

10242

Diagram 8502-2

NOAA FORM 76-36A

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

DESCRIPTIVE REPORT

Type of Survey Hydrographic
Field No. FA-10-3-87
Registry No. H-10242

LOCALITY

State Alaska
General Locality .. Southern Entrance to Shelikof
Strait
Sublocality Port Wrangell and Approaches

1987

CHIEF OF PARTY
CAPT J.W. Carpenter

LIBRARY & ARCHIVES

DATE November 1, 1988

10242

CARTOG:
SIGN OFF

ONLY ON SHEET
FOUND IN REAR

OF THIS D.R.
"EPI"

CHYS

16568
16560
16013
16011
16006
531
500

HYDROGRAPHIC TITLE SHEET

H-10242

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 10-3-87

State Alaska

General locality Southern Entrance to Shelikof Strait

Locality Port Wrangell and Approaches

Scale 1:10,000

Date of survey DN 149 05-29-87 through DN 248 09-05-87

Instructions dated March 6, 1987

Project No. OPR-P180-FA-87

Vessel FAIRWEATHER (2020), FA-3 (2023), FA-4 (2024), FA-5 (2025), FA-6 (2026), FA-7 (2027), FA-8 (2028)

Chief of party CAPT John W. Carpenter

Surveyed by LCDR Kenny, LT Ruiz, ENS Cone, ENS Lynch, ENS Bernard, ENS Nodine, ENS Lemon, ENS Birk, 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 by L. Deodato Automated plot by PMC Xynetics Plotter

Evaluation by A. Luceno

Soundings in fathoms ~~feet~~ at MSW MLLW

REMARKS: All times are UTC. Revisions and marginal notes in black generated during office processing. Separates are filed with the hydrographic data.

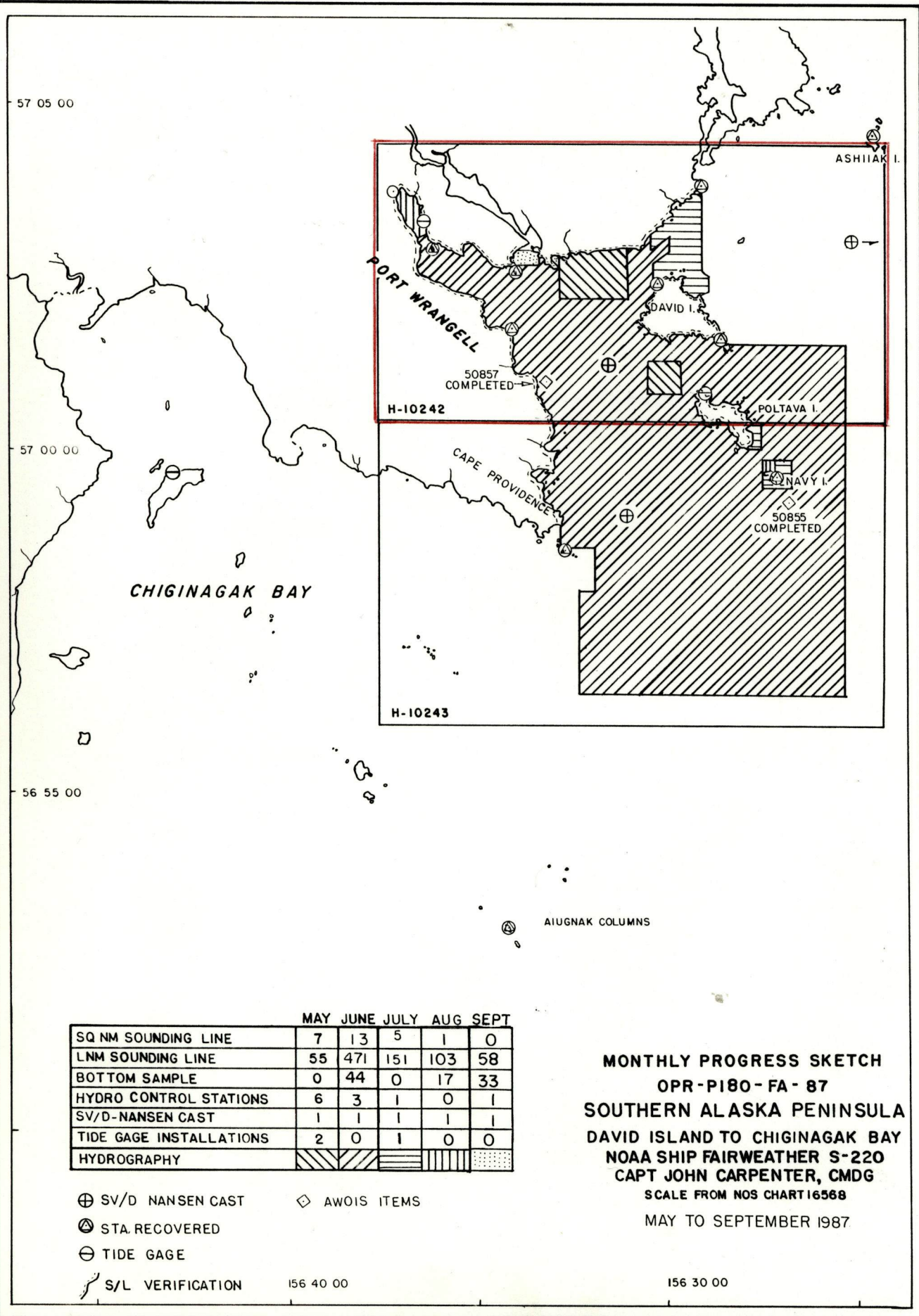
AWOIS/SURF MSTM 12/28/87

SD 3-25-97

57 05 00

57 00 00

56 55 00



CHIGINAGAK BAY

PORT WRANGELL

H-10242

H-10243

50857 COMPLETED

50855 COMPLETED

AIUGNAK COLUMNS

	MAY	JUNE	JULY	AUG	SEPT
SQ NM SOUNDING LINE	7	13	5	1	0
LNМ SOUNDING LINE	55	471	151	103	58
BOTTOM SAMPLE	0	44	0	17	33
HYDRO CONTROL STATIONS	6	3	1	0	1
SV/D-NANSEN CAST	1	1	1	1	1
TIDE GAGE INSTALLATIONS	2	0	1	0	0
HYDROGRAPHY					

- ⊕ SV/D NANSEN CAST
- ⊙ STA. RECOVERED
- ⊖ TIDE GAGE
- ⚓ S/L VERIFICATION
- ◇ AWOIS ITEMS

156 40 00

MONTHLY PROGRESS SKETCH
 OPR-P180-FA-87
 SOUTHERN ALASKA PENINSULA
 DAVID ISLAND TO CHIGINAGAK BAY
 NOAA SHIP FAIRWEATHER S-220
 CAPT JOHN CARPENTER, CMDG

SCALE FROM NOS CHART 16568

MAY TO SEPTEMBER 1987

156 30 00

Descriptive Report
to Accompany Hydrographic Survey H-10242
Field Number FA-10-3-87, Scale 1:10,000
NOAA Ship FAIRWEATHER S-220
Captain John W. Carpenter, Commanding
1987

A. PROJECT

Hydrographic survey H-10242 was conducted in accordance with Project Instructions OPR-P180-FA-87 dated March 6, 1987 and Change Number 1 dated April 14, 1987,* PMC OPORDER, the Hydrographic Manual (fourth edition) through Change Number 3, and the Hydrographic Survey Guidelines are also applicable. * *Change Number 2, dated September 2, 1987,*

This is a basic survey for the purpose of providing contemporary hydrographic data for the 1:80,000-scale charts to be published in the future.

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

B. AREA SURVEYED

This survey covers an area on the south side of the Alaska Peninsula bounded on the south by latitude $57^{\circ}00'30''$, on the east by longitude $156^{\circ}25'20''$ south of David Island, longitude $156^{\circ}29'00''$ north of David Island, and by the mainland on the north and west.

The field work for this survey commenced on May 29, 1987 (DN 149) and was completed on September 5, 1987 (DN 248).

C. SOUNDING VESSELS

Hydrographic data for this survey was collected using three vessel types. Jensen survey launches FA-3, FA-4, FA-5, and FA-6 were designated vessel numbers 2023, 2024, 2025, and 2026, respectively. Shoreline verification was completed using 17-foot MonArks, FA-7 and FA-8, which were designated as vessel numbers 2027 and 2028, respectively. NOAA Ship FAIRWEATHER (vessel number 2020) was used for all sound velocity casts and to collect bottom samples in depths greater than 55 fathoms. The remainder of the bottom samples were collected by launch FA-5.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

FAIRWEATHER's four 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 and day number. Two skiffs equipped with sounding poles were used for shoreline verification.

Table I
Sounding Equipment
 RAYTHEON DSF-6000N SERIAL NUMBERS

<u>Date (DN)</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
149-178	A113N	A121N	B049N	B048N
179-237	A104N	A121N	B049N	B048N
238-248	A104N	A113N	B049N	B048N

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

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 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.

The high-frequency beam data was digitized except in a limited number of cases when, due to the steepness of the bottom or the presence of kelp, the high-frequency trace was lost. Also, if side echoes were obtained over peaks and reduced line spacing was not 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".

Diver's least depths were obtained using a pneumatic depth gauge manufactured by 3-D Instrument, Inc. (s/n 8302079 N). System calibration data can be found in the separate Corrections to Echo Soundings Data package.

All of FAIRWEATHER's survey launches were tested for settlement and squat on May 22, 1987 (DN 142) in Womens Bay, Kodiak, Alaska. The test results were used to plot settlement and squat curves for each launch. 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 at speeds run while surveying in fathoms. Refer to the Corrections to Echo Soundings Data package for details concerning settlement and squat determinations.

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 March 27, 1987 a transducer draft of 0.3 fathoms was recorded for all launches. All launch soundings on the final field sheet were plotted using this TRA value.

Velocity correctors were determined from five SV/D casts in accordance with section 4.9.5.2 of the Hydrographic Manual. Table II shows the date and locations of the casts. Program VELTAB was used to compute tables from cast data. The results of SV/D casts 6 and 7 were similar enough to average and combine into one table (Velocity Table 2). Table III shows velocity tables determined from cast data. Velocity corrections were applied to echo sounder depths plotted on the final field sheets.

Table II
Velocity Casts

<u>Cast No.</u>	<u>Date (DN)</u>	<u>Latitude</u>	<u>Longitude</u>
5	151	57/05.5 N	156/21.3 W
6	166	56/59.0 N	156/31.5 W
7	189	57/01.3 N	156/31.5 W
15	236	57/01.2 N	156/31.5 W
16	249	57/01.7 N	156/32.0 W

Table III
Velocity Tables

<u>Table No.</u>	<u>Based on Casts</u>	<u>Applicable Dates (DN)</u>
1	5	DN 149-155
2	6,7	DN 162-193
3	15	DN 232-239
4	16	DN 244-248

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 March 9, 1987 for the 1987 field season. XBTs and surface temperatures were taken during the SV/D casts as a check on the Plessy System.

TC/TI tapes were made in accordance with the PMC OORDER. Printouts of TC/TI tapes are included in the separates following the text of this report.

Predicted tide correctors were applied to the soundings plotted on the final field sheets for this survey. The tide correctors used were from the 1987 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 "x1.28" and a time correction of plus 0 hours 20 minutes at high water and plus 0 hours 40 minutes at low water. For further information, refer to Appendix II, Field Tide Note.

E. HYDROGRAPHIC SHEETS

The final field sheets were plotted aboard FAIRWEATHER using a PDP/8e computer and complot plotter. This survey consists of two final field sheets, one overlay, and one development ("A"), each plotted on mylar. The dimensions, scale, and skew of all sheets are as follows:

<u>SHEET</u>	<u>SCALE</u>	<u>SKEW</u>	<u>DIMENSIONS</u>
FA-10-3N-87	1:10,000	0	20x38
FA-10-3S-87 and Overlay	1:10,000	0	20x54
Development "A"	1:1,000	0	15x18

All hydrographic data for the survey ~~will be~~ ^{were} forwarded to the Pacific Marine Center in Seattle, Washington for verification and smooth plotting.

F. CONTROL STATIONS

All existing horizontal control stations used in this survey were recovered by FAIRWEATHER personnel. In addition, one temporary point was established for hydrography in Port Wrangell. All geodetic positions are based on the North American Datum of 1927. All stations meet or exceed Third Order, Class I specifications.

^{SEVEN} Four stations are within hydrographic data limits: BRUNO, DAVID, FLAT, ALDER, TPI, WEATHER and FAIR. ^{FOUR} These stations are located on offshore islands.

Stations used in support of this survey are listed in ^{the} ~~Appendix V~~, List of Stations. For additional information, refer to the Horizontal Control Report, OPR-P180-FA-87.

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.

Table IV
Mini-Ranger Equipment by Vessel

<u>Vessel Number</u>	<u>DN</u>	<u>Console/RT Number</u>
2020	166,168	B0323/B1398
2023	149-248	703/B1108
2024	149-248	506042/E2716
2025	149-248	716/C1875
2026	149-248	B0323/B1398

Mini-Ranger base-line calibrations (BLC's) were conducted in accordance with the PMC OORDER.

Beginning BLC's were performed on DN's 142 and 146 along a distance of 855.4 meters between two recoverable points in Womens Bay, Kodiak, Alaska. Additional calibrations were accomplished for some codes on DN's 226 and 229. These were performed between the same two recoverable points. Ending BLC's were performed on DN's 258 through 261 along a distance of 990.2 meters between two recoverable marks (Naval Reserve Pier to PMC Pier A) across Lake Union in Seattle, Washington.

All console/RT units were calibrated for all codes during opening calibrations for this project (DN's 142 and 146). The additional BLC's performed on DN's 226 and 229 calibrated all console/RT pairs for codes 8, A, B, and C. Codes 5, 6, 7, 9, and D were not calibrated at that time (see radio messages, ~~Appendix XI, Supplemental Information.~~ attached).

Ending calibrations were accomplished for all consoles. However, code 5 could not be calibrated due to a total failure of the unit on August 19 (DN 231). While this failure prevented a final BLC from being obtained, all critical and non-critical checks of code 5 were within acceptable limits until the unit's failure. In addition, code 6 showed signs of failure during ending calibrations (i.e., low maximum signal strength). Ending correctors were obtained for console/RT pairs 506042/E2716 and 703/B1108 before it was necessary to remove code 6 from service. As with code 5, all systems checks were within acceptable limits through the time of the unit's failure.

Because the differences between beginning and ending BLC's were 5 meters or less (for those that could be obtained), the beginning and ending calibrations were not averaged. The beginning correctors were used as the final correctors except for the codes that were calibrated on DN's 226 and 229 (8, A, B, and C). Beginning correctors were applied to codes 8, A, B, and C for data obtained through DN 225. For data obtained after DN 229, correctors obtained on DN's 226 and 229 for codes 8, A, B, and C were applied. For those codes that failed before ending BLC's could be

obtained, the beginning correctors were also used as final correctors based on their accuracy as demonstrated in both critical and non-critical field calibrations.

Hydrographic positioning equipment was critically system checked at least once per week unless adverse weather conditions prohibited it (at which point it was accomplished as soon as weather allowed). Non-critical system checks were conducted once per day unless equipment malfunction prohibited it. All hydrographic positioning equipment was found to be accurate within the limits set forth by the PMC OORDER. Critical system checks were accomplished using the theodolite cut method, or by theodolite and EDM. Theodolites onboard the FAIRWEATHER are as follows: Wild T-1 theodolites with serial numbers 13008, 12932; Wild T-2 theodolites with serial numbers 26336, 85652, 257219, 276503; and Lietz TM1A theodolite with serial number 2151. The EDM used was a Hewlett-Packard HP 3808A with serial number 1723A00172.

In all cases, the launch R/T units were located directly over the transducers, eliminating the need for ANDIST correctors.

H. SHORELINE

Shoreline details for this survey are from a 1:10,000-scale mylar enlargement of TP-01149 (a 1:20,000-scale, Class III, registered shoreline manuscript). All verified features from the shoreline manuscript are in black ink on the final field sheet with changes recorded in red ink. New features are displayed in black ink.

The shoreline manuscript was found to be compiled incorrectly on TP-01149 (See ~~Appendix VI, Supplemental Information~~ ^{attached memo}). 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 was shifted 1.7 millimeters (17 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.

At latitude 57/02/24, longitude 156/29/38, on the east side of David Island, overhanging cliffs exist. The shoreline had to be modified in this area as the launch ran hydrography under these cliffs (see final field sheet; revised shoreline is in red). Additional minor changes were also made to the shoreline around David Island and on the west side of Poltava Island.

The following five manuscript features should not be charted:

At latitude 57/02/47, longitude 156/33/08, the manuscript indicates a ledge. A visual search did not find the ledge and a leadline depth of 1.5 feet was obtained at this location (position number 4689).

See E.R., sect. 2

At latitude 57/01/04, longitude 156/33/28, the manuscript indicates a rock awash. The rock was not found after a 5-minute visual search within a 20-meter radius of the indicated position (position number 3790). Water visibility was 20 to 30 feet, and kelp was present in the area. A depth of 6.2 fathoms was obtained at the position given above. ✓

At latitude 57/01/01, longitude 156/33/27, the manuscript indicates a rock awash. The rock was not found after a 5-minute visual search within a 20-meter radius of the indicated position (position number 3792). Water visibility was 20 feet to 30 feet, and kelp was present in the area. A depth of 4.6 fathoms was obtained at the position given above. ✓

At latitude 57/00/46, longitude 156/28/22, the manuscript indicates a rock awash. The rock was not found after a 5-minute visual search (position number 4660). Water visibility was 25 feet, and kelp was present in the area. No eddies were evident. A depth of 1.9 fathoms was obtained at the position given above. *Islet and rocks uncovering at MLLW found in vicinity.* ✓

At latitude 57/02/32, longitude 156/30/37, the manuscript indicates a rock awash. The rock was not found after accomplishing reconnaissance hydrography over a 180-meter by 180-meter area around position number 6449 (10-meter line spacing). Water visibility was poor, and kelp was not present in the area. Depths in the area range from 18 to 20 fathoms. ✓

A rock awash indicated on the manuscript at latitude 57/02/38, longitude 156/34/10, was verified to be ledge (reference number 800). ✓

A rock awash indicated on the manuscript at latitude 57/01/39, longitude 156/29/11, was verified to be ledge (reference number 723). ✓

New features have been added to the shoreline throughout the survey. In many cases, items appearing on the manuscript as rocks are in fact islets or points on ledges (not necessarily prominent). Also, several new rocks not appearing on the manuscript were found. See the final field sheet for the above changes and additions. ✓

I. CROSSLINES

All crosslines were run at a minimum of 45 degrees with respect to the main-scheme lines and they account for 12% of the total coverage. ✓

In areas with depths less than 20 fathoms, crossline agreement is generally within 0.4 fathoms. In those areas where the difference exceeded 0.4 fathoms it can be attributed to irregular and rapidly changing bottom contours. There is no systematic problem that would account for differences in these areas. ✓

In areas where depths exceed 20 fathoms, crossline agreement is excellent, except over some irregular and steep bottom terrain where mainscheme and crosslines vary by more than the 3% given in Section 4.6.1 of the Hydrographic Manual. Again, there is no systematic problem that would account for differences in these areas.

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

J. JUNCTIONS

Survey H-10242 junctions with three contemporary surveys in the areas listed below:

Registry No. H-10214
Scale 1:10,000
Year 1986
Relative Location North and East of David Island

Registry No. H-10225
Scale 1:20,000
Year 1986
Relative Location *South*-East of David Island

Registry No. H-10243
Scale 1:10,000
Year 1987
Relative Location East and West of Poltava Island

At the junction with H-10214 north of David Island, the soundings agree within 1 fathom except in some areas with irregular and rapidly changing bottom contours. East of David Island, the soundings agree within 1 fathom.

At the junction with H-10225, the soundings agree within 1 fathom.

At the junction with H-10243, the soundings agree within 1 fathom, except in areas with irregular and rapidly changing bottom contours.

K. COMPARISON WITH PRIOR SURVEYS

A portion of the survey area is covered by prior survey H-6925 (Additional Work), 1944, scale 1:120,000.

The present survey is generally ^{shallower} deeper than the 1944 survey; however, all depths from the prior survey can be found within ³⁰⁰ 350 meters of comparable depths on survey H-10242. It should be noted that soundings on

the prior survey are very sparse and that the prior survey did not contain any non-sounding features. Given the scale and the date of the prior survey, agreement is considered fair. ✓

H-10242 should supersede the prior survey in all common areas. ✓

L. COMPARISON WITH THE CHART

Comparisons were made between H-10242 and Preliminary Chart 16568 (1978, 5th edition, scale 1:106,600). Those soundings previously compared in Section K of this report will not be repeated here. *No specific comparison made in section K.* ✓

Given the scale of the chart and the dates of the surveys from which the depths were taken, agreement is fair. All charted depths, with the exception of one, can be found within 350 meters of comparable depths obtained by this survey. The one exception is as follows: ✓

In the vicinity of latitude 57/01/24, longitude 156/31/12, the chart indicates a depth of 59 fathoms. Hydrography accomplished over the area (90-meter line spacing) revealed depths from 100 to 115 fathoms. ✓

Differences of significance are as follows:

In the vicinity of latitude 57/02/09, longitude 156/34/42, the chart indicates a depth of 14 fathoms. Hydrography accomplished over the area (90-meter line spacing) revealed depths from 65 to 69 fathoms. ✓

In the vicinity of latitude 57/01/03, longitude 156/33/08, the chart indicates a depth of 11 fathoms. Hydrography accomplished over the area (45-meter line spacing) revealed depths from 25 to 35 fathoms. ✓

In the vicinity of latitude 57/01/09, longitude 156/29/06, the chart indicates a depth of 10 fathoms. Hydrography accomplished over the area (45-meter line spacing) revealed depths of 17 to 23 fathoms. ✓

In all cases, the present survey depths should be charted. ✓

CONCUR ✓

The following non-sounding features were found to not be in agreement with the chart:

Ledge indicated on the chart in the vicinity of latitude 57/02/50, longitude 156/31/10, was not found. However, at latitude 57/02/43, longitude 156/31/10, a shoal area foul with rocks was found (see final field sheet). ✓

Ledge indicated on the chart in the vicinity of latitude 57/01/38, longitude 156/29/05, was not found. ✓

All other charted non-sounding features within the survey area were located. ✓

The following AWOIS item was investigated:

50857 - Submerged rock at latitude 57/00/59.4, longitude 156/33/18.1
Source: USGS Quadrangle Map (1951, scale 1:63,360)

A full echo-sounder search (15-meter line spacing with splits to 8 meters in depths less than 11 fathoms) was run over a 100-meter radius around the AWOIS position (see Development "A"). There were no indications of a submerged rock. Depths in the area range from 9 to 23 fathoms. It is recommended that the symbol for a "submerged rock" be removed from the chart at the position given above. ✓
CONCUR

Several dangers to navigation were noted during this survey. A list of these dangers including description, latitude and longitude, and position number may be found in the letter addressed to the Commander (OAN) of the Seventeenth Coast Guard District and dated October 4, 1987. A copy of that letter is ~~included in Appendix X, Dangers to Navigation.~~ ✓
attached

Divers determined the least depth for many of the shoals by pneumatic gauge or by tape measure. Dive positions are noted on the Cartographic Code Listing. ✓

M. ADEQUACY

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

N. AIDS TO NAVIGATION

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

O. STATISTICS

<u>Vessel</u>	<u>2020</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>Total</u>
Positions	8	91 ⁷⁹²	1604 ¹⁵³⁴	104 ⁷⁴	864 ⁶⁶⁶	3491 ³⁰⁶⁴
Nautical Miles	-	94	162	2	66	324
Square Miles	-	-	-	-	-	11
Bottom Samples	8	-	-	56	-	64
Velocity Casts	5	-	-	-	-	5
Tide Stations	2	-	-	-	-	2
Days of Production (Hydrography Only)	-	-	-	-	-	33

No magnetic or current stations were established during this survey. ✓

P. MISCELLANEOUS

Bottom samples were collected and forwarded to the Smithsonian Institution, Washington D.C.. It should be noted that 14 samples (position numbers 5000-5010 and 5068-5070) were inadvertently thrown away. The Smithsonian Institution was notified of this. ✓

Per project instructions, a river in the vicinity of latitude 57/03/45, longitude 156/35/00 was investigated as a possible area of refuge for small fishing vessels. It was found that the area can only be entered during periods of high tide, and that large breakers form offshore of the entrance during storms. Port Wrangell, which is immediately to the west, provides excellent protection. Therefore, this river was not further investigated. ✓

Currents (1 to 2 knots, east-west set) were observed by divers between David Island and Poltava Island. These currents correspond with the rise and fall of the tide. ✓

Q. RECOMMENDATIONS

None ✓

R. AUTOMATED DATA PROCESSING

The following programs were used for data acquisition or processing.

<u>Number</u>	<u>Program Name</u>	<u>Version Date</u>
RK 112	Range-Range Real Time Plot	04/23/84
RK 116	Range-Azimuth 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	Range-Azimuth Non-Real Time Plot	07/25/86
RK 300	Utility Computations	10/21/80
RK 330	Reformat and Data Checker	05/04/76
RA 362	330/602 Combined	08/20/84
AM 500	Predicted Tide Generator	11/10/72
RK 407	Geodetic Inverse/Direct Computation	09/25/78
AM 602	Elinore	12/08/82
VELTAB		02/01/85

✓

S. REFERRAL TO REPORTS

The following reports will be submitted separately:

<u>Report</u>	<u>Date</u>
Horizontal Control Report	November 1987
Coast Pilot Report	October 1987
Electronic Control Data Package	October 1987
Corrections to Echo Soundings Data Package	October 1987

A LORAN-C Calibration Form was completed during ship bottom sampling operations. This form was forwarded to DMAHTC on September 24, 1987.

Field Tide Note
Southern Alaska Peninsula, Alaska
May - September, 1987

Field tide reduction of sounding data was based on predicted tides from Kodiak, Alaska corrected to Port Wrangell and Cape Providence. Tide correctors were interpolated by PDP/8 computer using AM 500. All times are UTC.

<u>SITE</u>	<u>LOCATION</u>	<u>PERIOD</u>
POLTAVA ISLAND 945-8471	57/00/48 N 156/29/00 W	28 May - 5 September
PORT WRANGELL 945-8498	57/03/11 N 156/36/28 W	28 May - 5 September
DERICKSON ISLAND 945-8522	56/59/40 N 156/43/10 W	9 July - 2 September

POLTAVA ISLAND

A Bristol Tide Gage (S/N 73A 235) was installed and operational on 28 May (DN 148). At 2130 UTC 16 June, the orifice broke loose from its anchor due to an exceptionally strong storm surge. FAIRWEATHER divers resecured the tubing and orifice on 18 June (DN 169). At 2000 UTC the gage was observed for a three hour time period and found to be functioning properly. From 0930 UTC 25 July through 1900 UTC 19 August, the tide record was interrupted when the chart drive stopped. (Note that during this time period FAIRWEATHER was working on a project in Cook Inlet and could not tend the gage.) The record was also interrupted between 1715 UTC 4 September and 1910 UTC 5 September, as the paper jumped sprocket holes and was found off track thus producing a time and height uncertainty.

The gage to staff difference was 11.2 feet until 1505 UTC 23 August when the lag bolt anchoring the orifice pulled loose, lowering the height of the orifice opening by approximately one-half foot. The orifice remained stable at this new location through the end of the survey. The mean gage to staff comparison was 11.8 feet from 23 August to 5 September, when the gage was removed.

LEVELS

A difference of 8mm was obtained between opening and closing levels for the segment from the staff to benchmark A. The ending levels agree well with the levels run to the same staff during the 1986 field season; therefore, staff movement is not suspected.

PORT WRANGELL

A Bristol Tide Gage (S/N 72A 235) was installed 28 May (DN 148). Review of the marigram showed an oscillation with a period of approximately 10 minutes and an amplitude of 0.2 feet superimposed upon the normal tide curve. The chart drive was replaced to isolate the origin of the oscillation (i.e., mechanical or chart drive related), but this had no effect. The gage was replaced on 10 July on a recommendation from the Pacific Operations Group. There was no change observed in the characteristic of the curve with the new gage. The source of the curve has never been resolved. It may be due to a local effect in Port Wrangell such as a seiche.

The record for the Port Wrangell gage was interrupted between 0900 UTC 9 July and 0110 UTC 10 July when the chart drive stopped. A new tide gage (S/N 64A 11033) was installed and operational at 1940 UTC 10 July. This gage ran well, but on several occasions stopped recording when the flow of ink was interrupted. The record was interrupted from 1500 UTC 11 July through 1640 UTC 11 July and again 2040 UTC 13 July through 1145 UTC 14 July. While FAIRWEATHER was in Cook Inlet, the chart drive stopped from 1715 UTC 21 July to 1921 UTC 19 August. The ink flow again stopped and the record was interrupted between 1915 UTC 20 August and 1700 UTC 21 August. The paper jammed once at 1715 UTC 1 September, afterwards operating without problem until its removal at 0041 UTC 6 September.

The difference in the gage to staff reading prior to July 10 (DN 191) was 6.1 feet; throughout the remainder of the survey the difference was 7.0 feet. This difference is due to a change of gage on 10 July.

LEVELS

Beginning and ending levels showed excellent agreement.

DERICKSON ISLAND

Two Bristol Tide Gages were installed at Derickson Island: a primary gage (S/N 73A 233) and a backup gage (S/N 73A 229). Both gages became operational at 2100 UTC 9 July. The primary gage operated without problem until its clock stopped from 1000 UTC 25 July to 1633 UTC 19 August while FAIRWEATHER was in Cook Inlet. The backup gage was down from 2140 UTC 21 July to 1830 UTC 19 August for the same reason.

The gage to staff difference for the primary gage averaged 4.6 feet. The gage to staff difference for the backup gage was 2.8 feet. Both gages were removed 2 September at 1945 UTC.

It should be noted that no hydrography was run this field season that requires the use of Derickson Island tide gage data.

LEVELS

Comparison of beginning and ending levels shows a discrepancy of 13mm between the staff and benchmark A. This discrepancy is attributed to the possibility that the staff settled and that two different staff stops were used. For the initial leveling run the staff stop was placed at 2.25 feet. During the final level run the tide was too high to use the original stop necessitating the placement of a second stop at 9.0 feet. The tide level was not sufficiently low before leaving the site to allow for a check on the location of the initial staff stop.

ZONING

Zoning used on the final field sheets for surveys H-10242 and H-10243 (as given in the project instructions for OPR-P180-FA-87) is as follows:

<u>High Water</u>	<u>Low Water</u>	<u>Height Ratio</u>
+ 0 hrs 20 min	+ 0 hrs 40 min	X 1.28

PROVISIONAL SIGNALS
OPR-F180-FA-87

419	0	57	04	36933	156	24	32675	250	0066	000000	ASH	1944
470	0	56	59	43183	156	27	16748	250	0028	000000	NEAVY	1944
485	0	57	03	52078	156	29	14348	250	0047	000000	ALDER	1986
500	0	56	58	33386	156	32	48468	250	0011	000000	FRU	1944
505	0	57	01	29130	156	28	26323	250	0022	000000	BRUND	1986
510	0	57	02	25344	156	30	22015	250	0046	000000	DAVID	1986
515	0	57	02	36242	156	34	08364	250	0006	000000	FLAT	1986
520	0	57	02	53984	156	36	14589	250	0013	000000	FAIR	1986
525	0	57	01	42845	156	34	12048	250	0009	000000	WEATHER	1986
530	0	56	53	03001	156	34	16924	250	0031	000000	AIUGNAK	1944
535	0	57	03	37012	156	37	13174	250	40001	000000	TF	1



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

NOAA Ship FAIRWEATHER
1801 Fairview Avenue East
Seattle, Washington 98102

October 4, 1987 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, R 012300Z OCT 87.

The following items were noted by NOAA Ship FAIRWEATHER during survey operations in the vicinity of Port Wrangell and Cape Providence, Alaska Peninsula, Alaska (hydrographic surveys H-10242 and H-10243) and are considered dangers to navigation. Questions concerning this survey may be directed to Chief, Nautical Chart Branch, telephone (206) 526-6835.

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

The following depths in the vicinity of Port Wrangell and Cape Providence, Alaska Peninsula, Alaska should be added to Preliminary Chart 16568 (NAD 27 Datum). (All depths are reduced to MLLW based on predicted tides.)

<u>DEPTH</u>	<u>LATITUDE</u>	<u>LONGITUDE</u>	
A. 4.0 fathoms	56/59/59N	156/28/54W	} SURVEY H-10243
B. 7.6 fathoms	56/59/42N	156/28/14W	
C. 5.5 fathoms	56/58/20N	156/30/54W	
D. 4.6 fathoms	56/57/45N	156/30/39W	
E. 7.2 fathoms	56/56/49N	156/30/21W	
F. 4.2 fathoms	57/01/20N	156/28/53W	

The following rocks in the vicinity of Port Wrangell and Cape Providence, Alaska Peninsula, Alaska should be added to Preliminary Chart 16568 (NAD 27 Datum). (All elevations are reduced to MLLW based on predicted tides.)

<u>ELEVATION</u>	<u>LATITUDE</u>	<u>LONGITUDE</u>	<u>POSITION NUMBER</u>
G. Rock bares 2 feet	57/00/36N	156/27/30W	1517
H. Rock bares 2 feet	57/01/32N	156/28/12W	6515

Sincerely,
Glen R. Schaefer
Glen R. Schaefer
Captain, NOAA
Commanding Officer



bc: N/CG222 w/chartlet
N/MOP21 w/chartlet

Enclosure: Copy of message R 012300Z OCT 87

Handwritten:
CO
XO
OPS-

RTTUZYUW RUHPTEB0354 2742300-UUUU--RUHPSUU.
ZNR UUUUU
R 012300Z OCT 87
FM NOAA'S FAIRWEATHER
TO CCGDSEVENTEEN JUNEAU AK
INFO NOAAAMOP SEATTLE WA
DMAHTC WASHINGTON DC//NVS//
ACCT CM-VCAA
BT

UNCLAS
FA-PMC-245-226

DANGER TO NAVIGATION

1. The following items were noted by NOAA Ship FAIRWEATHER during survey operations in the vicinity of Port Wrangell and Cape Providence, Alaska Peninsula, Alaska (hydrographic surveys H-10242 and H-10243) and are considered dangers to navigation.

DEPTH	LATITUDE	LONGITUDE
A. 4.0 fathoms	56/59/59N	156/28/54W
B. 7.6 fathoms	56/59/42N	156/28/14W
C. 5.5 fathoms	56/58/20N	156/30/54W
D. 4.6 fathoms	56/57/45N	156/30/39W
E. 7.2 fathoms	56/56/49N	156/30/21W
F. 4.2 fathoms	57/01/20N	156/28/53W
ELEVATION	LATITUDE	LONGITUDE
G. Rock bares 2 feet	57/00/36N	156/27/30W
H. Rock bares 2 feet	57/01/32N	156/28/12W

2. All items refer to Preliminary Chart 16568 (NAD 27 Datum). Depths are referenced to MLLW based on predicted tides.

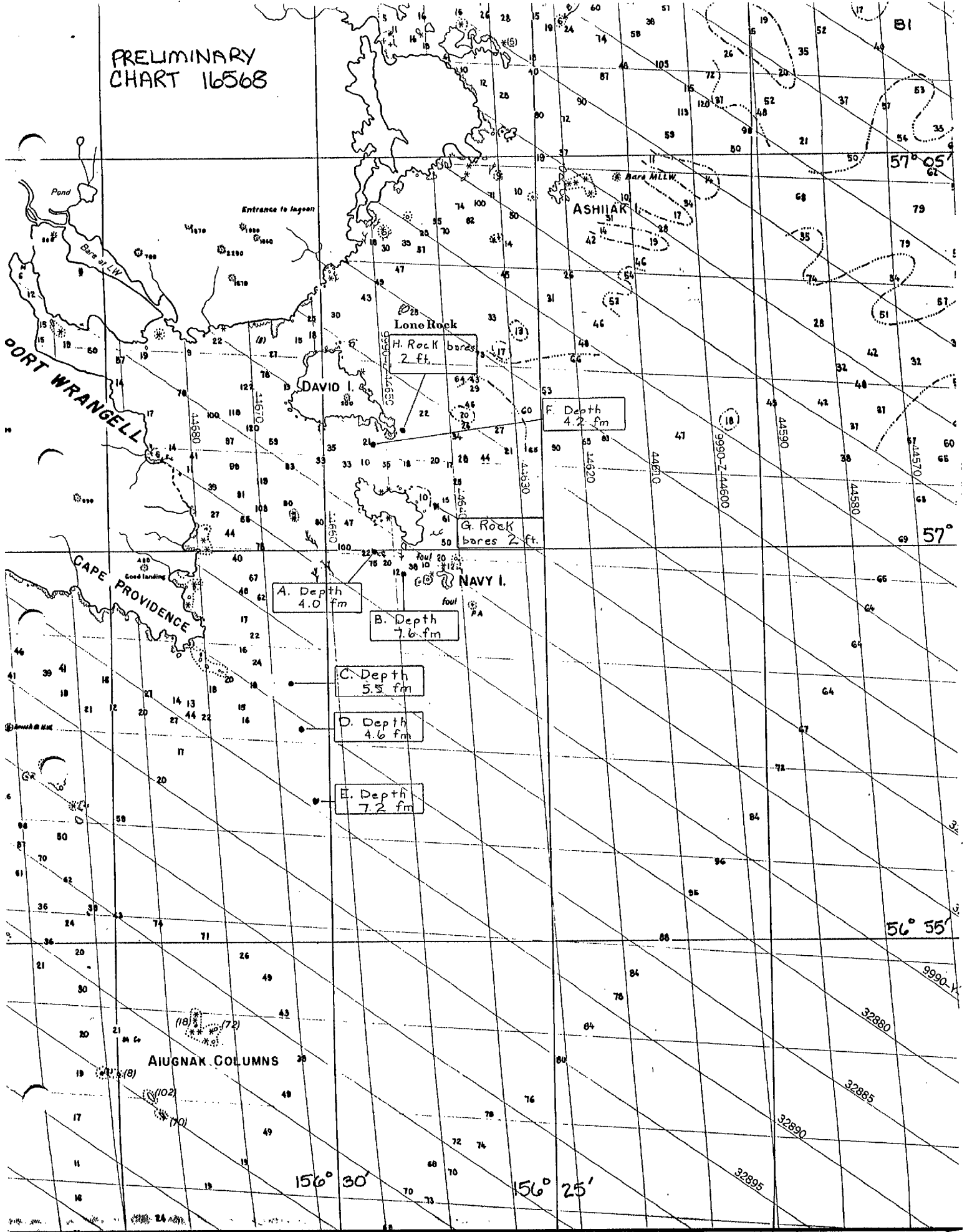
3. CONFIRMATION LETTER CONTAINING SAME INFORMATION WILL BE MAILED NEXT INPORT.

BT
#0354

•NNNN

Handwritten:
TOD
NOJ 020030 OCT 87
YAS 8.4550 MHE RTTY

PRELIMINARY CHART 1656B





U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Service
Pacific Marine Center
1801 Fairview Avenue East
Seattle, Washington 98102-3767

ATTACHMENT A

N/MOP21x2/MM

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

Dear Sir:

During office review of hydrographic surveys H-10242 and H-10243, Southern Alaska Peninsula, Port Wrangell to Navy Island, the following changes affecting chart 16568 (1978, 5th edition, NAD27 datum) were noted. Questions concerning the surveys 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:

- A. "An uncharted rock covered by 1.8 fathoms (MLLW based on predicted tides) is at latitude 57°01'54"N, longitude 156°28'26"W."
- B. "An uncharted rock covered 1.1 fathoms (MLLW based on predicted tides) is at latitude 57°01'45"N, longitude 156°28'25"W."
- C. "An uncharted shoal covered 5.3 fathoms (MLLW based on predicted tides) is at latitude 57°01'13"N, longitude 156°28'52"W."
- D. "An uncharted shoal covered 4.6 fathoms (MLLW based on predicted tides) is at latitude 57°00'34"N, longitude 156°32'41"W."
- E. "An uncharted rock covered 1.3 fathoms (MLLW based on predicted tides) is at latitude 56°59'01"N, longitude 156°32'30"W."
- F. "An uncharted rock covered 2.5 fathoms (MLLW based on predicted tides) is at latitude 56°58'43"N, longitude 156°32'09"W."
- G. "An uncharted rock bares 4.0 feet (MLLW based on predicted tides) is at latitude 57°00'17"N, longitude 156°27'36"W."

Sincerely,

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

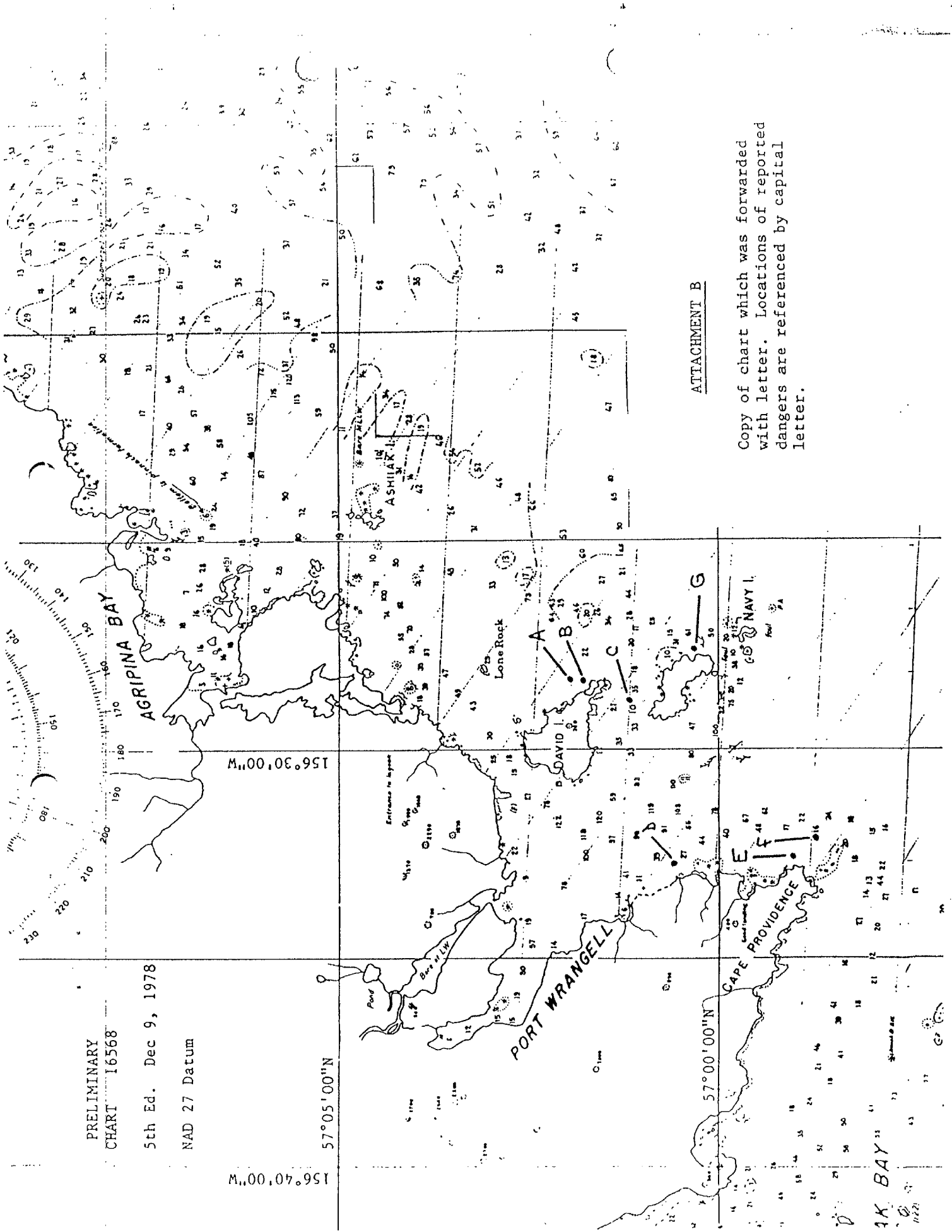
Enclosure



PRELIMINARY
CHART 16568

5th Ed. Dec 9, 1978

NAD 27 Datum



ATTACHMENT B

Copy of chart which was forwarded
with letter. Locations of reported
dangers are referenced by capital
letter.

WTEB WTEB 112027Z

TOR 83
NOJ 132359Z AUG 87
4.3320 MHz RT

ZNR UUUUU
R 112027Z AUG 87
FM NOAA MDP SEATTLE WA
TO JMWBBB/NOAAS FAIRWEATHER
ADCT CM-VCAA

BT

UNCLAS

FA191-205-187-204//MDP2X1

A. YR 100402Z AUG 87 - KARLUK REEF

B. YR 100425Z AUG 87 - BASELINE CALIBRATIONS

1. CG241 APPROVES OF SURVEY METHODS DESCRIBED IN SECTION 2B OF REF A.

2. REQUESTED DELAY OF BASELINE CALIBRATIONS UNTIL SEPTEMBER INPORT IN SEATTLE IS APPROVED FOR FIVE (5) MINI-RANGERS NOT ONBOARD (LEFT IN OPR-P180 PROJECT AREA). OTHER MINI-RANGERS USED DURING FIRE ISLAND AND KARLUK REEF SURVEYS MUST BE BASELINE CALIBRATED DURING UPCOMING KODIAK INPORT (14-18 AUG 87).

BT

NNNN

top CO
XD
FOO-
CSI

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

March 23, 1987

N/MOP2x1/GBM

TO: Commanding Officer
NOAA Ship FAIRWEATHER

Original Signed By

FROM: N/MOP - Robert L. Sandquist

SUBJECT: Waiver of Weekly Mini-Ranger Critical System Check, OPR-P180 .

Per section 6.2 of Hydrographic Project Instructions OPR-P180-FA, Southern Alaska Peninsula, CY 1987, the requirement for weekly Mini-Ranger critical system checks prescribed in PMC OPORDER Appendix S, section 3.a. is waived. Critical system checks will be required during each leg (normally 10 to 11 days). All other requirements for critical system checks such as for new station setups or excessive disagreement with baseline correctors, remain in effect. This waiver was granted to increase efficiency by minimizing beach landings on the rugged shore of the project area. To ensure data quality, FAIRWEATHER should continue to use the highly accurate three Mini-Ranger rate non-critical system check method. This waiver is only applicable to OPR-P180, Southern Alaska Peninsula, for CY 1987 operations.

cc: N/CG2
N/MOP21

*Mag CO
XO*

TOD

*NOJ / 10/15/72 Arg 87
ESA 3.2 070 M42 RHY*

*FOO
CST*

R 00425Z AUG 87
FM NOAA FAIRWEATHER
TO NOAA MOP SEATTLE WA
ADCT CM-VCAA

BT
UNCLAS
FA-PMC-204-185-159-167-172
PASS TO: MOP2X1

BASELINE CALIBRATIONS

- A. MY R241949Z JUL 87
- B. YOUR R301937Z JUL 87
- 1. FIRE ISLAND SHOAL AND KARLUF REEF PROJECTS WILL NOT BE COMPLETED IN TIME TO ALLOW TRANSIT TO SOUTHERN ALASKA PENINSULA BEFORE INPORT OF 14 AUG 87. THEREFORE, WILL NOT BE ABLE TO RETRIEVE FIVE (5) MINI-RANGERS LEFT IN THE OPR-P180 PROJECT AREA.
- 2. HAD BEEN GIVEN PERMISSION TO CALIBRATE DURING COMING KODIAK INPORT (REF B). HOWEVER, HAD EXPECTED TO HAVE ALL NINE (9) MINI-RANGERS ON BOARD.
- 3. REQUEST PERMISSION TO DELAY BASELINE CALIBRATION UNTIL SEATTLE INPORT PERIOD IN SEPTEMBER. AS NOTED BEFORE, DAILY SYSTEM CHECKS HAVE MET REQUIREMENTS OF TABLE 3.3-1, PMC OPORD; NO PROBLEMS WITH THE EQUIPMENT NOTED.

BT
#009

NNNN

May 20
FOO-
CST

TOIR
NOJ 13114282 JUL 87
EPA/2.6884 MHERTY



ZNR UUUUU
R 301937Z JUL 87
FM NOAAAMOP SEATTLE WA
TO RUWMBBA/NOAAS FAIRWEATHER
ACCT CM-VCAA

BT

UNCLAS

FA165-185-156-159-183//MOP2X1

J. YOUR 241949Z JUL 87

1. REQUEST TO DELAY BASELINE CALIBRATION OF MINI-RANGER EQUIPMENT
UNTIL KODIAK INPORT OF 14 AUG APPROVED BY N/CG241.

BT

NNNN

BTUZYUW RUHPTB0245 2051949-UUUU--RUHPSUU.

UUUUU
1949Z JUL 87
FM NOAA FAIRWEATHER
TO NOAA MOP
ACCT CM-VCAA

TOD *Jim*

CO
XO
OPS

NOJ/250254Z Jul 87
EBA/2.6880MHZ RTTY

BT
UNCLAS
FA-PMC 175-150
PASS TO: MOP2

CALIBRATION

1. LAST BASELINE CALIBRATION OF MINI-RANGER EQUIPMENT WAS 22-26 MAY 87.
2. WILL EXCEED 2 MONTH CALIBRATION REQUIREMENT OF PMC OPORDER ON 26 JUL.
3. IT IS SOMEWHAT IMPRACTICAL TO CALIBRATE EQUIPMENT AT THIS TIME OR DURING SHORT HOMER INPORT.
4. INTEND TO DEFER CALIBRATION UNTIL KODIAK INPORT OF 14 AUG. DAILY SYSTEM CHECKS HAVE MET REQUIREMENTS OF TABLE 3.3-1, PMC OPORDER; NO PROBLEMS WITH EQUIPMENT NOTED.
5. REQUEST CONFIRMATION.

BT
#0245

NNNN



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: *Robert L. Sandquist*
 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
↓
to Rev
NRK
ops/cst
Action/CL

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 *Ked 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.

Station	1948 Adjustment	1976 Adjustment	Datum Shift	Meters
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.

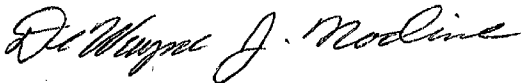
cc:

N/MOP21 - Richards ✓
N/CG22 - Nortrup
N/CG23 - Brewer
N/CG24 - Matsushige

APPROVAL SHEET

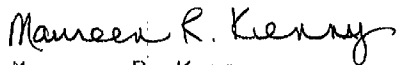
The final field sheet and the accompanying records have been reviewed for accuracy, completeness, compliance with project instructions, and adherence to required standards and procedures. The Commanding Officer inspected selected portions of the data. This survey is complete and requires no additional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

Submitted by:



DeWayne J. Nodine
Ensign, NOAA

Reviewed by:



Maureen R. Kenny
Lieutenant Commander, NOAA
Field Operations Officer

Approved by:



Glen R. Schaefer
Captain, NOAA
Commanding Officer

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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: December 14, 1987

MARINE CENTER: Pacific

OPR: P180

HYDROGRAPHIC SHEET: H-10242

LOCALITY: Southern Alaska Peninsula, Alaska

TIME PERIOD: May 29 - September 5, 1987

TIDE STATION(S) USED: 945-8471 Poltava Island, AK -0.49
945-8498 Port Wrangell, AK 3.91

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 945-8471 = 3.91 ft. *
945-8498 = -0.49 ft. REVERSE

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 945-8471 = 9.7 ft. ✓
945-8498 = 9.7 ft.

REMARKS: RECOMMENDED ZONING

1. East of longitude 156 34.25' zone direct on 945-8471.
2. West of longitude 156 34.25' zone direct on 945-8498.

* = FROM PHONE CONV. W/ JOE M. ON 12-7-87

James R. Hubbard
CHIEF, TIDAL DATUM QUALITY
ASSURANCE SECTION

GEOGRAPHIC NAMES

H-10242

Name on Survey
ALASKA, SOUTHERN ENTRANCE
SHELIKOF STRAIT
PORT WRANGELL & APPROACHES

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

Name on Survey	A	B	C	D	E	F	G	H	K
ALASKA (TITLE)									1
ALASKA PENINSULA									2
DAVID ISLAND									3
FLAT ISLAND									4
POLTAVA ISLAND									5
PORT ^R WANGELL (TITLE)									6
SHELIKOF STRAIT (TITLE)									7
									8
									9
									10
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									25

Approved:

Charles E. Harrington
Chief Geographer - N/C62x5

FEB 26 1988



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration

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

DEC 16 1987

N/MOP21x2/MM

TO: Commanding Officer
NOAA Ship FAIRWEATHER

FROM: N/MOP - Robert L. Sandquist

SUBJECT: Preprocessing Examination of
H-10242, Alaska, Alaska Peninsula, Port Wrangell and
Approaches
H-10243, Alaska, Alaska Peninsula, Navy Island to Cape
Providence

Hydrographic surveys H-10242 and H-10243 have been reviewed in accordance with Hydrographic Survey Guideline No. 15, and the Preprocessing Examination Critique for these surveys is attached. Hydrographic surveys H-10242 and H-10243 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





U.S. 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

December 14, 1987

N/MOP21x2/MM

TO: N/MOP - Robert L. Sandquist

FROM:  N/MOP21 - Thomas W. Richards

SUBJECT: Preprocessing Examination for H-10242 and H-10243

I. SURVEY INFORMATION

A. Field No.	FA-10-3-87	Registry No.	H-10242
	FA-10-4-87		H-10243
B. State:		Alaska	
General Locality:		Alaska Peninsula	
Sublocality:		Port Wrangell and Approaches	
		Navy Island to Cape Providence	
C. Project Instructions:		OPR-P180-FA-87	
Original dated:		March 6, 1987	
Change No. 1 dated:		April 14, 1987	
No. 2 dated:		September 2, 1987	
D. Dates:		<u>H-10242</u>	<u>H-10243</u>
Field Work Commenced:		May 29, 1987	May 28, 1987
Field Work Completed:		Sept 5, 1987	Sept 5, 1987
plus 6 weeks:		Oct 17, 1987	Oct 17, 1987
Data received at Marine Center:		Oct 22, 1987	Oct 22, 1987
plus 1 month:		Nov 23, 1987	Nov 23, 1987
Examination critique transmitted to field		December 16, 1987	

Target date for completion of Marine Center processing June 16, 1988



II. PREPROCESSING EXAMINATION CRITIQUE

Hydrographic surveys H-10242 and H-10243 were performed by personnel of the NOAA Ship FAIRWEATHER, Captain John W. Carpenter, Commanding Officer. The following personnel supervised portions of the data acquisition: Lieutenant Commander Kenny, Lieutenant Ruiz, Ensigns Cone, Lynch, Bernard, Nodine, Lemon, Birk-Risheim, Neander and Chief Survey Technician 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:

FAIRWEATHER reported 3 and 5 dangers to navigation within the limits of H-10242 and H-10243, respectively.

Seven additional dangers to navigation were found during the preprocessing examination. Three and four dangers were found within the limits of H-10242 and H-10243, respectively (see Attachments A, B).

B. Compliance with Instructions:

Hydrographic surveys H-10242 and H-10243 generally comply with applicable instructions. Two AWOIS items were investigated by FAIRWEATHER (#50857, H-10242; #50855, H-10243).

C. Final Field Sheet:

Reference numbers and heights of verified islets do not appear on the final field sheets for either survey. The sounding volumes for H-10242 contain no reference numbers or heights for these features but there are notes stating the features do exist. The sounding volumes for H-10243 do contain reference number and height information. All verified shoreline features are required to have reference or position numbers and heights/depths assigned to them; this information should also appear on the final field sheets [HSG 57, Section 2.d; PMC OPORDER Section 3.5.1].

A ledge containing two islets is shown on shoreline map TP-01149 at 57-02-48N, 156-36-08W. On survey H-10242, the hydrographer assigned a height and reference number to the northern of the two islets and noted that the northern islet is the high point on the ledge. The existence of the southern islet, however, was not addressed in the survey data. Features on shoreline maps which are within the proximity of the shoreline should be verified or disproved [HSG 57, Section 2.d].

D. Descriptive Report:

The station listing found in Appendix V of both Descriptive Reports shows the same stations were used for both surveys. Examination of the Abstract of Positions reveals that four of the stations listed were not utilized on H-10243. A master station listing may be submitted with a survey provided that the signals not used are crossed out. The source of the control station positions should also be included [PMC OPORDER Figure 3.5-1, Separate VI].

E. Echograms:

The echograms reviewed during this examination were well-annotated and contained all applicable stamp information.

F. Sounding Volumes and Raw Data Printouts:

One sounding volume for H-10243 states that an islet originating from shoreline map TP-01153, at 56-59-50N, 156-33-02W, is a rock that bares five feet (Ref #757); the final field sheet shows the same feature in red ink as a rock which bares 7 feet (Pos #5225). Since the map feature was changed and located by detached position, the reference number should have been rejected from the sounding volume [HSG 57].

The raw data printouts which were examined contained complete annotations.

K. Special and/or Ancillary Reports:

The Corrections to Echo Soundings Report was briefly reviewed. The computations for final correctors versus engine rpm's for settlement and squat data does not take into account the change in water level during the actual observations. Corrections for changes in water level vary from 0.0 to +0.09ft. Although, in this case, the lack of water level changes does not affect the resultant correctors (in fathoms or feet), changes in observed water levels should be applied prior to graphing the settlement and squat curves [HM 4.9.4.2].

L. Automated Data Check:

No significant problems were encountered during the spooling of either survey.

N. Survey Acceptance:

The preprocessing examination of H-10242 and H-10243 was conducted under the time constraints of HSG 15. Therefore, all comments contained herein are based on a spot check of the data. It is possible that some problem areas have not been addressed.

Hydrographic surveys H-10242 and H-10243 are in compliance with all applicable instructions. I recommend that H-10242 and H-10243 be accepted for Nautical Chart Branch processing.

Prepared by:

Marlene Mozgala

Marlene Mozgala

HYDROGRAPHIC SURVEY STATISTICS

H-10242

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT
SMOOTH SHEET		1	SMOOTH OVERLAYS: POS., ARC, EXCESS		6
DESCRIPTIVE REPORT		1	FIELD SHEETS AND OTHER OVERLAYS		4
DESCRIPTION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR-GRAMS	PRINTOUTS	ABSTRACTS/SOURCE DOCUMENTS
ACCORDION FILES	3				
ENVELOPES					
VOLUMES	5				
CAHIERS					
BOXES					

SHORELINE DATA

SHORELINE MAPS (List): TP-01149

PHOTOBATHYMETRIC MAPS (List):

NOTES TO THE HYDROGRAPHER (List):

SPECIAL REPORTS (List):

NAUTICAL CHARTS (List): Preliminary Chart 16568 5th Ed. 12/9/78

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			3224	
POSITIONS REVISED			15	
SOUNDINGS REVISED			75	
CONTROL STATIONS REVISED				
	TIME-HOURS			
	VERIFICATION	EVALUATION	TOTALS	
PRE-PROCESSING EXAMINATION				
VERIFICATION OF CONTROL				
VERIFICATION OF POSITIONS	85.0		85.0	
VERIFICATION OF SOUNDINGS	156.5		156.5	
VERIFICATION OF JUNCTIONS				
APPLICATION OF PHOTOBATHYMETRY				
SHORELINE APPLICATION/VERIFICATION				
COMPILATION OF SMOOTH SHEET	243.0		243.0	
COMPARISON WITH PRIOR SURVEYS AND CHARTS		16.0	16.0	
EVALUATION OF SIDE SCAN SONAR RECORDS				
EVALUATION OF WIRE DRAGS AND SWEEPS				
EVALUATION REPORT		41.0	41.0	
GEOGRAPHIC NAMES				
OTHER*				
*USE OTHER SIDE OF FORM FOR REMARKS	TOTALS	484.5	57.0	541.5

Pre-processing Examination by

M. Mozgala

Beginning Date

Ending Date

12/14/87

Verification of Field Data by

L. Deodato & S. Otsubo

Time (Hours)

419.5

Ending Date

11/17/87

Verification Check by

S. Otsubo & B. Olmstead

Time (Hours)

43.0

Ending Date

8/23/88

Evaluation and Analysis by

A. Luceno

Time (Hours)

57.0

Ending Date

8/26/88

Inspection by

D. Hill

Time (Hours)

4

Ending Date

8-31-88

PACIFIC MARINE CENTER
Evaluation Report
H-10242

1. INTRODUCTION

Survey H-10242 is a basic hydrographic survey accomplished by the NOAA Ship FAIRWEATHER under the following Project Instructions.

OPR-P180-FA-87, dated March 6, 1987
CHANGE No. 1, dated April 14, 1987
CHANGE No. 2, dated September 2, 1987

This survey is in Alaska and covers Port Wrangell and approaches. The surveyed area extends from latitude 57°00'33"N to latitude 57°03'50"N and from longitude 156°25'15"W to longitude 156°37'15"W. The inner bay of Port Wrangell is one of the best anchorages found along this coast of the Alaska Peninsula. The inner bay is 0.9 nautical miles long, and varies in width from 180 meters at the entrance to over 550 meters at the widest part, with depths from 12 fathoms at the entrance to 5 fathoms at the head of the bay. The outer bay is exposed to the east and the southeast with mid-channel depths ranging from over 60 fathoms at the entrance and gradually decreasing towards the inner bay. The main passage to Port Wrangell is between the eastern shore of the Alaska Peninsula and David Island and Navy Island. The maximum depth in this passage is 135 fathoms, which is located 1100 meters southwest of David Island. One of two other passages to Port Wrangell is between David Island and Poltava Island. The bottom in this passage is very irregular with mid-channel depths ranging from 4.1 fathoms to 45 fathoms. The other passage to Port Wrangell is located north of David Island. The depths in this passage range from 9.8 fathoms to 57 fathoms. The bottom consists of mud in the anchorage area in the inner bay of Port Wrangell and mainly mud mixed with broken shells in other parts of the surveyed area.

Predicted tides for Kodiak, Alaska were used for the reduction of soundings during field processing. Approved hourly heights zoned from Poltava Island, gage 945-8471, and Port Wrangell, gage 945-8498, were used during office processing.

The field sheet parameters have been revised to center the hydrography on the smooth sheet and to change the projection to polyconic. TRA, velocity correctors and electronic control correctors are adequate and required no revision. An accompanying computer printout contains the parameters and the correctors.

A digital file, generated for this survey, 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 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

Sections F and G of the hydrographer's report and the Horizontal and Electronic Control Reports for OPR-P180-FA-87 contain adequate discussions of horizontal control and hydrographic positioning.

Positions of horizontal control stations used during hydrography are 1944 published values and 1986 field values based on NAD 27. These values were used during office processing for the computation of positions. The smooth sheet and accompanying overlays are annotated with NAD 83 adjustment ticks based on values determined by N/CG121. Geographic positions based on NAD 83 may be plotted on the smooth sheet utilizing the NAD 27 projection by applying the following corrections:

latitude: +2.617 seconds (+81.0 meters)
longitude: -7.386 seconds (-124.6 meters).

The year of establishment of control stations shown on the smooth sheet originates with published information and the 1986 field data. The 1986 field positions are subject to change pending certification of the data by NGS.

There are 30 weak fixes (angles of intersection less than 30 degrees or more than 150 degrees) with acceptable signal strengths noted in this survey. However, there are no significant plotting differences between the soundings located by these fixes and those in adjacent areas. Also, none of these fixes are used to position dangers to navigation. These fixes are considered acceptable.

Shoreline map TP-01149, photo dates July 1982 and August 1983, Class III applies to this survey. The geodetic adjustment of the control points for this map was initially performed in 1948 and the shoreline compiled based on this data. A subsequent geodetic adjustment of the control stations was performed in 1976 that resulted in a datum shift of 17.4 meters in longitude and 2.3 meters in latitude from the 1948 adjustment (memo from NCG2 attached). The shoreline and details transferred to the smooth sheet have been adjusted for this discrepancy.

The quality of the line work on the shoreline map copy supplied by HQ is extremely poor. Several areas of ledge and low water line are ill defined and appear as though erasures have occurred without subsequent ink touch up. In areas where the details are obscured, nothing was transferred to the smooth sheet unless supported by observations of the hydrographer.

The hydrographer's disapproval of the ledge in the vicinity of latitude 57°02'47"N, longitude 156°33'05"W is considered inadequate. The feature was visually investigated during a mid-tide stage of 6 feet and there is inconclusive evidence that all potential for submerged rocks was eliminated. The feature should have been investigated during a lower stage of tide for disapproval. The ledge has been depicted on the smooth sheet.

3. HYDROGRAPHY

Hydrography is adequate to:

- a. delineate the bottom configuration, determine least depths, and draw the standard depth curves;
- b. reveal there are no significant discrepancies or anomalies requiring further investigation; and
- c. show the survey was properly controlled and soundings are correctly plotted.

4. CONDITION OF SURVEY

The hydrographic records and reports received for processing 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 the Preprocessing Examination, dated December 14, 1987, and the following.

In compiling the letter to the USCG, dated October 4, 1987, the hydrographer uses the term "bare" to describe dangerous rocks with elevations referenced to MLLW datum. As prescribed by HSG 57, the term "bare" refers to features which are visible at MHW. The incorrect use of this term may result in significant misinterpretations of survey data.

5. JUNCTIONS

Survey H-10242 junctions with the following surveys.

<u>Survey</u>	<u>Year</u>	<u>Scale</u>	<u>Area</u>
H-10214	1986	1:10,000	northeast
H-10225	1986	1:20,000	southeast
H-10243	1987	1:10,000	south

With the exception of survey H-10243, the junctions were not formally completed. Surveys H-10214 and H-10225 were previously processed and forwarded for charting. The junction comparisons were made using copies. Soundings are in good agreement. Some soundings and a detached rock have been transferred from H-10214 and H-10243 to better portray the bottom in the common area. Portions of the depth curves on surveys H-10214 and H-10225 should be adjusted to conform with those on survey H-10242.

6. COMPARISON WITH PRIOR SURVEYS

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

Eleven soundings on survey H-6925 cover a small area in the eastern portion of the present survey. Taking into consideration the differences in the scales of the surveys and the methods of surveying, comparison with this prior survey is satisfactory. Some discrepancies between the two surveys were noted, however, which could have been caused by lesser accuracy in plotting position fixes at a small scale in the prior survey.

There are no AWOIS items originating from survey H-6925 applicable to the present survey.

Survey H-10242 is adequate to supersede the prior survey within the common area.

7. COMPARISON WITH CHART

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

a. Hydrography Charted information originates with survey H-6925 and miscellaneous sources. Position discrepancies between the charted depths and features and the present survey may be caused by the displacement of soundings in the original charting sources. This is assumed because there are no miscellaneous sources of survey quality.

Survey H-10242 is adequate to supersede charted hydrography within the common area.

b. AWOIS AWOIS item 50857 is a submerged rock charted at latitude 57°00'59.4"N, longitude 156°33'18.1"W. The investigation and disposition of this item is adequately discussed in section L of the hydrographer's report.

c. Controlling Depths There are no charted channels with controlling depths within the area of this survey.

d. Aids to Navigation There are no fixed or floating aids located within the area of this survey.

e. Geographic Names Names appearing on the smooth sheet and in the survey title have been approved by the Chief Geographer.

f. Dangers to Navigation The hydrographer reported three dangers to navigation (items F, G and H) to the USCG and N/CG222. Additional dangers were found during office processing and were reported to the USCG and DMA. Copies of the reports are attached.

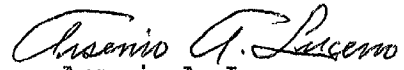
8. COMPLIANCE WITH INSTRUCTIONS

Survey H-10242 adequately complies with the Project Instructions.

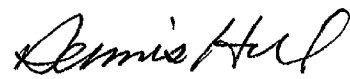
This is a good hydrographic survey.

9. ADDITIONAL FIELD WORK

No additional field work is recommended.


Arsenio A. Luceno
Cartographer

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


Dennis Hill
Chief, Hydrographic Section

APPROVALS

I have reviewed the smooth sheet, accompanying data, and reports associated with hydrographic survey H-10242. This survey meets or exceeds Charting and Geodetic Services' standards for products in support of nautical charting.

Dennis Heif 9/8/88
FOR Chief, Nautical Chart Branch (Date)

CLEARANCE:

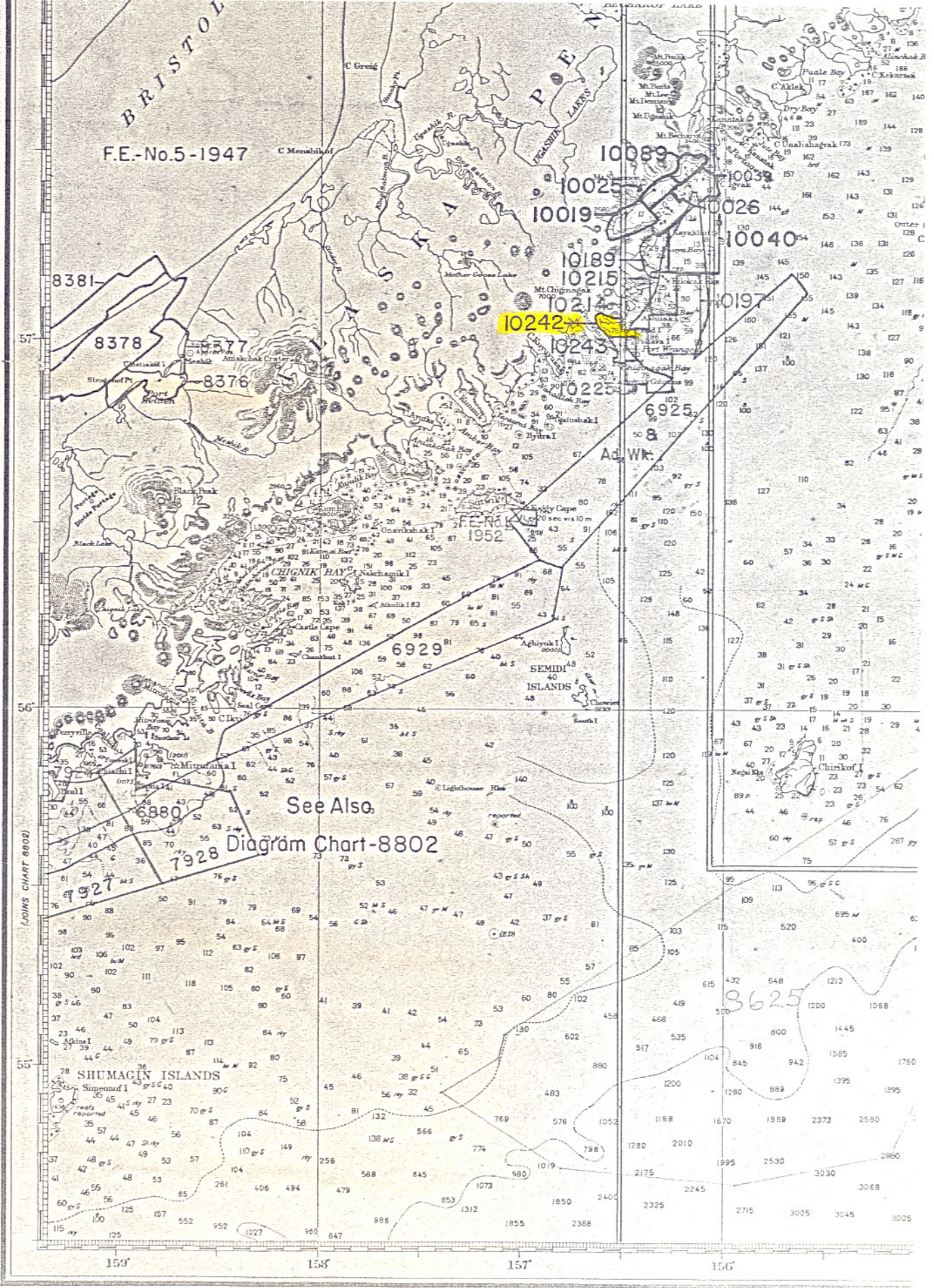
SIGNATURE AND DATE:

N/MOP2:LWMordock

Larry W. Mordock 9/8/88

After review of the smooth sheet and accompanying reports, I hereby certify this survey is accurate, complete, and meets appropriate standards.

Ralph L. Saufert 9/8/88
Director, Pacific Marine Center (Date)



44-8/4, 9/27, 45-1/9, 7/28, 47-6/30, 9/29 49-5/9

8502 No. 2 (2 sheets)

MARINE CHART BRANCH
RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10242

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
✓ 531	3-89	ED. Martin	Full Part Before After Marine Center Approval Signed Via Drawing No. 19 in full
16568	3-15-89	R. A. Lillis	Full Part Before After Marine Center Approval Signed Via
Reapplied	6-26-89		Drawing No. 7
16011	3-15-89	Russell P Kennedy	Full Part Before After Marine Center Approval Signed Via Drawing No. 30
✓ 530	6-29-89	R. A. Lillis	Full Part Before After Marine Center Approval Signed Via Drawing No. 34
16013	9-14-89	Eric Johnson	Full Part Before After Marine Center Approval Signed Via Drawing No. 28
16568	10/2/89	Shull Koll	Full Part Before After Marine Center Approval Signed Via Due to CL 722/89 Drawing No. 8 reapplied hydro - too many inconsistencies
16006	3-20-90	John Pierce	Full Part Before After Marine Center Approval Signed Via Drawing No. 26 Applied through chart 16013
530	10-1-93	R. Elliott	Full Part Before After Marine Center Approval Signed Via Drawing No. 7 Exem, no corr thru 16006 #27 MK
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.

Appd to Stds 11-3-88 JBR