements of two 1:20,000 scale, Class III, registered shoreline manuscripts. TP-00717 was used for shoreline north of latitude 57/10/00; TP-01149 was used for shoreline to the south. All verified features from the shoreline manuscripts are in black ink on the final field sheet with changes in red ink. New features (i.e., new rocks and foul limits) are shown in black ink. Changes in position and/or description of manuscript features are documented on the smooth sheet.

Two new islets (latitude 57/09/20 N, longitude 156/20/40 W, Reference No. 110 and latitude 57/10/29 N, longitude 156/20/03 W, Reference No. 125) are shown in red on the final field sheet. The high water lines are shown approximately as the islets are located beyond the limits of safe navigation and the launches could not get detached positions.

Ledges in some areas, especially north of station WRECK 1944, were found to be less extensive than as shown on the manuscript. Changes to ledge limits can be found on the final field sheet in red.

A manuscript rock, located at latitude 57/09/54 N, longitude 156/20/45 W (Reference No. 117), was found to be part of a ledge extending from shore (see final field sheet). Some offshore manuscript rocks were found to be better depicted as reefs. Detached positions were obtained on reef limits.

The shoreline manuscript was found to be compiled incorrectly on TP-01149 (See Appendix XII, Correspondence). During aerotriangulation bridging, geodetic control based on a 1948 adjustment was used instead of the most recent 1976 adjustment. This resulted in a misplacement of shoreline and features approximately 17.4 meters to the east and 2.3 meters to the south. Therefore, all manuscript data were shifted 1.8

See
EVALUATION REPORT
SECTION 2

millimeters (18 meters at the scale of the survey) to the west before application to the final field sheets. Hydrographic data at manuscript rock positions and along the shoreline verified this shift.

Kilokak Rocks (small offshore islets in the vicinity of latitude 57/09/30 N, longitude 156/16/40 W) are not covered by any manuscript or topographic sheets. The approximate mean high water lines and ledge configurations were delineated using the Range/Azimuth method. On station KILO 1944 (located on the most prominent islet) an observer with a theodolite and HP3808A EDM turned angles and measured distances to a person holding a prism. Positions were acquired at low tide on ledge limits. Taped distances were taken to the MHWL using station KILO 1944 as a standpoint. The MHWL was obvious as the islets are steep sided and flat topped.

I. Crosslines

All crosslines were run at a minimum of 45 degrees to main scheme lines and account for 8.0% of total coverage. Agreement between crosslines and mainscheme is good with the majority of soundings agreeing to within 1 fathom. Differences greater than two fathoms can be attributed to irregular and steep bottom contours. There is no systematic problem that would account for differences in these areas.

In some cases, the vessel used for mainscheme did not run the crossline associated with that mainscheme. Agreement between mainscheme and crosslines is still good, as stated above.

J. Junctions

This survey junctions with surveys H-10189 and H-10040 to the north, H-10197 to the east and south and H-10214 to the west. All soundings agree to within 1 fathom except in a few areas of steep bottom contours. There is no systematic problem that would account for differences in these areas.

K. Comparison with Prior Surveys

The survey area falls within the area of prior survey H-6925 and Additional Work, 1944; scale 1:120,000.

Survey H-6925 consists of a few reconnaissance lines and no shoreline. The present survey gives much more complete coverage of the area.

Sounding by sounding comparison with H-6925 is good although the contour lines drawn on H-6925 were based on insufficient data and do not reflect the actual contours of the bottom. The majority of soundings on the present survey were found to be equal to or shoaler than the soundings on H-6925. The majority of soundings on H-6925 fall within 200 meters of comparable soundings on the present survey, being displaced the most in areas of irregular bottom. The following discrepancies were noted:

H-6925 shows a 40-fathom sounding at latitude 57/06/20 N, longitude 156/16/50 W, and a 45-fathom sounding 0.4 nautical miles southeast of this position. The present survey shows depths ranging from 60 to 79

fathoms with 180-meter line spacing. The present survey, however, does show soundings in the 40-fathom range 500 meters to the northeast. ✓

A 21-fathom sounding is shown on H-6925 at latitude 57°05'10" N, longitude 156°18'53" W, where the present survey shows soundings of 45 to 60 fathoms with 180-meter line spacing. The nearest 21-fathom sounding is 500 meters to the northeast. *Position #3531 at Latitude 57°05'23.26"N Longitude 156°18'29.15"W*
574

The sounding discrepancies may be due to positional inadequacy of the 1943-44 survey and scale differences. H-10215 should supersede the *CONCUR* prior survey.

There are no non-sounding features on H-6925. ✓

L. Comparison with the Chart

The majority of soundings on Preliminary Chart 16568 (5th edition, December 9, 1978, scale 1:106,600) are taken from prior survey H-6925 and were discussed in section K, Comparison with Prior Surveys. Also, as stated in section K, the present survey provides much more complete coverage of the area. ✓

Of the soundings not taken from H-6925, the majority agree within 1 fathom. The soundings that don't agree within 1 fathom are no more than 200 meters from a comparable depth. The following discrepancies were noted: ✓

A 38-fathom sounding is shown on the chart at latitude 57°06'44" N, longitude 156°22'15" W, where the present survey shows soundings ranging from 55 to 77 fathoms with 180-meter line spacing. The nearest comparable soundings on the present survey are 600 meters east of the charted sounding. *A least depth of 43-fathoms Position #30046 at Latitude 57°06'36.85"N Longitude 156°22'09.36"W*
240

A 13-fathom sounding is shown on the chart at latitude 57°09'05" N, longitude 156°18'30" W, where the present survey shows depths of 25 to 30 fathoms with 90-meter line spacing. A least depth of 14 fathoms was found 250 meters to the south. *at Position #33042 at Latitude 57°08'35.14"N, Longitude 156°18'31.48"W*
326
A least depth of 18.4-fathoms (Position #1518/2) was located at Latitude 57°09'02.44"N, Longitude 156°18'16.53"W.

Depths as shown on H-10215 should be charted, superseding the *CONCUR* charted depths.

Several new uncharted shoals were found in the northern part of the survey near the shoreline and near the southwest boundary of the survey. These were reported as dangers to navigation (see Appendix XI, Dangers to Navigation, for position number, location, depth and chartlet showing dangers). ✓

The area charted foul with rocks in the vicinity of latitude 57°10'15" N, longitude 156°18'40" W was found by the present survey to be less extensive in the east-west direction. See the final field sheet for new limits. ✓

The following AWOIS item lies within the survey limits:

AWOIS Item #50856, submerged rock
Latitude 57/08/02.80 N
Longitude 156/19/10.20 W

A full echo sounder search (30-meter line spacing) was performed over a 500-meter radius around the AWOIS position. There was no indication of a submerged rock. Depths in the area range from 18 to 35 fathoms. An uncharted rock awash was found approximately 1 nautical mile to the northwest of the AWOIS position at latitude 57/08/44.1 N, longitude 156/20/42.1 W. This rock was reported as a danger to navigation. It is recommended that the rock in the AWOIS position be deleted from the chart. *Position #6000* *CONCURE*

Divers' least depths over shoal areas discovered during the course of the survey were determined using a pneumatic gauge or tape measure. Dive positions are noted on the Carto Code Listing. ✓

M. Adequacy

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

N. Aids to Navigation

None.

O. Statistics

<u>Vessel</u>	<u>2020</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>Total</u>
Positions	48	2383/2145	1329/1295	147/145	1238/1204	5101/4801
Nautical Miles	-	320	157	3	155	635
Square Miles	-	-	-	-	-	23
Bottom Samples	4	0	0	57	0	61
Velocity Casts	1	0	0	0	0	1
Tide Stations	1	-	-	-	-	1
Days of Production (Hydrography only)	-	-	-	-	-	34

P. Miscellaneous

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

Currents running along shore (north and south) were noted regularly and were estimated by divers and FAIRWEATHER navigators to have a drift of at least two knots. The times of maximum and slack currents could not be predicted using the tide tables or tidal current tables. ✓

Topographic map UGASHIK (A-2), Alaska (1951, minor revisions 1973), shows Kilokak Rocks to be located in the vicinity of latitude 57/10/23 N, longitude 156/19/27 W where station WRECK 1944 is located. The chart and the 1985 Coast Pilot refer to the islets in the vicinity of latitude 57/09/29 N, longitude 156/16/41 W (where station KILO 1944 is located) ✓

as Kilokak Rocks. This discrepancy should be investigated before chart publication. A United States Board on Geographic Names Domestic Geographic Names Report has been forwarded in accordance with Hydrographic Survey Guideline No. 26 (see Appendix XII, Supplemental Information). *attached form 9-1343, Domestic Geographic Names Report.*

CONCUR

Q. Recommendations

None

R. Automated Data Processing

The following programs were used for data acquisition or processing.

<u>Number</u>	<u>Program</u>	<u>Version Date</u>
RK 112	Range-Range Real Time Plot	04/23/84
RK 116	R/Az Real Time Plot	03/01/86
RK 201	Grid, Signal and Lattice Plot	04/18/75
RK 221	Range-Range Non-Real Time Plot	07/25/86
RK 226	R/Az Non Real Time Plot	07/25/86
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

In addition, program VELTAB, version date 2/01/85, was used to compute velocity tables.

S. Referral to Reports

The following reports will be submitted separately in December, 1986.

Horizontal Control Report
Electronic Control Data
Corrections to Echo Soundings Data
Coast Pilot Report

Field Tide Note
1986 Field Season

The tide gage located at Kodiak, Alaska (945-7283) served as the reference station for the predicted tides used for correctors on surveys H-10197, H-10214 and H-10215 as specified by Project Instructions OPR-P180-FA-85,86.

The controlling tide station is Sand Point, Alaska (945-9450), the operating station at Seldovia, Alaska (945-5500) will supply additional control for datum reduction.

Predicted tide correctors were interpolated aboard the FAIRWEATHER using data from the 1986 West Coast Tide Tables and program AM 500 dated November 10, 1972. All correctors calculated were based on zone correctors supplied by the project instructions and tabulated below.

Time Correction		Height Correction
High Water	Low Water	Range Ratio
+0hr 25min	+0hr 40min	x 1.32

All times of predicted and reported tides are expressed in Universal Coordinated Time. Predicted tides were acceptable for hydrography with no discrepancies in the data attributable to tide errors.

One field tide station, Agripina Bay (945-8464), was established in support of these surveys. The Agripina Bay Station, located at latitude 57/06/24, longitude 156/26/24, operated throughout the period of surveying on sheets H-10197, H-10214 and H-10215. The station was installed on June 17, 1986 (DN 168) and removed on September 27, 1986 (DN 270). Two Bristol Bubbler analog tide gages were installed in a cove on the northern side of the largest island in Agripina Bay. The gages, serial numbers 67A 16201 and 68A 9335, had a range of 0 to 30 feet. The orifices were bolted to a rock approximately 6 inches above the bay floor. The tubing was led across the bottom and weighted with rocks along its length. The staff was bolted to a 2x4 with stainless steel lag bolts. The staff was bolted to a rock face at the 3-foot mark; braced by a strongback at the 8-foot level with two guy wires which led from the top of the 2x4 to eyebolts set in rock. Zero of the tide staff equals 9.9 feet on gage A and 10.6 feet on gage B. For further information refer to the Tide Station Report #945-8464, Agripina Bay, Alaska.

SIGNAL TAPE LISTING

OPR-F180-FA-86

FA-10-1-86

H-10215

WRECK 1944

410 0 57 10 22609 156 19 27015 250 0010 000000

KILO 1944

412 0 57 09 29502 156 16 40588 250 0010 000000

GUPPY RM 1 1985

415 0 57 11 12996 156 19 34715 250⁴ 0034 000000

ASH 1944

419 0 57 04 36933 156 24 32675 250 0066 000000

FINA 1944

420 0 57 07 17597 156 24 55949 250 0034 000000

PR 12 1986

440 0 57 07 03981 156 27 42903 250 0036 000000

OPR 131 1986

475 0 57 07 39852 156 24 12754 250 0078 000000

TF-1, 1986

480 0 57 07 36921 156 24 13465 254 0022 000000

as per Horizontal Control Report page 20



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

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

September 31, 1986 1703-01.05

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

Dear Sir:

This letter confirms my radio message, P 302201Z SEP 86.

The following items were noted by NOAA Ship FAIRWEATHER during survey operations in the vicinity of Agripina Bay, Shelikof Strait, Alaska (surveys H-10214 and H-10215) and are considered dangers to navigation applying to Preliminary Chart 16568. Questions concerning this survey may be directed to Chief, Nautical Chart Branch, 7600 Sand Point Way NE, BIN C15700 Bldg. 3, Seattle, Washington 98115, telephone (206) 526-6835.

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

POSITION
NUMBER

1. "An uncharted shoal covered by 5.8 fathoms (MLLW based on predicted tides) is at latitude 57/07/00N, longitude 156/26/07W."
2. "An uncharted shoal covered by 3.4 fathoms (MLLW based on predicted tides) is at latitude 57/06/58N, longitude 156/25/29W."
3. "An uncharted rock covered by 1.8 fathoms (MLLW based on predicted tides) is at latitude 57/04/04N, longitude 156/22/45W."
4. "An uncharted rock covered 1 foot (MLLW based on predicted tides) is at latitude 57/07/19N, longitude 156/24/10W."
5. "An uncharted shoal covered by 7.7 fathoms (MLLW based on predicted tides) is at latitude 57/07/42N, longitude 156/22/41W."
6. "An uncharted shoal covered by 5.4 fathoms (MLLW based on predicted tides) is at latitude 57/07/32N, longitude 156/21/59W."
7. "An uncharted rock awash (MLLW based on predicted tides) is at latitude 57/08/44N, longitude 156/20/42W."
8. "An uncharted shoal covered by 7.5 fathoms (MLLW based on predicted tides) is at latitude 57/10/46N, longitude 156/16/09W."

H-10214

9015
(dive)

6000
(visual)

9007
(dive)



9. "An uncharted rock covered by 3.7 fathoms (MLLW based on predicted tides) is at latitude 57/05/00N, longitude 156/22/11W."
10. "An uncharted shoal covered by 3.9 fathoms (MLLW based on predicted tides) is at latitude 57/04/47N, longitude 156/22/44W."
11. "An uncharted shoal covered by 3.9 fathoms (MLLW based on predicted tides) is at latitude 57/04/31N, longitude 156/22/15W."
12. "An uncharted rock covered by 0.8 fathoms (MLLW based on predicted tides) is at latitude 57/04/06N, longitude 156/24/22W."
13. "An uncharted shoal covered by 6.1 fathoms (MLLW based on predicted tides) is at latitude 57/02/48N, longitude 156/25/19W."
14. "An uncharted rock covered by 2 feet (MLLW based on predicted tides) is at latitude 57/06/45N, longitude 156/27/18W."

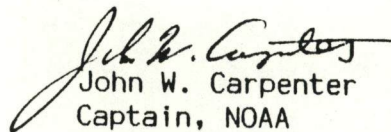
9001
(dive)

H-10214

9000
(dive)

H-10214

Sincerely,


John W. Carpenter
Captain, NOAA
Commanding Officer

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

VAR 20°30'E (1979)

NO ANNUAL CHANGE

④ Rock covered 1 foot

② Shoal covered 3.4 fm

① Shoal covered 5.8 fm

⑭ Rock covered 2 feet

⑧ Shoal covered 7.5 fm

⑦ Rock Awash

⑥ Shoal covered 5.4 fm

⑤ Shoal covered 7.7 fm

⑨ Rock covered 3.7 fm

⑩ Shoal covered 3.9 fm

⑪ Shoal covered 3.9 fm

⑫ Rock covered 0.8 fm

③ Rock covered 1.8 fm

⑬ Shoal covered 6.1 fm

PRELIMINARY
CHART 16568

81

18719

57° 10'

8718

45

18717

28

9990

18716

24

36

40

9990 X 18

32

55

43

57° 05'

18714

56

57

79

18712

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64

66

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Attachment 1

Form 9-1343

UNITED STATES BOARD ON GEOGRAPHIC NAMES DOMESTIC GEOGRAPHIC NAMES REPORT	Controversial name	Recommended name: State County
	Name change	
	Changed application	
	<input checked="" type="checkbox"/> Other	

Lat. ____° ____' ____" N. Long. ____° ____' ____" W. Mouth End Center (Circle one)
 Lat. ____° ____' ____" N. Long. ____° ____' ____" W. Heading End (Circle one)

Description of feature: where appropriate, give shape, length, width, direction of flow or trend, direction and distance of extremities from points with established names, and section, township, range, meridian where useful, also elevation if known.

Published Maps Using Recommended Name (Map name, date, agency, & scale)	Variant Name or Application	Map or Source Using Variant (Map name, date, agency, & scale)
Preliminary Chart 16568 Wide Bay to Cape Kumlik 5th Ed., 12/9/78, NOAA scale 1:106,600		Topographic Map UGASHIK (A-2), Alaska (1951, minor revisions 1973)
		see comments below

At the bottom information as to origin, spelling, and meaning of the recommended name and/or statement concerning nature of difference in usage or application

The topographic map shows Kilokak Rocks to be located in the vicinity of latitude 57/10/23N, longitude 156/19/27W. Preliminary Chart 16568 and the 1985 Coast Pilot refer to the islets in the vicinity of latitude 57/09/29N, longitude 156/16/41W as Kilokak Rocks. FAIRWEATHER did not find any local knowledge as to which is correct.

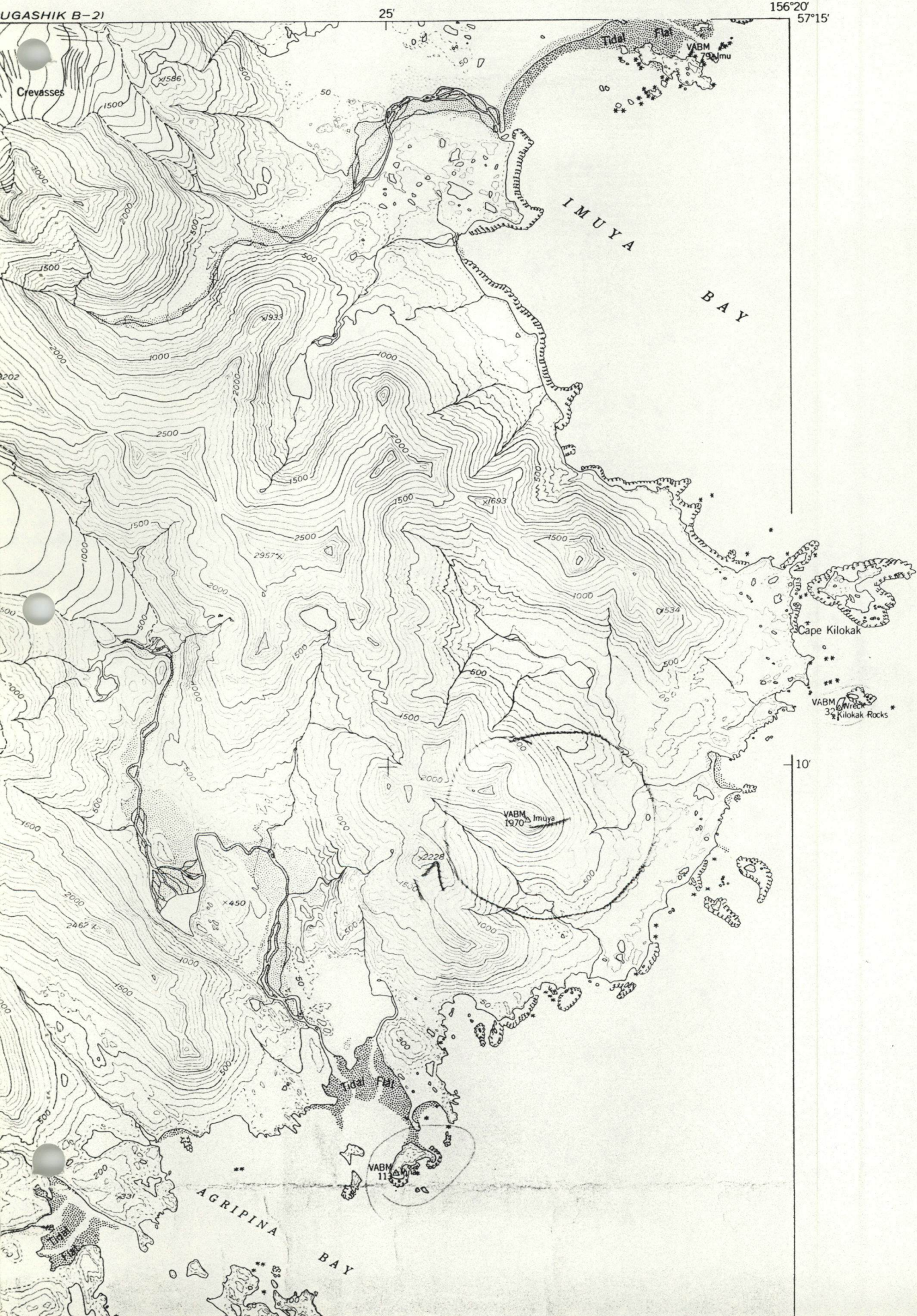
AUTHORITY FOR RECOMMENDED NAME	MAILING ADDRESS	OCCUPATION

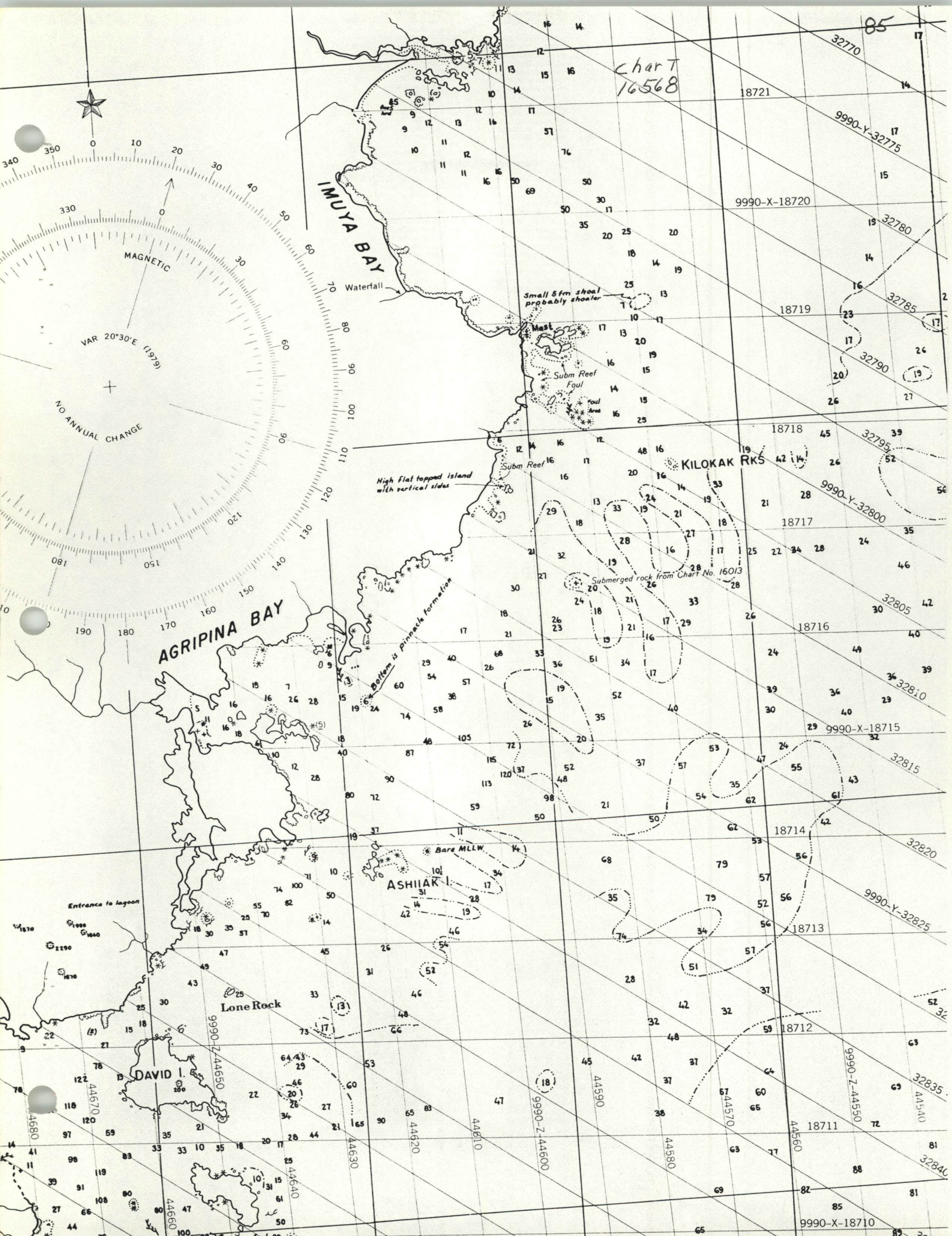
Submitted by: Name **John W. Carpenter** Title **CAPT., NOAA** Date _____
 Agency **NOAA Ship FAIRWEATHER** Address **1801 Fairview Ave. E., Seattle, WA.**

UGASHIK (A-2) QUADRANGLE
ALASKA-THIRD JUDICIAL DIVISION
1:63 360 SERIES (TOPOGRAPHIC)

UGASHIK B-11

UGASHIK B-21







86
UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE

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

August 19, 1986

TO: N/MOP - Robert L. Sandquist

FROM: Commanding Officer *J. W. Carpenter*
NOAA Ship FAIRWEATHER 5220

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

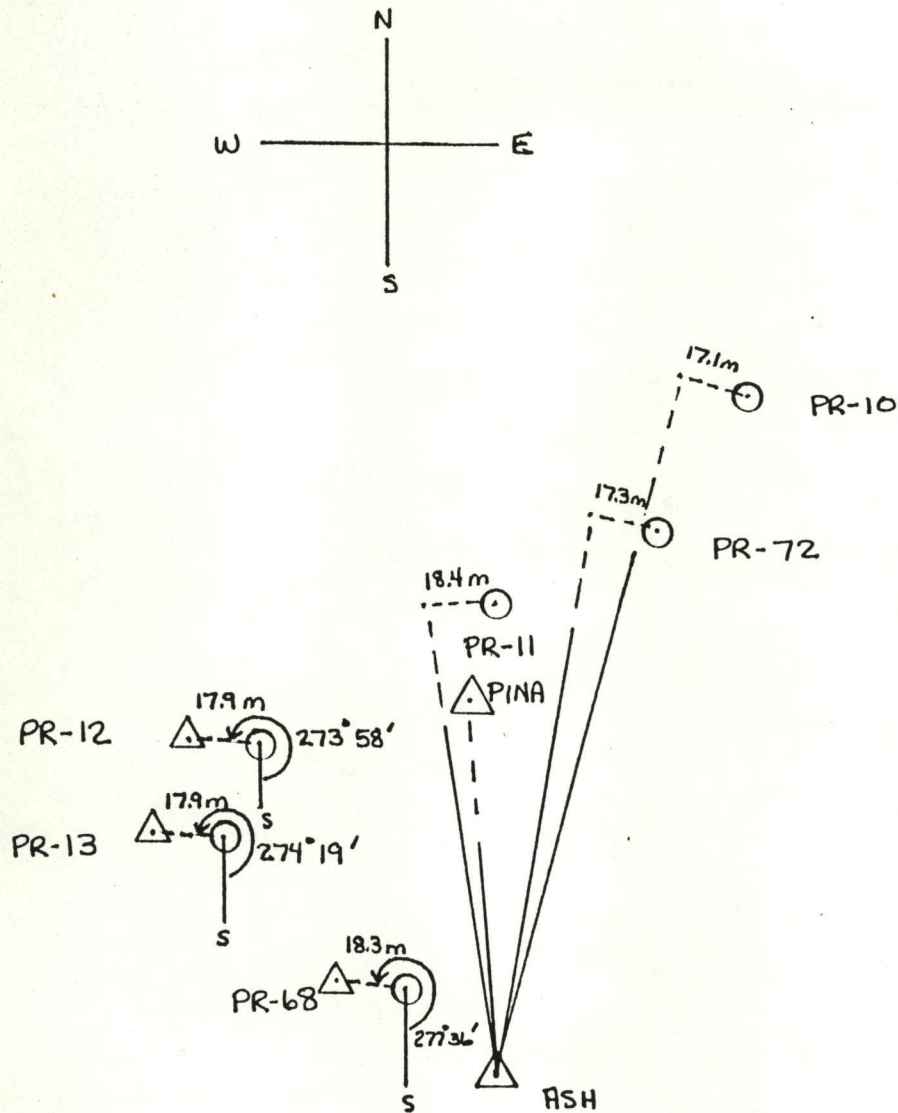


of this problem would be appreciated as soon as possible. If instructions have not been received before drafting is to begin, manuscript features will be shifted as described above.

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.

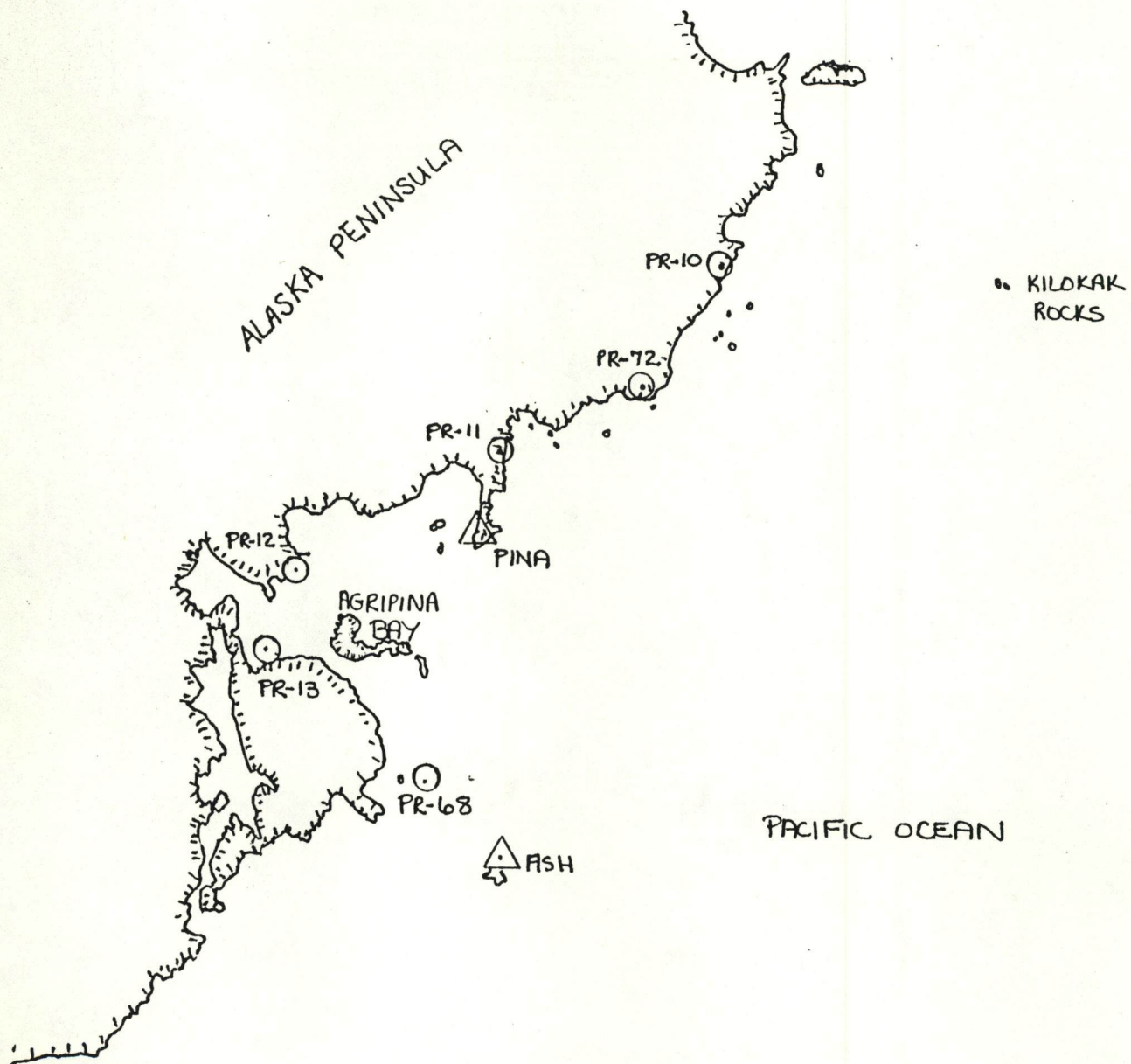
Attachments

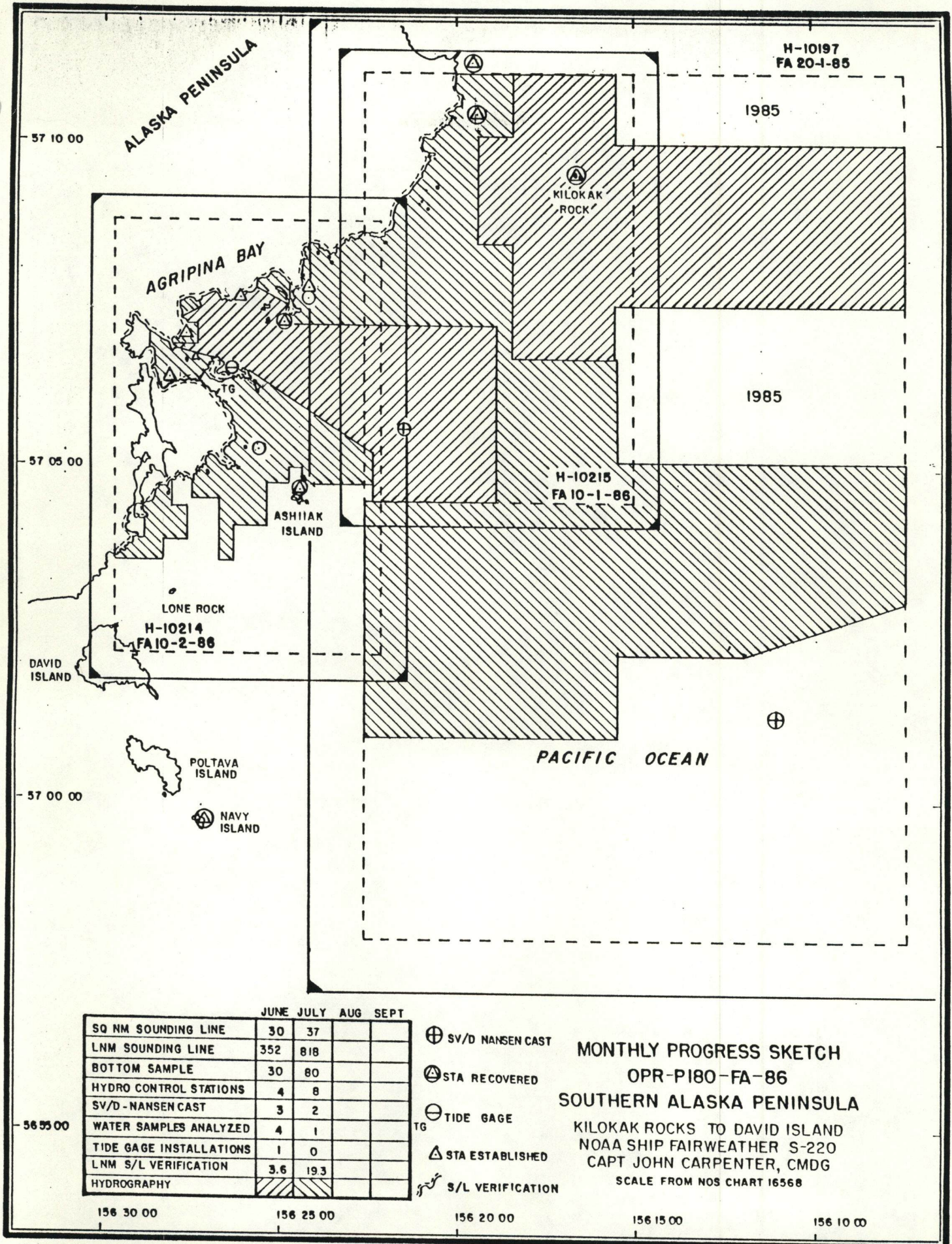
ATTACHMENT A - Displacement of Stations



⊙ = Aerotriangulated Positions

△ = Geodetic Positions







91

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

OCT 8 1986

N/MOP21/TWR

RECEIVED

BY _____

OCT 20 1986

NOAA FAIRWEATHER (S220)
Seattle, Washington

TO: Commanding Officer
NOAA Ship FAIRWEATHER

FROM: N/MOP - Robert L. Sandquist

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

REF: NOAA Ship FAIRWEATHER Memorandum Dated 8/19/86 Same Subject

REF: N/CG2311 Memorandum Dated 8/19/86 Same Subject

ca for
↓
x2 Rev
↓
ops/csr
Action/r

The Photogrammetry Branch has determined that the shoreline map discrepancy reported by FAIRWEATHER was due to photogrammetry using geodetic control based upon a 1948 adjustment during aerotriangulation bridging rather than using the most recent 1976 adjustment. They recommend mean adjustment values of 17.4 meters in longitude and 2.3 meters in latitude be used when applying data from these manuscripts.

Your proposed solution of shifting all manuscript data 1.8 millimeters to the west before applying them to your 1:10,000 scale final field sheets is totally acceptable. The recommended values proposed by the Photogrammetry Branch will be used by the Nautical Chart Branch when compiling the smooth sheets for these surveys.

Further instructions for the future use of data from Job CM8200 will be contained in your 1987 project instructions for OPR-P180.

You are commended for your diligence in uncovering this discrepancy in the field. Well done. ←

w/Attachment (Ref. 2)

cc: N/CG24

N/MOP211





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 *Red Jensen*
 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.

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

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:

Elizabeth A. Crozer

Elizabeth A. Crozer
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-10215

Locality: Kilokak Rock to Ashiik Island, Shelikof Strait, Alaska

Time Period: June 18 - September 14, 1986

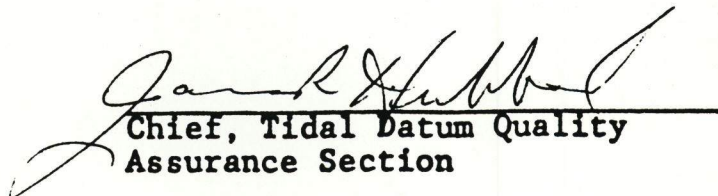
Tide Station Used: 945-8464 Agripina Bay, AK

Plane of Reference (Mean Lower Low Water): 0.17 Ft.

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

Remarks: Recommended Zoning:

1. North of Latitude $57^{\circ}07.5'$ apply a X1.06 Range Ratio to all heights.
2. South of Latitude $57^{\circ}07.5'$ Zone Direct.


Chief, Tidal Datum Quality
Assurance Section

GEOGRAPHIC NAMES

H-10215

Name on Survey	A ON CHART NO.	B ON PREVIOUS SURVEY NO.	C ON U.S. QUADRANGLE MAPS	D FROM LOCAL INFORMATION	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND McNALLY ATLAS	H U.S. LIGHT LIST	K
ALASKA (title)									1
ALASKA PENINSULA									2
ASHIIAK ISLAND (title)									3
CAPE KILOKAK									4
KILOKAK ROCKS									5
SHELIKOF STRAIT									6
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Approved:

Charles E. Harrington
Chief Cartographer - N/C62x5

FEB 3 1987



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

Pacific Marine Center
1801 Fairview Avenue East
Seattle, Washington 98102-3767

FILE COPY

JAN 28 1987

N/MOP21x2/MM

TO: Commanding Officer
NOAA Ship FAIRWEATHER

FROM: N/MOP - Robert L. Sandquist

SUBJECT: Preprocessing Examination of:
H-10214 Alaska, Southern Entrance to Shelikof Strait,
Agripina Bay and Approaches

H-10215 Alaska, Southern Entrance to Shelikof Strait,
Kilokak Rocks to Ashiik Island

Hydrographic surveys H-10214 and H-10215 have been reviewed in accordance with Hydrographic Survey Guideline No. 15, and the Preprocessing Examination Critique for this survey is attached. Surveys H-10214 and H-10215 are 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
Seattle, Washington 98115-0070

January 20, 1987

N/MOP21x2/MM

TO: N/MOP - Robert L. Sandquist

FROM: 
N/MOP 21 - Thomas W. Richards

SUBJECT: Preprocessing Examination for H-10214 and H-10215

I. SURVEY INFORMATION:

A. Field No. FA-10-2-86 Registry No. H-10214
FA-10-1-86 H-10215

B. State: Alaska
General Locality: Southern Entrance to Shelikof Strait
Sublocality: Agripina Bay and Approaches
Kilokak Rocks to Ashiik 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. Dates: H-10214 H-10215
Field Work Commenced: June 17, 1986 June 18, 1986
Field Work Completed: Sept. 27, 1986 Sept. 14, 1986
plus 6 weeks = Nov. 10, 1986 Oct. 27, 1986
* Data received at Marine Center: Dec. 22, 1986 Dec. 18, 1986
plus 2 months = Feb. 23, 1987 Feb. 18, 1987
Examination critique transmitted to field January 28, 1987
Target for completion of Marine Center processing July 28, 1987
* Submission dates extension requested November 24, 1986 and approved



II. PREPROCESSING EXAMINATION CRITIQUE

Hydrographic surveys H-10214 and H-10215 were 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, LT(jg) Hurst, LT(jg) Brezinski, 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 fourteen dangers to navigation reported by FAIRWEATHER for surveys H-10214 and H-10215. The Danger to Navigation report is included in both Descriptive Reports.

Five additional dangers to navigation were found during the preprocessing examination. A Dangers to Navigation report for each survey was sent to the Seventeenth Coast Guard District for inclusion in the Local Notice to Mariners (see Attachments A and B).

B. Compliance with Instructions

Surveys H-10214 and H-10215 generally comply with the Project Instructions and Changes #1-6. Four AWOIS items within the limits of the examined surveys were investigated by the hydrographer.

C. Final Field Sheets

Some rock symbols on the final field sheets for both surveys are difficult to see due to congestion of depth curves, soundings or feature descriptions (see Attachment C). Rock symbols should not be obliterated by soundings or other symbols (HM 1.5.6).

Depth curves were particularly well drawn at the junctions of the two surveys.

Poor intersection angles (less than 30 degrees or greater than 150 degrees) were found for 1.5 nm of mainscheme lines (H-10214) and 0.5 nm of mainscheme splits (H-10215). The minimum angle of intersection should not be less than 30 degrees (HM 4.4.3.2.2).

A 10-fathom shoal within the limits of H-10215 was not completely developed (see Attachment D). The development should have extended farther north to establish the shoal's full extent and depth. The least depth over detached features in navigable waters should be determined (HM 1.4.3).

The hydrographer is commended for discovering an 18-meter positional error in the compilation of shoreline manuscript TP-01149.

D. Descriptive Report

Section D of both Descriptive Reports states that the same 8 velocity casts apply to both surveys; 9 casts and 1 cast are listed in Section O of the reports for H-10214 and H-10215, respectively.

Section H of the Descriptive Report (H-10214) states one charted rock was not investigated. Each isolated rock should be located and accurately described (HM 4.5.8).

F. Sounding Volumes and/or Raw Data Printouts

In general all data printouts are well-annotated.

The total number of sounding volumes for both surveys is listed as "1" on the covers of all volumes. Sounding volumes should be numbered consecutively as each survey progresses (HM 4.8.3.1).

The sketches of verified shoreline features (rocks, etc.) included in the sounding volumes are excellent and will aid in the processing of both surveys.

G. Sounding Correctors

Only 2 of the 8 velocity casts were conducted within the survey limits of H-10214; the other casts were taken south or east of the area. Three of the 8 casts were also south of the survey area for H-10215. Velocity casts should be taken within the deepest part of the survey area (HM 4.9.5).

The hydrographer states that the water column characteristics changed significantly during the periods of hydrography for both surveys. More velocity casts taken inshore or within each survey's limits would more accurately depict the characteristics of the water column.

J. Positioning Control

The signal tape for H-10215 did not include two stations (470 and 485) which were used for hydrographic positioning control.

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.

L. Automated Data Check

In several instances on both surveys where the last position of a line was either rejected or extrapolated ("T & C"), the ends of these lines were not assigned position numbers. The first and last soundings of a sounding line must be assigned position numbers. The master tapes should have been edited and position numbers assigned to the last good sounding on each line.

The labelling of some "N.S.P." data within the Abstract of Positions for H-10215 does not correspond with the same position numbers on the corrector tapes. The position numbers designated "N.S.P." in the abstracts were used to spool both surveys.

One corrector tape was not forwarded with the data package from H-10214; a new tape was cut during spooling of the survey.

Five data tapes (master and corrector) from H-10214 were labelled backwards, causing parity errors during spooling of the survey.

N. Survey Acceptance

The preprocessing examination for H-10214 and H-10215 were 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-10214 and H-10215 are in compliance with the project instructions. I recommend that H-10214 and H-10215 be accepted for Nautical Chart Branch processing.

Prepared by:

Marlene Mozgala

Marlene Mozgala
Lieutenant, NOAA Corps



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

Pacific Marine Center
1801 Fairview Avenue East
Seattle, Washington 98102-3767

JAN 14 1987 N/MOP21x2/MM

ATTACHMENT A

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

Dear Sir:

During office review of hydrographic survey H-10214, Southern Entrance to Shelikof Strait, Agripina Bay and Approaches, Alaska, the following changes affecting chart 16568 (NAD27 datum) were noted. Questions concerning the survey may be directed to Cdr. Thomas W. Richards, Chief, Nautical Chart Branch, telephone (206) 526-6835.

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

"An uncharted shoal covered by 6.2 fathoms (MLLW based on predicted tides) is at latitude 57°07'09"N, longitude 156°26'41"W."

"An uncharted shoal covered by 5.3 fathoms (MLLW based on predicted tides) is at latitude 57°04'50"N, longitude 156°25'50"W."

Sincerely,

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



NOAA FORM 77-27(H) (9-83)		U.S. DEPARTMENT OF COMMERCE		REGISTRY NUMBER H-10215	
HYDROGRAPHIC SURVEY STATISTICS					
RECORDS ACCOMPANYING SURVEY: To be completed when survey is processed.					
RECORD DESCRIPTION		AMOUNT		RECORD DESCRIPTION	
SMOOTH SHEET		1		SMOOTH OVERLAYS: POS., ARC, EXCESS	
DESCRIPTIVE REPORT		1		FIELD SHEETS AND OTHER OVERLAYS	
DESCRIP- TION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR- GRAMS	PRINTOUTS	ABSTRACTS/ SOURCE DOCUMENTS
ACCORDION FILES					
ENVELOPES					
VOLUMES	1				
CAHIERS	3				
BOXES					
SHORELINE DATA					
SHORELINE MAPS (List):					
PHOTOBATHYMETRIC MAPS (List):					
NOTES TO THE HYDROGRAPHER (List):					
SPECIAL REPORTS (List):					
NAUTICAL CHARTS (List):					
OFFICE PROCESSING ACTIVITIES <i>The following statistics will be submitted with the cartographer's report on the survey</i>					
PROCESSING ACTIVITY			AMOUNTS		
			VERIFICATION	EVALUATION	TOTALS
POSITIONS ON SHEET					4801
POSITIONS REVISED					31
SOUNDINGS REVISED					169
CONTROL STATIONS REVISED					
			TIME-HOURS		
			VERIFICATION	EVALUATION	TOTALS
PRE-PROCESSING EXAMINATION					
VERIFICATION OF CONTROL					
VERIFICATION OF POSITIONS			92.5		92.5
VERIFICATION OF SOUNDINGS			154.5		154.5
VERIFICATION OF JUNCTIONS					
APPLICATION OF PHOTOBATHYMETRY					
SHORELINE APPLICATION/VERIFICATION					
COMPILATION OF SMOOTH SHEET				45.5	45.5
COMPARISON WITH PRIOR SURVEYS AND CHARTS				18.0	18.0
EVALUATION OF SIDE SCAN SONAR RECORDS					
EVALUATION OF WIRE DRAGS AND SWEEPS					
EVALUATION REPORT				30.0	30.0
GEOGRAPHIC NAMES					
OTHER* Digitizing					
*USE OTHER SIDE OF FORM FOR REMARKS		TOTALS	247	93.50	340.50
Pre-processing Examination by Marlene Mozgala			Beginning Date 12/22/86		Ending Date 1/28/87
Verification of Field Data by R.N. Mihailov, G.E. Kay			Time (Hours) 247		Ending Date 7/17/87
Verification Check by S. Otsubo, B. Olmstead			Time (Hours) 82.5		Ending Date 8/13/87
Evaluation and Analysis by Gordon E. Kay			Time (Hours) 93.5		Ending Date 8/19/87
Inspection by Dennis J. Hill			Time (Hours) 4		Ending Date 8/27/87

PACIFIC MARINE CENTER
EVALUATION REPORT
H-10215

1. INTRODUCTION

H-10215 is a basic hydrographic survey accomplished by NOAA Ship FAIRWEATHER (S-220) in accordance with project instructions for OPR-P180-FA-85, dated May 14, 1985, and the following changes:

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

H-10215 is the initial basic survey of the eastern inshore area of the Alaska Peninsula between Cape Kilokak to the north to just east of Ashiik Island to the south. The surveyed area extends from the shoreline in the Cape Kilokak area and the approaches to Agripina Bay in the west to longitude $156^{\circ}15'25''$ W in the east. Kilokak Rocks is located within the surveyed area. The ocean floor is extremely rugged, with pinnacle rocks rising vertically in places from depths of twenty fathoms to near or above the water surface.

Predicted tides for Kodiak, Alaska, zoned for the survey area by N/QMA123, were used during field processing. Tide correctors used for the final reduction of soundings are based on approved hourly heights zoned from the Agripina Bay tide gage (945-8464).

The field sheet parameters were revised to center the hydrography on the smooth sheet and to change the projection to polyconic. The TRA, sound velocity and electronic control correctors submitted with the survey records were verified and used for office processing. The parameters and correctors used for the final reduction of the survey data are listed in the smooth position/sounding printout accompanying the survey records.

A digital file for this survey was generated that 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.

There are fourteen positions in this survey that have lines of position that intersect at less than 30° or greater than 150° . These geometrically weak positions are 2895, 2898 to 2899, 4653, 6001, 8254, 8268 to 8269, 8277 to

8278, 8288, 8359 to 8360 and 9720. These positions were reviewed and are accepted for charting, as they are confirmed by adjacent data and were not used for the positioning of significant features.

Positions of horizontal control stations used during hydrography are either published or field values based on the NAD 1927. The computation of positions accomplished during office processing used these same values. The smooth sheet and accompanying overlays are annotated with NAD 1983 adjustment ticks based on adjustment values determined by N/CG121. Geographic positions based on the NAD 1983 may be plotted on this smooth sheet utilizing the NAD 1927 projection by applying the following corrections:

Latitude: +2.598 seconds (+80.4 meters)
Longitude: -7.409 seconds (-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.

Applicable shoreline manuscripts are TP-00717 and TP-01149. These registered Class III maps originate from photography dated June 1986.

These data on these manuscripts were found to be offset in relation to the projection as a result of a discrepancy in the bridging aerotriangulation. This discrepancy was confirmed by N/CG2 letter dated September 18, 1986, copy attached. The shoreline manuscript has been adjusted and the corrected shoreline data applied to the smooth sheet.

The following high water features have been added to the smooth sheet in red from the field sheet without supporting positional information:

Feature	Latitude (N)	Longitude (W)
islet	57°10'29"	156°20'03"
islet	57°09'20"	156°20'40"

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 there are no significant discrepancies or anomalies requiring further investigation.
- c. Show that the survey was properly controlled and soundings plotted correctly.

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 OPCODE, except as noted in the Preprocessing Examination Report, dated January 28, 1986 (copy appended).

5. JUNCTIONS

H-10215 junctions with the following surveys:

Survey	Year	Scale	Area
H-10040	1982-83	1:20000	north
H-10189	1985	1:10000	north
H-10197	1985-86	1:20000	south and east
H-10214	1986	1:10000	west

Soundings are transferred from H-10189 to justify depth curves and to portray shoaler information.

Junctions with H-10040 and H-10189 have not been formally completed. These surveys, previously processed were submitted to headquarters for charting. Junction comparisons were made using copies. Soundings are in agreement. Depth curves should be adjusted to conform with those on this survey.

The junctions with H-10197 and H-10214 have been adequately effected.

6. COMPARISON WITH PRIOR SURVEYS

H-6925 (1943-44) 1:120,000 (and additional work)

This small scale offshore survey contains a few lines of reconnaissance hydrography common to H-10215. Considering the rough nature of ocean bottom in the survey area, most soundings agree or are deeper than those found on H-10215. The few discrepancies are discussed in Section K of the hydrographer's report.

There are no pre-survey review/AWOIS items originating from H-6925 applicable to this survey.

H-10215 is adequate to supersede H-6925 within their common areas.

7. COMPARISON WITH CHART

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

a. Hydrography - Most charted information originates from H-6925. Some soundings and charted features originate from miscellaneous sources. See Section L of the hydrographer's report for discussion and disposition of charted features not confirmed during this survey.

AWOIS Item #50856, a submerged rock on chart 16013, is adequately discussed and disposed of in Section L of the hydrographer's report.

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

H-10215 is adequate to supersede charted hydrography within the common area.

The following Dangers to Navigation Reports (copies appended) were submitted to the Coast Guard and N/CG222:

Originator	Date	Coast Guard District
NOAA Ship FAIRWEATHER	September 31, 1986 (sic)	Seventeenth
Pacific Marine Center	January 7, 1987	Seventeenth

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

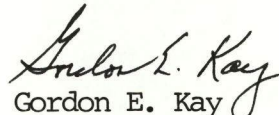
c. Aids to Navigation - There are no fixed or floating aids within the limits of this survey.

8. COMPLIANCE WITH INSTRUCTIONS


H-10215 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.


Gordon E. Kay
Cartographer

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


Dennis Hill
Chief, Hydrographic Section

ATTACHMENT TO DESCRIPTIVE REPORT FOR H-10215

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. [Signature] 8/31/87
Chief, Nautical Chart Branch (Date)

CLEARANCE:

N/MOP2:LWMordock

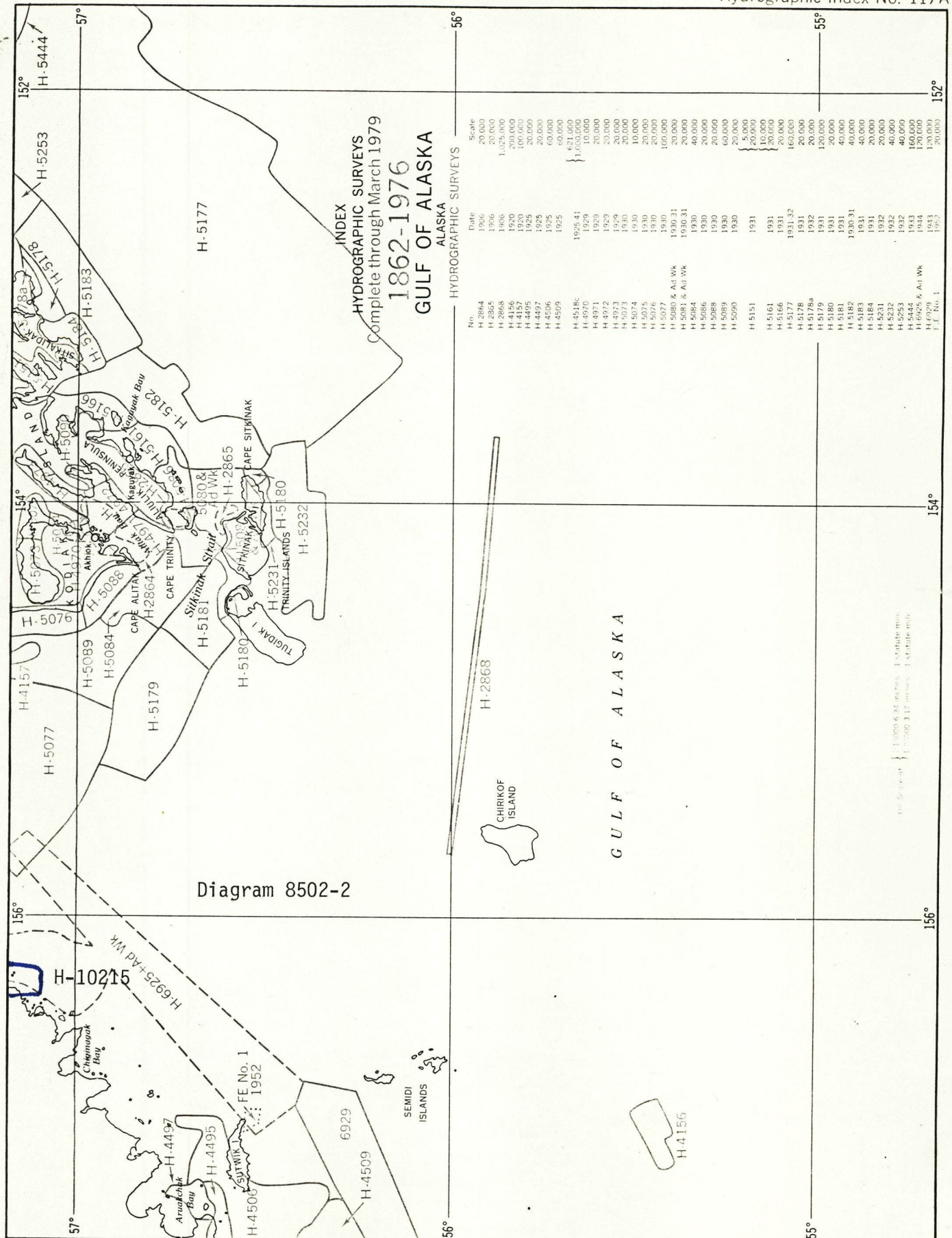
SIGNATURE AND DATE:

[Signature] 8/31/87

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.

Sigmund R. Petersen 8/31/87
for Director, Pacific Marine Center (Date)

Hydrographic Index No. 117A



FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10215

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	6-7-88	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, EXAM TARD L-60/87 & 16568 #6
# 531	3-6-89	ED MARTIN	Full Part Before After Marine Center Approval Signed Via Drawing No. 19
530	6-7-89	R. A. Lellis	Full Part Before After Marine Center Approval Signed Via 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 Applied 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.

Appt to Bldg 10-21-87