10272

Diagram No. 8201-4

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. RA-20-3-88

Registery No. H-10272

LOCALITY

State .... Alaska

General Locality .... Frederick Sound

Sublocality .... Boulder Point to Point Highland

19 88

CHIEF OF PARTY
CAPT J.C. Albright

LIBRARY & ARCHIVES

DATE .... March 9, 1989

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

10272

"GP"
CHT
17367
17360 } CARTOG SIGN OFF ON FORM IN BACK

NOAA FORM 77-28 (11-72)

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

HYDROGRAPHIC TITLE SHEET

REGISTER NO.

H-10272

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.

RA 20-3-88

State Alaska

General locality Frederick Sound

Locality Boulder Point to Point Highland

Scale 1:20,000 Date of survey May 6 to May 18, 1988

Instructions dated January 29, 1987 Project No. OPR-0358-RA

Vessel NOAA Ship RAINIER (2120), Launches RA-3 (2123), RA-4 (2124), RA-5 (2125), RA-6 (2126)

Chief of party CAPT J.C. Albright

Surveyed by LT Mozgala, LTJG Lovell, ENS Hill, ENS Meis, ENS Larsen, ENS Smith, ENS Groeneveld, ENS Noll

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

Graphic record scaled by RAINIER Personnel

Graphic record checked by RAINIER Personnel

Verification by: M.G. Sanders Automated plot by PMC Xynetics Plotter

Evaluation by: I.A. Almacen

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

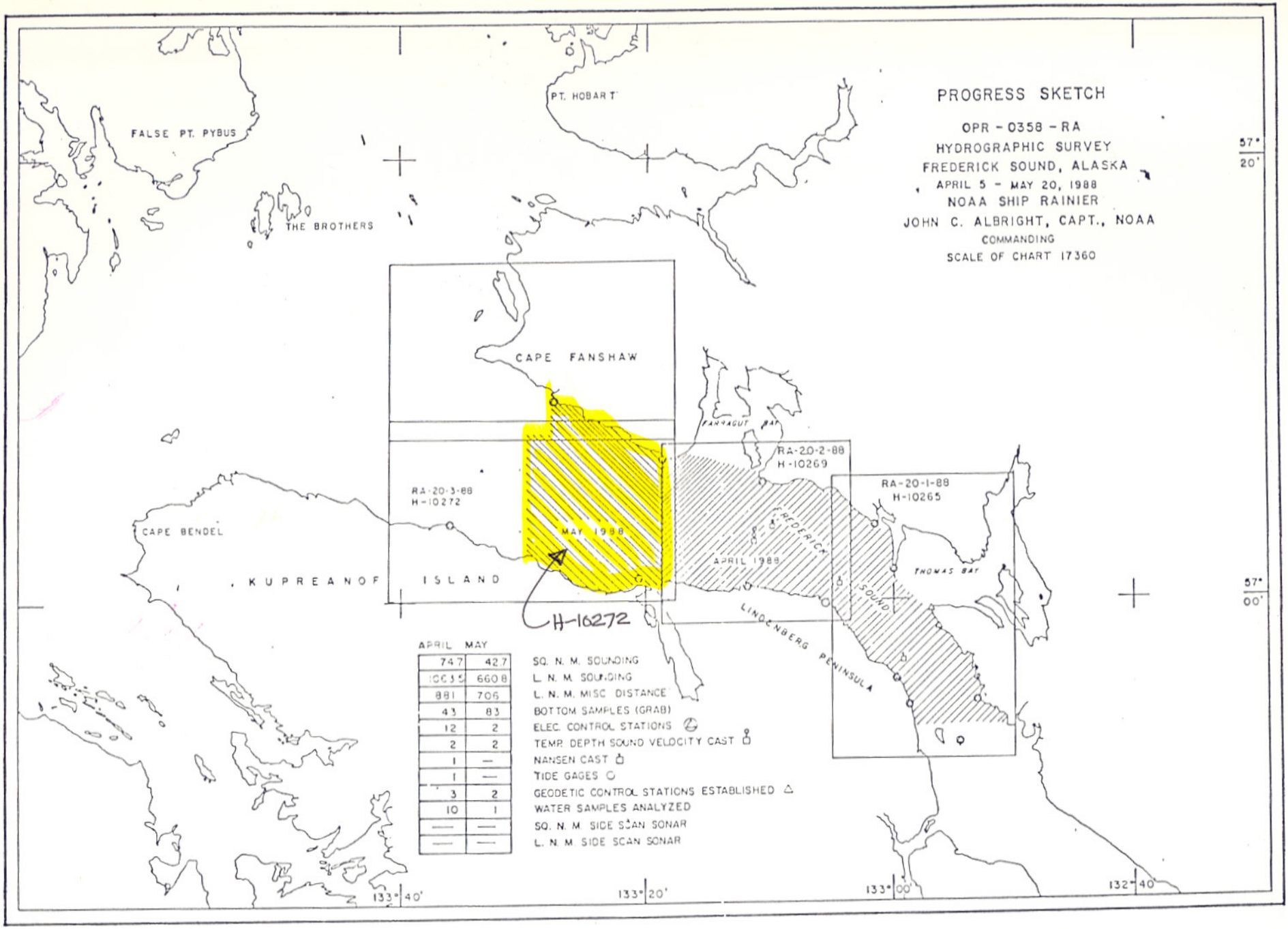
REMARKS: All times in UTC. Revisions and marginal notes in black generated during office processing. Separates are filed with the hydrographic data.

3-27-97 ✓ AWOIS and SURF Rec'd 4/89

K.W.W. 8/14/92

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

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


PROGRESS SKETCH
OPR - 0358 - RA
HYDROGRAPHIC SURVEY
FREDERICK SOUND, ALASKA
APRIL 5 - MAY 20, 1988
NOAA SHIP RAINIER
JOHN C. ALBRIGHT, CAPT., NOAA
COMMANDING
SCALE OF CHART 17360
FALSE PT. PYBUS
PT. HOBART
THE BROTHERS
CAPE FANSHAW
FANYAGUT BAY
RA-20-2-88
H-10269
RA-20-1-88
H-10265
RA-20-3-88
H-10272
CAPE BENDEL
KUPREANOF ISLAND
MAY 1988
APRIL 1988
FREDERICK SOUND
THOMAS BAY
LINDENBERG PENINSULA
H-10272
57° 20'
57° 00'
133° 40'
133° 20'
133° 00'
132° 40'
APRIL MAY
747 427
10035 6608
881 706
43 83
12 2
2 2
1 —
1 —
3 2
10 1
— —
— —
SQ. N. M. SOUNDING
L. N. M. SOUNDING
L. N. M. MISC. DISTANCE
BOTTOM SAMPLES (GRAB)
ELEC. CONTROL STATIONS
TEMP. DEPTH SOUND VELOCITY CAST
NANSEN CAST
TIDE GAGES
GEODETIC CONTROL STATIONS ESTABLISHED
WATER SAMPLES ANALYZED
SQ. N. M. SIDE SCAN SONAR
L. N. M. SIDE SCAN SONAR

PROGRESS SKETCH
OPR-0358-RA
HYDROGRAPHIC SURVEY
FREDERICK SOUND, AK.

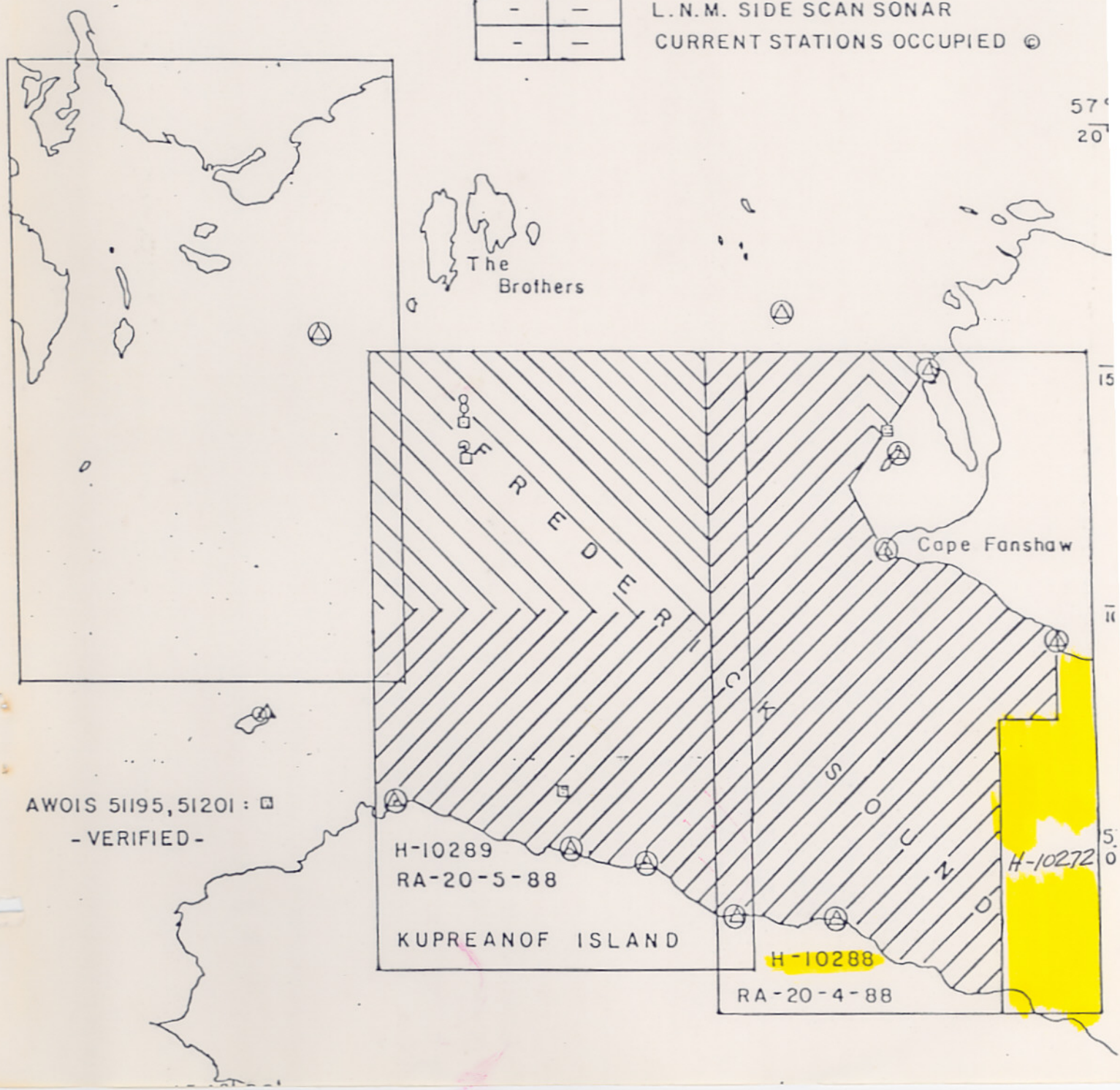
OCTOBER 4 - NOVEMBER 11 1988

NOAA SHIP RAINIER

JOHN C. ALBRIGHT, CAPT.
COMMANDING

SCALE OF CHART 17360

OCT	NOV	
98.6	43.1	SQ. N. M. SOUNDING
977.6	601.1	L. N. M. SOUNDING
733	695	L. N. M. MISC. DISTANCE
80	78	BOTTOM SAMPLES (GRAB)
11	1	ELECTRONIC CONTROL STATIONS △
2	1	TEMP. DEPTH SOUND VELOCITY
1	—	NANSEN CAST
1	—	TIDE STATIONS ⊙
1	—	GEOD. CONTROL STATIONS ESTABLISHED
11	—	WATER SAMPLES ANALYZED
-	—	SQ. N. M. SIDE SCAN SONAR
-	—	L. N. M. SIDE SCAN SONAR
-	—	CURRENT STATIONS OCCUPIED ◎



Descriptive Report to Accompany Hydrographic Survey H-10272

Field Number RA-20-3-88
Scale 1:20,000
1988

NOAA Ship RAINIER
Chief of Party: Captain John C. Albright

A. Project

A basic hydrographic survey under the navigable area concept was completed in Frederick Sound, southeastern Alaska, as specified by Project Instructions OPR-O358-RA dated January 29, 1987, Change No.1, dated February 27, 1987, Change No.2, dated September 22, 1987, and Change No.3, dated March 8, 1988. The survey covers the eastern half of sheet D on the revised sheet layout for the project dated February 18, 1988.

This survey is one in a series of surveys which will provide contemporary hydrographic data for existing nautical charts and for a new series of 1:80,000-scale charts. It is part of a continuing program to improve chart coverage of the Inside Passage of southeast Alaska in response to requests from the Southeastern Alaska Pilots' Association, the Department of Transportation of Alaska, and other private interests such as the cruise liner and fishing industries.

B. Area Surveyed

The survey is located in central Frederick Sound, Alaska, between Kupreanof Island and the mainland. The survey area is bounded on the south by Kupreanof Island, on the north by the Alaska mainland from Bay Pt. to west of Pt. Highland, on the east from Boulder Pt. to Bay Pt., and on the west by longitude 133°30'00"W. Portage Bay is outside the limits of this survey as indicated on the sheet layout for this project.

The southern shoreline west of Portage Bay is generally gently sloping, low and rocky. The northern coast to the west of Bay Pt. is steep and rocky with bedrock ledges, with the exception of a small sandbar in the area east of Pt. Highland.

Data acquisition was conducted from May 6 through May 18, 1988 (DN 127 - DN 139).

C. Sounding Vessels

All data were acquired from RAINIER and four automated survey launches, as shown below:

VESSEL	EDP No.	Operation
RAINIER	2120	Bottom Samples Plessey Casts
RA-3	2123	Hydrography Shoreline Verification
RA-4	2124	Hydrography Shoreline Verification
RA-5	2125	Hydrography
RA-6	2126	Hydrography

No changes to the standard sounding configurations were necessary.

D. Sounding Equipment and Corrections to Echo Soundings

All sounding vessels were equipped with Raytheon DSF-6000N echo sounders as shown below. The echo sounders were operated in the HIGH + LOW (HIGH DIGITIZED) function, using manual and automatic gain controls on both high and low frequencies to obtain the best analog trace. Soundings were recorded in fathoms and tenths of fathoms. Two-fathom bar checks were conducted and recorded daily, using both the LOW and the HIGH + LOW (HIGH DIGITIZED) functions, to ensure the echo sounders were functioning properly. The echo sounders were operated in accordance with the Provisional Instructions "RAYTHEON DSF-6000N ECHO-SOUNDER OPERATING AND PROCESSING INSTRUCTIONS," dated July 5, 1983, and the N/CG2 memorandum "DSF-6000N Depth Errors as a Function of Receiver Gain," dated May 23, 1986.

The echo sounders functioned properly, with occasional minor problems. On DN 133, B046N in vessel 2123 malfunctioned and was replaced with A103N. On DN 130, A114N in vessel 2124 malfunctioned and was replaced with A103N, which later malfunctioned on DN 138 and was replaced with B046N.

The echo sounders were continuously monitored during data acquisition. All sounding data was scanned at least two times, not only to ensure all significant peaks and deeps were inserted, but also to verify the digitized depths.

The echo sounders failed to track properly at times while running over extremely steep, irregular bottom. Running at minimum speeds usually alleviated this problem, and overall data quality was not compromised, but marginal analog traces sometimes could not be avoided. For further information on echo sounder performance, see the 1988 Corrections to Echo Soundings Report for OPR-0358-RA.

Raytheon DSF-6000N Echo Sounders

Vessel	Serial Number	Day Numbers
2120	A114N	133-139
2123	B046N	129-132
	A103N	133-139
2124	A114N	127-130
	A103N	131-138
	B046N	138
2125	A119N	128-138
2126	A117N	127-138

Diver-obtained least depths were determined with a 3D Instruments pneumatic depth gage (S/N 8504192N). The gage was operated in accordance with Hydrographic Survey Guideline #55, and was last calibrated March 15, 1988 by the Pacific Operations Group (N/OMA 1214). In addition, field system checks were performed each day the pneumatic depth gage was used. System calibration data are included in the 1988 Corrections to Echo Soundings Report for OPR-0358-RA.

Corrections to Echo Soundings

Corrections to echo soundings were determined for ~~heave~~, static draft, velocity of sound through water, settlement and squat, and predicted tides. These correctors are eventually to be applied to all sounding data. Soundings on the final field sheets are corrected for ~~heave~~, static draft, sound velocity, and predicted tides.

Settlement and squat correctors will be applied at the Pacific Marine Center during verification. Variations in the instrument initial, stylus arm length, and belt tension are not present with the DSF-6000N.

Heave

Corrections for heave were applied while scanning the echograms. The scanning technique used in comparing the analog trace with the digital record was chosen to eliminate fluctuations greater than 0.2 fathom resulting from sea action.

Static Draft

Transducer depths of 0.3 fathom were measured for all launches on March 23, 1988 by divers using a large metal T-square. The draft measurements were made at PMC with the fuel tanks averaging 3/4 full. For each launch, measurements with no people and with four people aboard were made, and the average computed. The transducer depths of 0.3 fathom agree with RAINIER historical records.

Transducers are mounted starboard, amidships, in a location such that all sounding corrections apply to both the low and high-frequency echo-sounder signals. Static draft measurements and computations are included in 1988 Corrections to Echo Soundings Report for OPR-0358-RA.

Velocity Correctors

Corrections for the velocity of sound through water were determined from two Plessey SVD casts described below. The Plessey casts provide data at discrete preselected depths rather than continuously throughout the water column. Therefore the method used to compute velocity correctors is similar to that outlined in Section 4.9.5.2 of the Hydrographic Manual.

Cast No.	Cast Depth(m)	DN	Geographic Position
3	225	128	57°03.2'N, 133°11.2'W
4	225	133	57°03.1'N, 133°11.2'W

The Plessey Sound Velocity Sensor, S/N 5652, was connected to a Hewlett/Packard 5326B Universal Frequency Counter, S/N 1312A02159. The sensor was calibrated at the Northwest Regional Calibration Center (NRCC) in Bellevue, Washington on April 4, 1988. On DN 101, one Nansen cast was conducted to ensure that the Plessey instrument was operating properly. Surface water temperatures were obtained during each Plessey cast as additional checks on the Plessey system.

The results of Casts 3 and 4 were similar enough to be averaged into one velocity table (Table #4). Velocity correctors were applied to all echo soundings at 0.1-fathom increments via one velocity tape which is included with the sounding data. Velocity corrector graphs and the velocity tape printout are included in Appendix IV of this report. All supporting data and computations from the Plessey and Nansen casts are included in the 1988 Corrections to Echo Soundings Report for OPR-0358-RA.

Settlement and Squat

Settlement and squat correctors were determined for the automated survey launches at Shilshole Bay, Washington, on March 30, 1988. Misreadings of the level for vessel 2123 necessitated a rerun of settlement and squat observations for that vessel in Farragut Bay, Alaska on May 5, 1988. All tests were conducted over a hard bottom in depths exceeding seven times the vessels' drafts. Both seas and wind were calm. Observations were made using a Zeiss Ni2 leveling instrument (S/N 87102) to a rod held vertically on the deck of each launch, almost directly over the transducer.

Ten level readings were made at each speed tested, and the average taken, to compute the correctors. Tide staff readings were taken concurrently with each set of level readings, and all tidal height differences were normalized to the tidal height of the dead-in-the-water level readings.

Soundings on the final field sheets are not corrected for settlement and squat. Abstracts of corrections to echo soundings and TC/TI tape listings for each sounding vessel have been submitted with this survey (Appendix IV). Records of settlement and squat data are included in the 1988 Corrections to Echo Soundings Report for OPR-0358-RA.

Tide Correctors

Tidal zones and correctors for this project were provided in the chart accompanying the Project Instructions. Only one zone applies to this survey. The correctors used for field data are based on the predicted tides for Juneau, Alaska, tide station (945-2210), and are a height correction ratio of "x 0.91" and time corrections of minus 15 minutes for high water and minus 10 minutes for low water. The field tide records have been forwarded to N/OMA121, in accordance with Hydrographic Survey Guideline #50 and the PMC OPORDER.

A tide station was established at Cape Strait (945-1559) and maintained by RAINIER personnel. A request for approved tides has been forwarded to N/OMA 121 (Appendix IX).

E. Hydrographic Sheets

All field sheets were prepared aboard RAINIER, on a Houston Instrument Complot DP-3 roll plotter, using the PDP8/e HYDROPLOT system and program RK201, "Grid, Signal, Lattice Plot". Program RK201 draws a modified transverse Mercator projection. The two 1:20,000-scale final field sheets are designated RA-20-3E-88 and RA-20-3W-88. In addition, one 1:5000-scale sheet was plotted to increase the legibility of sounding data acquired for the investigations of AWOIS items #51189 and #51190. Parameter tape listings are included in Appendix I of this report.

Depth contours are drawn on the final field sheets in accordance with the Hydrographic Manual except in areas of steep bathymetry where all required contours could not be drawn without degrading the legibility of the sheets.

In plotting the final field sheets, overprints were removed by various techniques. The pen was manually lifted and special corrector tapes were made to edit out individual soundings. These tapes have not been submitted. Some soundings, including least depths, have been transferred by hand to the final field sheets from NSP data.

All field sheets, accompanying field records, and this Descriptive Report are being forwarded to the Pacific Marine Center (N/MOP 21) for verification.

F. Control Stations

The following geodetic stations were used to control this survey:

Station	Order, Class	Date Established	Signal No.
BAY POINT	1,I	1917	146
FLAT	1,I	1917	150
HIGHLAND	1,I	1917	151
PORTAGE 2	3,I	1988	147
SOUTH GRAND	1,I	1917	144

SOUTH GRAND

Stations BAY POINT, FLAT, and HIGHLAND are from the NGS data base and were recovered using methods stated in the PMC OPORDER. PORTAGE 2 was positioned by RAINIER personnel via open traverse from BAY POINT with check angles from SOUTH GRAND and BRIDGE.* The field position for this station is unadjusted. All stations meet or exceed Third-order, Class I standards for positioning. Further information can be found in the 1988 Horizontal Control Report for OPR-O358-RA. Geographic positions are based on the North American Datum of 1927 and Clark Ellipsoid of 1866.

* BRIDGE, 1917 (LAT 57°00'42.643"N, LONG 133°12'04.595"W)

G. Hydrographic Position Control

All soundings were located using Motorola's Mini-Ranger III microwave positioning equipment in the HYDROPLOT range-range acquisition mode.

Positioning Equipment

Four Mini-Ranger console-R/T pairs and eight shore transponders were used during the survey. The following table summarizes the vessel and console-R/T pair configurations:

Day Numbers (DN)	Vessel EDP No.	Vessel Name	Console-R/T Serial No.
129-139	2123	RA-3	711/B1405
127-139	2124	RA-4	30269/B1388
128-139	2125	RA-5	720/911615
128-139	2126	RA-6	715/911102
138-139	2120	RAINIER	715/911102

The table below lists the shore transponder equipment used during the survey:

Transponder Serial Number	Code
G3510	A
E2868	B
G3500	C
F3256	E
G3501	F
C1883	1
B1106	2
911635	3

Two transponders were set over all control stations to allow sounding vessels to acquire positioning data from transponders with which they had been calibrated.

Baseline Calibrations

Three baseline calibrations over water were conducted in accordance with PMC OPORDER 3.3 (see table below). Calibration data and descriptions of the baselines can be found in 1988 Electronic Control Report for OPR-0358-RA.

Location	DN	Distance	Description
Seattle, WA	082	1312 m	Sandpoint Pier to Matthews Beach
Farragut Bay, AK	125	1446 m	Read I to mainland Alaska
Kodiak, AK	148	1646 m	Bell Flats Hwy to NOS Tidal BM

Opening baseline calibrations were conducted in Seattle and Farragut Bay. The Farragut Bay calibration using console-R/T pairs 711/B1405 and 720/911615, produced opening calibration data for transponder codes A, B, 1, and 3. Closing calibrations for all codes were performed in Kodiak.

The final field sheets were plotted with the opening baseline calibration correctors since the difference between opening and closing baseline calibrations for all codes was less than eight meters. It is recommended that these same correctors be applied during smooth processing.

System Check Procedures

In accordance with PMC OPORDER 3.3, critical system checks were made at least weekly and noncritical checks were made daily when critical checks were not acquired.

Critical system checks were made at the following stations using the fixed-point calibration method: BRIDGE (145), BAY POINT (146), and PORTAGE 2 (147).

Noncritical system checks were conducted using the launch-to-launch or baseline crossing methods. All noncritical system checks fell within the allowable rejection limits and no systematic discrepancies with opening baseline correctors were observed.

Problems and Unusual Position Configurations

Null zones and erratic ranges were occasionally experienced due to the destructive interference of direct and reflected rf waves. This problem was significantly reduced by mounting several of the shore transponders atop twenty-foot Raydist towers. Time-and-course interpolations were used during data processing to correct the positions of soundings taken when launches approached null zones (as indicated by the launches' erratic steering needles and automated plotters).

A small amount of positioning data was acquired with signal strengths one unit below cutoff. The use of these signal strengths may result in discrepancies with baseline correctors of less than 10 meters, less than 0.5 millimeter at the scale of the survey, and does not cause significant degradation of positional quality.

Antenna Offset Distances (ANDIST)

Each launch had its antenna located over its depth transducer, making the ANDIST corrector 0.0 in all cases.

H. Shoreline

Shoreline maps were not compiled for this project; therefore, shoreline features were transferred to the final field sheets from 1:20,000-scale enlargements of NOS Chart 17367, 9th edition, April 21, 1979, 1:40,000; and USGS Topographic Quadrangle SUMDUM (A-5), 1948, 1:63,360.

Shoreline is shown in brown on the final field sheets for orientation purposes only. Detached positions were obtained for all features extending into the navigable area of the survey, as defined in the Project Instructions, and are shown on the final field sheets in black with their four-digit position numbers. All heights are in feet and are corrected to MLLW based on predicted tides. Heights computed for rocks and ledges refer to the highest point of each feature.

Cartographic codes for all features within the navigable area are noted in the field records. Observations made at low water indicated that ledges and kelp areas do exist as charted. Detached positions were obtained on the outer limits of ledges and foul areas that extend into the navigable area. These detached positions are shown as rocks on the final field sheets.

Three islets shown on the quad sheet at 57°01.6'N, 133°27.6'W were searched for on DN 138 during a spring low tide. No islets or rocks were visible at that time. It is recommended that the area be charted in accordance with survey data. concur

A rock shown on the quad sheet at 57°00.75'N, 133°25.20'W was searched for and found to be 80 meters north of the quad position (DN 138, pos. no. 3335). There are no other rocks inshore of this feature. The hydrographer recommends charting this rock from the survey data. Pos # 3335 - LAT 57°00' 47.94"N, LONG 133° 25' 10.89"W ~~X~~(Z) concur

I. Crosslines

Crosslines were oriented perpendicular to the mainscheme sounding lines, and amounted to 9% of the mainscheme mileage. All soundings agree to within 1.0 fathom. In several instances the vessel acquiring the crossline data did not acquire the corresponding mainscheme data. The agreement between soundings obtained by different echo sounders in a common area is as stated above. ✓

J. Junctions

This survey junctions to the east with RAINIER survey H-10269 (1:20,000; 1988). All depths agree to within 1.0 fathom except in areas of steep relief near shore; depth contours are in excellent agreement. See Eval Rpt Sec 5

There is no contemporary survey to the west of H-10272.

K. Comparison With Prior Surveys

This survey was compared with the following prior surveys: H-1804 (1887), a 1:80,000-scale smooth sheet; H-1813 (1887), a 1:10,000-scale smooth sheet; and H-1812 (1887), a 1:20,000 smooth sheet. The 1:80,000-scale boat sheet, H-1806 (1887), was also used for comparison. In general, survey soundings agree well with those from prior surveys. ✓

Three of the AWOIS items catalogued in the AWOIS listing dated March 7, 1988 are within the limits of this survey. AWOIS Items #51189 and #51190 originate from wire drag survey H-3992, (1:80,000; 1917). AWOIS Item #51197 is a burned wreck positioned by C&GSS PATTON and reported in the 1960 Notice to Mariners #42.

AWOIS 51189

Feature: Charted 5.5-fathom wire drag grounding at 57°01'17.00"N, 133°25'27.00"W.

Investigation: An area extending 250 meters out from the charted position was developed (Expansion Sheet #1) with 25 meter line spacing and one crossline. The least depth was obtained by pneumatic depth gage during a dive investigation. A solid rock outcrop peak with a depth of ~~34.4~~ feet (~~5.7~~ 6.0 fathoms) was discovered

during a 50-meter radius circle search at 57°01'17.~~39~~45"N, 133°25'27.66"W (pos. no. 3161). Divers reported the visibility to be 25 feet. The bottom in this area is a mixture of sand and rocky outcrops with the bottom dropping off steeply west and north of the steep rock outcrop peak.

Recommendation: Chart ~~5.7~~6.0-fathom ~~depth~~ Rk at latitude 57°01'17.~~4~~45"N, longitude 133°25'27.~~7~~66"W. Revise the 10-fathom depth contour as indicated on the ~~final field~~ smooth sheet. concur

AWOIS 51190

Feature: Charted 7.0-fathom wire drag grounding at 57°01'26.00"N, 133°26'24.00".

Investigation: An area extending 250 meters out from the charted position was developed with 25-meter line spacing and one crossline (Expansion Sheet #1). The bottom topography is gently sloping with no significant peaks or deeps in this area. Survey depths in the charted area range from ~~7~~6-9-fathoms.

Recommendation: Retain 7-fathom depth as charted at latitude 57°01'26.00"N, longitude 133°26'24.00"W. A 7.2-fathom sounding plots, beside the charted position at Lat 57°01'25.5"N, Long 133°26'25.7"W. Do not concur Chart area according to this survey

AWOIS 51197

Feature: Burned wreckage of the vessel CORAL SEA at 57°07'52.00"N, 133°23'25.00"W.

Note: There is a discrepancy in latitude of four seconds between the position given for the wreck in the AWOIS listing and the latitude reported in Notice to Mariners # 42, 1960. (Lat 57°07'56.0"N, Long 133°23'25.0"W)

Investigation: A visual search of the entire area was conducted at low water. The engine block with the propeller shaft attached was seen immediately and was positioned at 57°08'01.11"N, 133°23'35.59"W (pos. nos. 3163, 6617). There is no evidence of any additional wreckage or debris.

Recommendation: Chart obstruction ~~bares at~~ uncover 1.~~2~~0 feet above MLLW at latitude 57°08'01.1~~1~~0"N, longitude 133°23'35.59"W. Do not concur Revise portion of charted wreck uncover 1.0 ft at MLLW

L. Comparison With the Chart

This survey was compared to 1:20,000-scale enlargements of NOS Chart 17367, 9th Edition dated April 21, 1979, 1:40,000 scale; and NOS Chart 17360, 26th Edition dated August 18, 1984, 1:217,828. All depths on these charts originate from surveys H-1804 (1887,1:80,000), H-1813 (1887,1:10,000) and H-1812 (1887,1:20,000). H-1806 (1887, 1:80,000) See Eval Rpt Sec 7

In general, there is good agreement (within 2 fathoms) between all charted and survey depths except in extremely steep areas along the north shore where the 10-fathom curve extends further inshore than shown on the chart.

The area 0.2 NM west of Portage Island is shoaler than charted. However, the charted 23-fathom depth is within 100 meters of equal survey depths. The techniques used for positioning and sounding during the prior surveys are the probable causes for these discrepancies.

Chart 17360

A rock charted at 57°02.5'N, 133°30.0'W was not seen during shoreline verification. This feature lies on the revised junction between sheets D and E and should be investigated during hydrographic operations on sheet E. See Eval Rpt Sec 6

A pile from T3689. pile ~~An apparent islet~~ is charted at 57°00.7'N, 133°23.5'W. The ~~islet~~ was not visible during shoreline verification on DN 138. It is recommended the ~~islet~~ pile be removed from the chart. Do not concur See Eval Rpt Sec 6

T-3689

A rock charted at 57°00.8'N, 133°25.0'W was found to be the offshore limit of a ledge (DN 138, pos. no. 3336). It is recommended that the rock symbol be retained as charted. Por # 3336, Lat 57°00'44.78"N, Long 133°25'02.34"W Do not concur Chart the area according to this survey

Chart 17367

originating from T-3689

An islet charted 0.2 NM northwest of Bay Pt. at 57°06.7'N, 133°19.1'W was investigated during a spring low tide on DN 138. The islet and a foul area west of the islet were positioned and shown as rocks on the final field sheet (pos. nos. 5251-5252). The hydrographer recommends the islet be retained as charted and a foul area be added as positioned in the survey data. concur, islet transferred from T-3689

Non-Sounding Features

originating from T-3690

Three charted rocks approximately 1.5 NM west of Bay Pt. at 57°07.0'N, 133°21.0'W were searched for during a spring low tide on DN 138. The entire area was covered with kelp, verifying the rocky nature of the bottom. Detached positions were taken on five rocks which mark the limits of a foul area (pos. nos. 5244-5546, 5248, 5250). The charted rocks were not evident during shoreline verification, although the foul area limits shown on the final field sheet are inside the charted kelp limits and within 80 meters of the charted rocks. It is recommended that the charted rocks be removed, and the foul area be added to the chart at the positions determined from survey data. Kelp limits should remain as charted, as they not only accurately portray the limits of this marine growth, but also reflect the rocky nature of the bottom. concur

Dangers to Navigation

Three detached positions (pos. nos. 3337-3339) mark the outermost ledges of Portage Island. These ledges are shown on the final field sheets, and have been reported as dangers to navigation to the Seventeenth Coast Guard District, Juneau, Alaska and Defense Mapping Agency Hydrographic/Topographic Center (DMAHTC) (Appendix X). ✓

The outermost limit of an uncharted large bedrock ledge was positioned on DN138 during a spring low tide at 57°01'30"N, 133°27'00"W (pos. nos. 3332-3334). The ledge is depicted as a foul area on the final field sheet. This feature was reported as a danger to navigation to the Seventeenth Coast Guard District and DMA (Appendix X). Feature portrayed as rocks and a foul area on the smooth sheet

The hydrographer recommends both ledges be charted as positioned in this survey. concur

M. Adequacy of Survey

This survey is complete and adequate to be used for charting purposes, and to supersede prior surveys within the navigable area as defined in the Project Instructions. ✓

N. Aids to Navigation

There are no fixed or floating aids to navigation within the limits of this survey. See Eval Rpt Sec 7

There are no bridges, overhead cables, pipelines or ferry routes within the limits of the survey. Three submarine cable areas cross through the survey area, but do not merge with the shoreline. ✓

O. Statistics

Vessel:	2120	2123	2124	2125	2126	Total
# of Pos	48	344	960	253	927	2532
NM Hydro	0	66.2	233.5	60.4	165.7	525.8

NM^2 Hydrography	36.6
NM Side-Scan	0.0
Bottom Samples	48
Tide Stations	1 ✓
Velocity Casts	2
Days of Production	11
Magnetic Stations	0
Current Stations	0

P. Miscellaneous

All bottom samples have been submitted to the Smithsonian Institution (Appendix VII). Bottom sample spacing was designated at nine centimeters because the survey area is too deep for anchoring and the bottom characteristic is essentially the same throughout the area (e.g., green mud). The samples confirm the charted bottom characteristics. ✓

No current measurements were made during this survey as no anomalous currents were observed. ✓

Simultaneous LORAN-C and Mini-Ranger III positioning information was acquired during bottom sample collection and forwarded to DMAHTC per PMC OPORDER 1.2.4 ✓

An experimental compilation sheet which covers the western portion of this survey was forwarded to RAINIER as a possible aid in the investigation of foreshore features. The areas common to this survey and the sheet (control # 002787, 1:40,000-scale) were reviewed as per Section 4.1.1.1 of the Project Instructions. ✓

The only foreshore feature shown on the experimental compilation in the area common with this survey is a rock at the MLLW line. Survey data identified seven rocks, five of which are at or above MLLW (based on predicted tides). The rock which appears on the experimental sheet is also one of the rocks positioned during the survey. The position of the rock on the sheet agrees well with the position determined by hydrographic methods. ✓

In general, the compiled foreshore area extends further offshore than is reflected in the survey data. The difference in the approximate MLLW line may be attributable to any tidal reductions applied during compilation, for one note on the compiled sheet states that, at time of photography, the height of the tide was 12.7 feet (based on predicted tides) in an area with a 13-foot tidal range. ✓

The scant information shown on the experimental compilation sheet was both position- and height-approximate, and is available from other sources. Consequently, the hydrographer found the document to be of no use. ✓

Q. Recommendations

Survey H-10272 covers the east portion of sheet D as shown on the sheet layout for this project; it is, in itself, a complete survey. The west portion of sheet D has not yet been surveyed. A revised sheet layout reflecting the changes in area covered by sheets D and E will be forwarded to N/CG 222. See Eval Rpt Sec 9

The rock shown on Chart 17360 at 57°02.5'N, 133°30.0'W should be searched for and, if found, positioned when hydrographic data are acquired on sheet E, as stated in Section L of this report. See Eval Rpt Sec 6

R. Automated Data Processing

Data acquisition and processing were accomplished with a PDP 8/e HYDROPLOT computer system, using the following programs:

NUMBER	DESCRIPTION	VERSION
RK 112	HYPERBOLIC,R/R HYDROPLOT	3/01/86
RK 201	GRID, SIGNAL, AND LATTICE PLOT	4/18/75
RK 221	COMB R/R & HYPER PLOT NON-RT	7/25/86
RK 300	UTILITY COMPUTATIONS	10/21/80
RA 362	RK 330 AND AM 602 COMBINED	8/20/84
RK 407	GEODETIC INVERSE/DIRECT COMP	9/25/78
RK 409	GEODETIC UTILITY PACKAGE	9/20/78
AM 500	PREDICTED TIDE GENERATOR	11/10/72
RK 530	LAYER CORRECTIONS FOR VELOCITY	5/10/76
RK 561	H/R GEODETIC CALIBRATION	12/01/82
AM 602	ELINORE - LINE ORIENTED EDITOR	12/08/82
RK 606	TAPE DUPLICATOR	8/22/74
AM 607	SELF-STARTING BINARY LOADER	8/10/80
RK 610	BINARY TAPE DUPLICATOR	1/31/85
RK 900	PLOT TEST TAPE GENERATOR FOR AM902	5/07/76
PM 901	CORE CHECK	3/01/72
AM 902	REAL TIME CHECKOUT	11/10/72
DA 903	DIAGNOSTIC-INSTRUCTION TIMER	2/27/76
RK 905	HYDROPLOT CONTROLLER CHECKOUT	3/18/81
RK 935	HYDROPLOT HARDWARE TESTS	3/15/82
RK 950	HARDWARE TESTS (DOC. ONLY)	6/02/75

The following position numbers were used by survey vessels:

Vessel Number	Position Numbers
2120	69-118
2123	3000-3343
2124	4000-4959
2125	5000-5252
2126	6000-6909

Position numbers 6751 and 6617 through 6632 were duplicated by vessel 2126 on DN 128 and 138, respectively.

S. Referral to Reports

The following supplemental reports contain additional information relevant to this survey:

TITLE	DATE SENT TO MARINE CENTER
1988 Horizontal Control Report, OPR-O358-RA	July, 1988
1988 Electronic Control Report, OPR-O358-RA	July, 1988
1988 Corrections to Echo Soundings Report, OPR-0358-RA (Filed with the field records for H-10269) XWW 8/12/94	June, 1988
Marine Mammal Report, RP-12-88	June, 1988
1988 Coast Pilot Report, OPR-O358-RA	June, 1988

Respectfully Submitted,

John W. Lovell
Lieutenant (jg), NOAA

Approved and Forwarded,

John C. Albright
Captain, NOAA
Commanding Officer

MASTER STATION LIST
OPR-0358-RA-88, FREDERICK SOUND, ALASKA

FINAL VERSION

~~144 3 57 05 22442 133 10 40177 250 0003 000000~~
~~/SOUTH GRAND 1917 NGS QUAD 571332 STA. 1027~~ } station was used.

~~145 3 57 00 42643 133 12 04595 250 0005 000000~~
~~/BRIDGE 1917 NGS QUAD 571332 STA. 1002~~

146 3 57 06 24700 133 18 45458 250 0006 000000
/BAY POINT 1917 NGS QUAD 571332 STA.1001

147 3 57 01 09427 133 20 48241 250 0008 000000
/PORTAGE 2 RAINIER G.P.

150 3 57 03 30013 133 35 49259 250 0004 000000
/FLAT 1917 NGS QUAD 571333 STA. 1016

151 3 57 09 02129 133 27 44542 250 0005 000000
/HIGHLAND 1917 NGS QUAD 571332 STA. 1014

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
NOAA Ship RAINIER S-221
1801 Fairview Ave. East
Seattle, WA 98102

15 July 1988

Director
DMAHTC
6500 Brooks Lane
Washington, DC 20315

Dear Sir:

While reviewing hydrographic survey data which were acquired in eastern Frederick Sound, southeast Alaska, NOAA Ship RAINIER found and positioned three additional dangers to navigation. A copy of the letter to the Seventeenth Coast Guard District requesting the dangers be included in the Local Notice to Mariners is enclosed.

Sincerely,

John C. Albright
Captain, NOAA
Commanding Officer

Enclosure

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
NOAA Ship RAINIER S-221
1801 Fairview Avenue East
Seattle, Washington 98102

15 July 1988

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

Dear Sir:

I request the following be published in the Local Notice to Mariners for the Seventeenth Coast Guard District:

"NOAA Ship RAINIER of the National Ocean Service has conducted 1988 charting operations in eastern Frederick Sound, southeast Alaska, and has found the following dangers to navigation (depths are reduced to MLLW based on predicted tides; positions are based on NAD 27 datum):"

A. "Ledge exposed 2.0 feet is at latitude 57°05'29.0"N, longitude 133°11'15.7"W." (H-10269)

B. "Ledge exposed 4.0 feet is at latitude 57°01'11.5"N, longitude 133°20'40.2"W." (H-10272)

C. "Ledge awash is at latitude 57°01'30.7"N, longitude 133°26'56.1"W ." (H-10272)

The following NOS charts are affected:

17360	26th ed	8/18/84	1:217,828	NAD27 DATUM
17367	9th ed	4/21/79	1:40,000	NAD27 DATUM

These data are preliminary and subject to office review. Questions may be directed to:

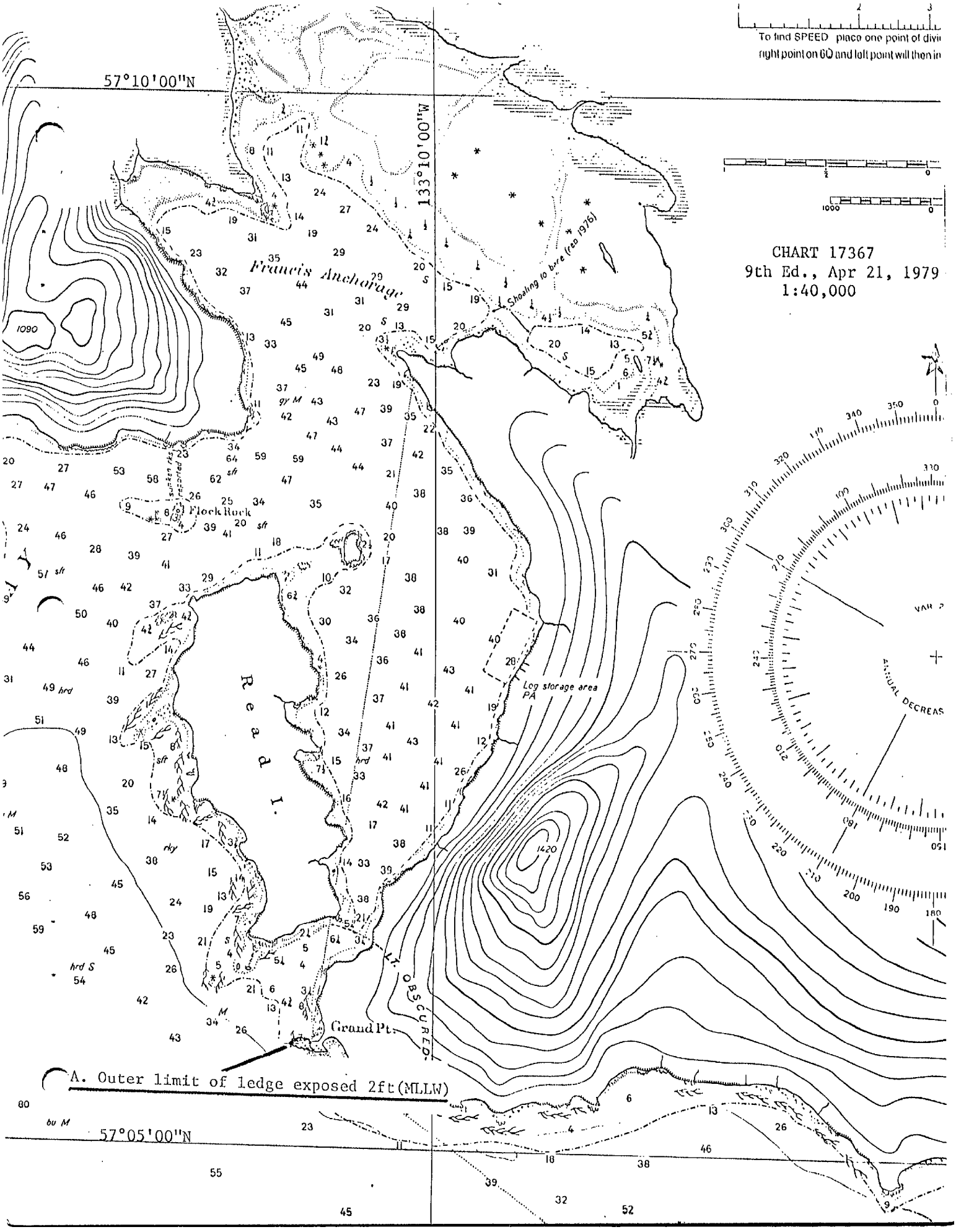
Director, Pacific Marine Center
1801 Fairview Avenue East
Seattle, Washington 98102
(206) 442-7656

Sincerely,

John C. Albright
Captain, NOAA
Commanding Officer

Enclosures

cc:DMAHTC
N/CG222
N/MOP


57°10'00"N
133°10'00"W
57°05'00"N
Francis Anchorage
Shoaling to bare (rep 1976)
Flock Rock
Log storage area
PA
Read I.
Grand Pt.
OBSCURED
1420
1090
CHART 17367
9th Ed., Apr 21, 1979
1:40,000
To find SPEED place one point of divi
right point on 60 and left point will then in
ANNUAL DECREAS
A. Outer limit of ledge exposed 2ft(MLLW)

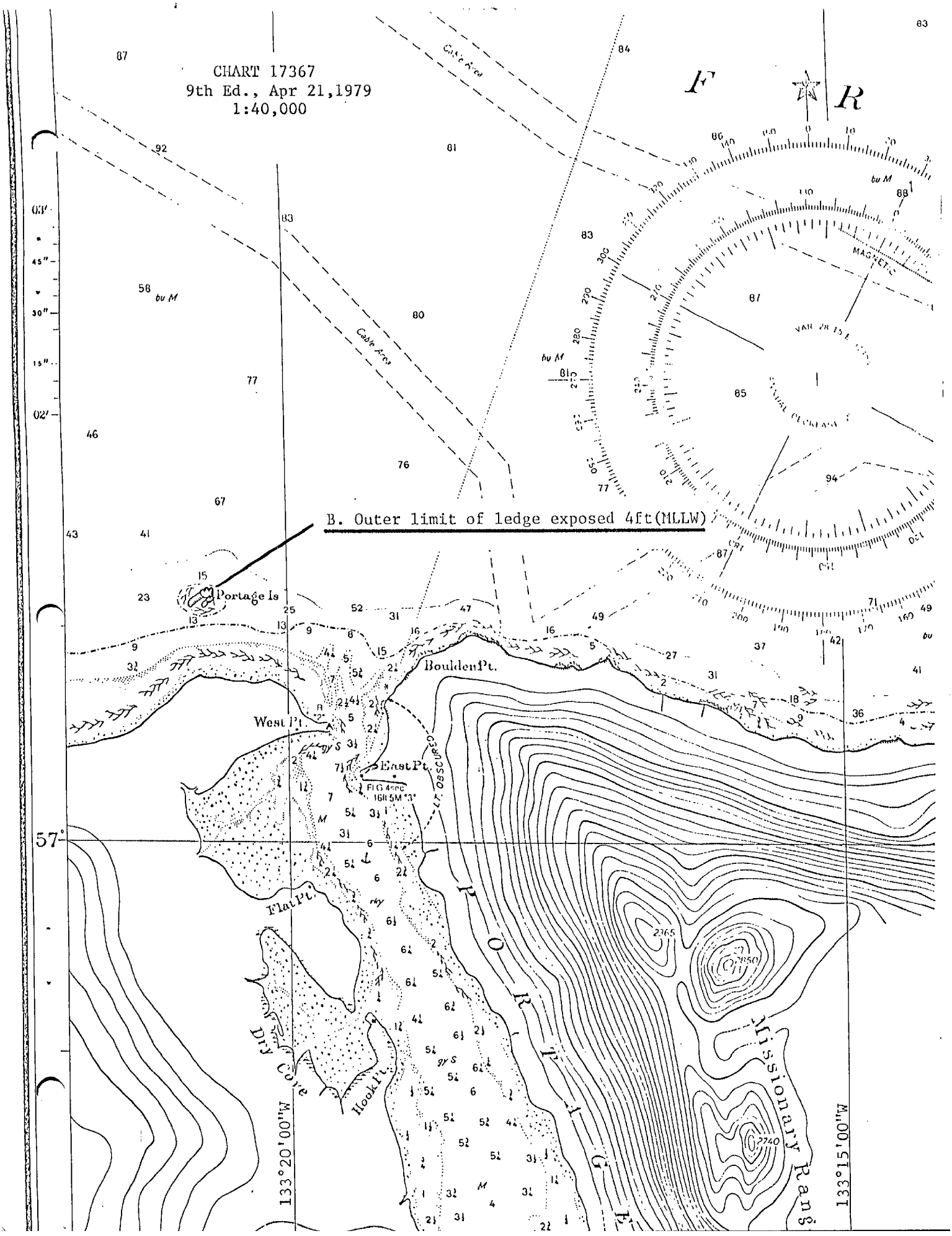


CHART 17367
9th Ed., Apr 21,1979
1:40,000
B. Outer limit of ledge exposed 4ft(MLLW)
Portage Is
Boulden Pt.
West Pt.
East Pt.
Flat Pt.
Dry Cove
Hook Pt.
Missionary Range
133°20'00"W
133°15'00"W
57°

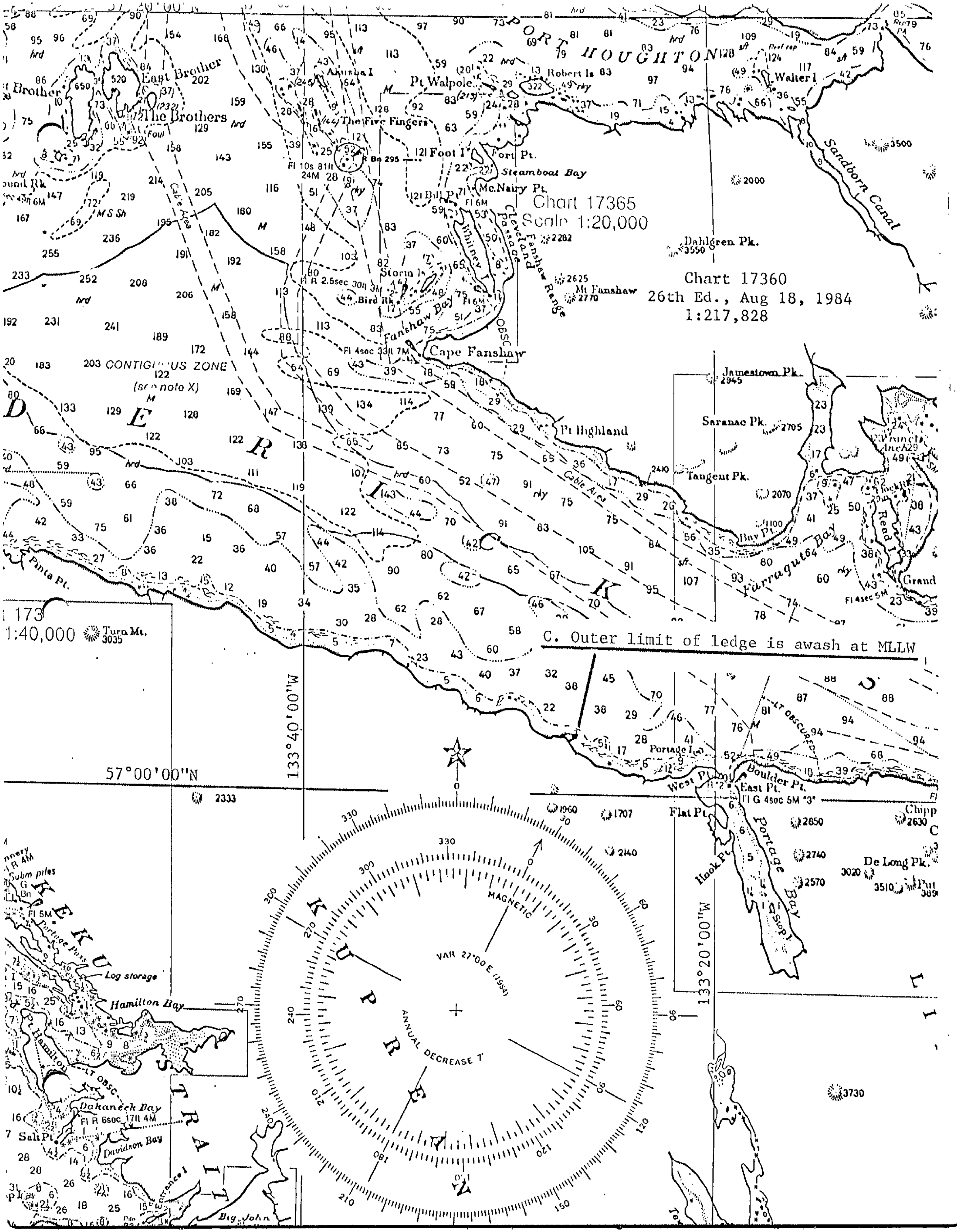


Chart 17365
Scale 1:20,000
Chart 17360
26th Ed., Aug 18, 1984
1:217,828
C. Outer limit of ledge is awash at MLLW
Port Houghton
Robert Is
Walter I
Sandborn Canal
East Brother
The Brothers
Foul
The Five Fingers
Pt Walpole
Foot I
Fort Pt.
Steamboat Bay
McNairy Pt.
Cleveland Passage
Whitney I
Fanshaw Range
Dahlgren Pk.
Mt Fanshaw
Storm Is
Bird Rk
Fanshaw Bay
Cape Fanshaw
CONTIGUOUS ZONE
Cable Area
Jamestown Pk.
Saranac Pk.
Tangent Pk.
Pt Highland
Bay Pt.
Farragut Bay
Read I
Grand
Pinta Pt.
Turn Mt.
1:40,000
57°00'00"N
133°40'00"W
133°20'00"W
Portage I
West Pt.
East Pt.
Boulder Pt.
Flat Pt.
Hook Pt.
Portage Bay
De Long Pk.
Hamilton Bay
Log storage
Dakaneek Bay
Davidson Bay
Salt Pt.
Big John
KEKU STRAIT
MAGNETIC
VAR 27°00'E (1984)
ANNUAL DECREASE 7'

JCA

PTTUZYUW RUHPTEF0000 0000000-UUUU--RUHPSUU.
ZNR UUUUU
FM NOAAS RAINIER
TO CCGDSEVENTEEN JUNEAU AK
INFO NOAAMOP SEATTLE WA
DMAHTC WASHINGTON DC //NVS//
ACCT CM-VCAA
BT
UNCLAS
REQUEST THE FOLLOWING BE PUBLISHED IN THE LOCAL NOTICE TO MARINERS FOR THE SEVENTEENTH COAST GUARD DISTRICT:
//NOAA SHIP RAINIER OF THE NATIONAL OCEAN SERVICE HAS CONDUCTED 1988 CHARTING OPERATIONS IN FREDERICK SOUND. THE FOLLOWING DANGERS TO NAVIGATION HAVE BEEN FOUND. DEPTHS ARE REDUCED TO MLLW BASED ON PREDICTED TIDES AND POSITIONS ARE BASED ON NAD27 DATUM.

A. LEDGE EXPOSED 2.0 FEET AT 57/05/29.0N 133/11/15.7W (H-10269)
B. LEDGE EXPOSED 4.0 FEET AT 57/01/11.5N 133/20/40.2W (H-10272)
C. LEDGE AWASH AT 57/01/30.7N 133/26/56.1W (H-10272)

THE FOLLOWING NOS CHARTS ARE AFFECTED:
17367 9TH ED APR21/79 1:40000
17360 26TH ED AUG18/84 1:217828
THIS IS ADVANCE INFORMATION SUBJECT TO OFFICE REVIEW.//
A LETTER WITH ATTACHED CHARTLETS IS BEING MAILED TO YOU TO CONFIRM THIS MESSAGE.
BT
#0000

NNNN

APPROVAL SHEET

Descriptive Report to Accompany
Hydrographic Survey
RA-20-3-88
H-10272

Standard procedures were followed in accordance with the Hydrographic Manual, Fourth Edition; the Hydrographic Survey Guidelines; and the PMC OPORDER in producing this survey. The data were examined daily during data acquisition and processing.

The field sheet and accompanying records have been examined by me, are considered complete and adequate for charting purposes, and are approved.

John C. Albright
Captain, NOAA
Commanding Officer

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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: September 7, 1988

MARINE CENTER: Pacific

OPR: 0358

HYDROGRAPHIC SHEET: H-10272

LOCALITY: Northwest of Boulder Point, Frederick Sound, AK

TIME PERIOD: May 8 - 19, 1988

TIDE STATION(S) USED: 945-1558 Cape Strait, AK

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 5.33 ft.

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 14.5 ft.

REMARKS: RECOMMENDED ZONING

1. Zone Direct

for Joseph V. Mulhi

CHIEF, TIDAL DATUM QUALITY
ASSURANCE SECTION

NOAA FORM 76-155
(11-72)

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

SURVEY NUMBER

H-10272

GEOGRAPHIC NAMES

Name on Survey	A ON CHART NO. 17367	B ON PREVIOUS SURVEY NO. 17360	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
BAY POINT										2
BOULDER POINT										3
CAT CREEK										4
EAST POINT										5
FREDERICK SOUND										6
HIGHLAND, POINT										7
KUPREANOF ISLAND										8
PORTAGE BAY										9
PORTAGE ISLANDS										10
WEST POINT										11
										12
										13
										14
										15
										16
				Approved:						17
										18
				Charles E. Harrington						19
				Chief Geographer-N/CG2x5						20
				OCT 7 1988						21
										22
										23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

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

U.S. DEPARTMENT OF COMMERCE

HYDROGRAPHIC SURVEY STATISTICS

REGISTRY NUMBER: H-10272

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	SMOOTH OVERLAYS: POS., ARC, EXCESS	7 ea
DESCRIPTIVE REPORT	1	FIELD SHEETS AND OTHER OVERLAYS	3 ea

DESCRIPTION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR-GRAMS	PRINTOUTS	ABSTRACTS/ SOURCE DOCUMENTS	
ACCORDION FILES	2					
ENVELOPES						
VOLUMES	1					
CAHIERS						
BOXES						

SHORELINE DATA

SHORELINE MAPS (List):

PHOTOBATHYMETRIC MAPS (List):

NOTES TO THE HYDROGRAPHER (List):

SPECIAL REPORTS (List):

NAUTICAL CHARTS (List): 17360 & 17367

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			2411
POSITIONS REVISED	18		18
SOUNDINGS REVISED	91		91
CONTROL STATIONS REVISED			
	TIME-HOURS		
	VERIFICATION	*EVALUATION*	*TOTALS*
PRE-PROCESSING EXAMINATION			
VERIFICATION OF CONTROL			
VERIFICATION OF POSITIONS	80.5		80.5
VERIFICATION OF SOUNDINGS	161		161
VERIFICATION OF JUNCTIONS			
APPLICATION OF PHOTOBATHYMETRY			
SHORELINE APPLICATION/VERIFICATION			
COMPILATION OF SMOOTH SHEET	96		96
COMPARISON WITH PRIOR SURVEYS AND CHARTS		11	11
EVALUATION OF SIDE SCAN SONAR RECORDS			
EVALUATION OF WIRE DRAGS AND SWEEPS			
EVALUATION REPORT		42	42
GEOGRAPHIC NAMES			
OTHER* Digitization			
*USE OTHER SIDE OF FORM FOR REMARKS — TOTALS	337.5	53	

Pre-processing Examination by J. Stringham	*Beginning Date*	*Ending Date*
Verification of Field Data by M. Sanders	*Time (Hours)* 337.5	*Ending Date* 1/18/89
Verification Check by J. Stringham, B. Olmstead	*Time (Hours)* 60	*Ending Date* 12/14/88
Evaluation and Analysis by I. Almacen	*Time (Hours)* 53	*Ending Date* 1/23/89
Inspection by D. Hill	*Time (Hours)* 4	*Ending Date* 1/25/89

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

PACIFIC MARINE CENTER
Evaluation Report
H-10272

1. INTRODUCTION

Survey H-10272 is a navigable area survey accomplished by the NOAA Ship RAINIER under the following Project Instructions.

OPR-0358-RA-88, dated January 29, 1987
CHANGE NO. 1, dated February 27, 1987
CHANGE NO. 2, dated September 22, 1987
CHANGE NO. 3, dated March 8, 1988

This survey occurred in Alaska and covers the portion of Frederick Sound from Boulder Point to Point Highland. The survey extends across the northern and southern shores of the sound from longitude 133°18'00"W to longitude 133°30'00"W. The northern coast is generally steep and rocky. The southern shore is also rocky but low and gently sloping. The bottom consists of mud, sand and gravel with patches of kelp along the coast. Depths range from 0 to 112 fathoms.

Predicted tides for Juneau, Alaska, were used for the reduction of soundings during field processing. Approved hourly heights zoned from Cape Strait, Frederick Sound, Alaska, gage 945-1559, 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. The TRA, sound velocity and electronic control correctors are adequate. 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-0358-RA-88 contain adequate discussions of horizontal control and hydrographic positioning.

Positions of horizontal control stations used during hydrography are published and 1988 field values based on NAD 27. The computation of positions accomplished during office processing used these same values. 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: +1.224 seconds (+37.9 meters)
longitude: -6.226 seconds (-104.8 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.

There are 46 weak fixes (angles of intersection less than 30 degrees or more than 150 degrees) noted on 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.

There are no shoreline maps applicable to this survey. Shoreline depicted on the smooth sheet originates with chart 17367, 9th edition, USGS topographic map, SUMDUM (A-5), 1948, and blueprint 131992. The shoreline is shown in brown and is to be used for orientation only.

The disposition of the three islets at latitude 57°01'36"N, longitude 133°27'36"W and the rock at latitude 57°00'48"N, longitude 133°25'11"W, depicted on the USGS topographic map, is adequately discussed in section H of the hydrographer's report.

3. HYDROGRAPHY

With the exceptions noted in this report, 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.

5. JUNCTIONS

Survey H-10272 junctions with the following surveys.

Survey	Year	Scale	Area
H-10269	1988	1:20,000	East
H-10288	1988	1:20,000	West

The junction with survey H-10269 is complete. Some soundings have been transferred to H-10272 to better portray the bottom configuration and justify depth curves within the adjoining area.

H-10288 (1988) junctions to the west of this survey. Office processing of H-10288 had not started at the time of this report. The junction will be addressed in the Evaluation Report for that survey.

There are no contemporary junction surveys at the entrances to Farragut Bay and Portage Bay. Comparison with charted depths within the adjoining areas reveals satisfactory agreement with the present survey.

6. COMPARISON WITH PRIOR SURVEYS

H-1804(1887) 1:80,000
H-1806(1887) 1:80,000

Surveys H-1804 and H-1806 cover the area of this present survey. Taking into consideration the differences in the scales of the surveys and the methods of surveying, comparison with these prior surveys is satisfactory. No significant discrepancies were found between the present and the 1887 surveys.

H-1812(1887) 1:20,000
H-1813(1887) 1:10,000

These surveys cover the area around the entrances to Portage Bay and Farragut Bay. The present soundings in these areas agree well with these prior surveys.

Survey H-10272 is adequate to supersede prior surveys H-1804, H-1806, H-1812 and H-1813 within the common area.

H-3992(1917)WD 1:20,000

The wire drag survey H-3992 covers the area of the present survey. The comparison with effective depths obtained during this 1917 survey indicates no conflicts with contemporary data.

The following AWOIS items originate with the prior survey H-3992WD: 51189, 51190. These items are adequately discussed in section K of the hydrographer's report.

T-3689(1917) 1:20,000
T-3690(1917) 1:20,000

The two rocks charted west of Point Highland centered at latitude 57°09'24"N, longitude 133°28'24"W and originating from T-3690 were partially verified during this survey. The investigation was completed during survey H-10288. These rocks should be retained as charted until the results of the completed investigation are available.

The rock charted along the western limit of the survey at latitude 57°02'30"N, longitude 133°30'00"W and originating from T-3690 was investigated on survey H-10288. This rock should be retained as charted until the results of the investigation on survey H-10288 are available.

The charted pile originating from T-3689 at latitude 57°00'39.0"N, longitude 133°23'35.0"W and described as an apparent islet in the hydrographer's report was not adequately investigated during this survey. This feature was carried forward to the smooth sheet as a submerged pile.

The islet on T-3689 at latitude 57°06'39"N, longitude 133°19'06"W was confirmed on this survey by a single detached position. Since the islet is sufficiently large as to take a shape at survey scale, it has been brought forward from T-3689 to the smooth sheet in orange.

The rock depicted on the 1917 shoreline map T-3690 at latitude 57°08'10"N, longitude 133°24'20"W was neither verified nor disproven and therefore, was carried forward to the present survey.

With the exception of the items mentioned above, the features originating from these 1917 shoreline maps are adequately supported by the latest information from survey H-10272 and are superseded accordingly.

7. COMPARISON WITH CHART

Chart 17360, 26th Edition, dated August 18, 1978; scale 1:217,828.

Chart 17367, 9th Edition, dated April 21, 1979; scale 1:40,000.

a. Hydrography

Charted information originates with surveys H-1804, H-1806, H-1812, H-1813, H-3992WD, T-3689, T-3690 and other miscellaneous sources. Comparison with charted hydrography is satisfactory. Further information concerning charted features is contained in section L of the hydrographer's report.

The cable areas located along the northern coast and the middle of the sound were not specifically investigated during this survey and should be retained as charted.

With the exception of those items discussed in the preceding section of this report, survey H-10272 is adequate to supersede charted hydrography within the common area.

b. AWOIS

AWOIS Item 51197 is a visible wreck reported by USC&GS Ship PATTON in 1960. This item is adequately discussed in section K 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

Portage Bay Light 3 and Portage Bay Daybeacon 2 are located within the survey area, however, the present condition of these two fixed aids was not determined during this survey. There are no floating aids located within the limits 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 to the USCG and N/CG222 two items considered to be dangers to navigation that fall within the limits of this survey. Copies of the message and report are attached. No additional dangers were discovered during office processing.

8. COMPLIANCE WITH INSTRUCTIONS

Survey H-10272 adequately complies with the Project Instructions.

9. ADDITIONAL FIELD WORK

This is a good navigable area survey. H-10272 was accepted for processing as a complete survey. No additional field work is required. The planned coverage of Sheet D on OPR-0358 Sheet Layout was not accomplished. A revised sheet layout, dated August 1, 1988, reflecting changes in the area of coverage for sheets D and E has been approved by N/CG241 for this project.

for

Isagani A. Almacen
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-10272. This survey meets or exceeds Charting and Geodetic Services' standards for products in support of nautical charting.

1/25/89

Chief, Nautical Chart Branch (Date)

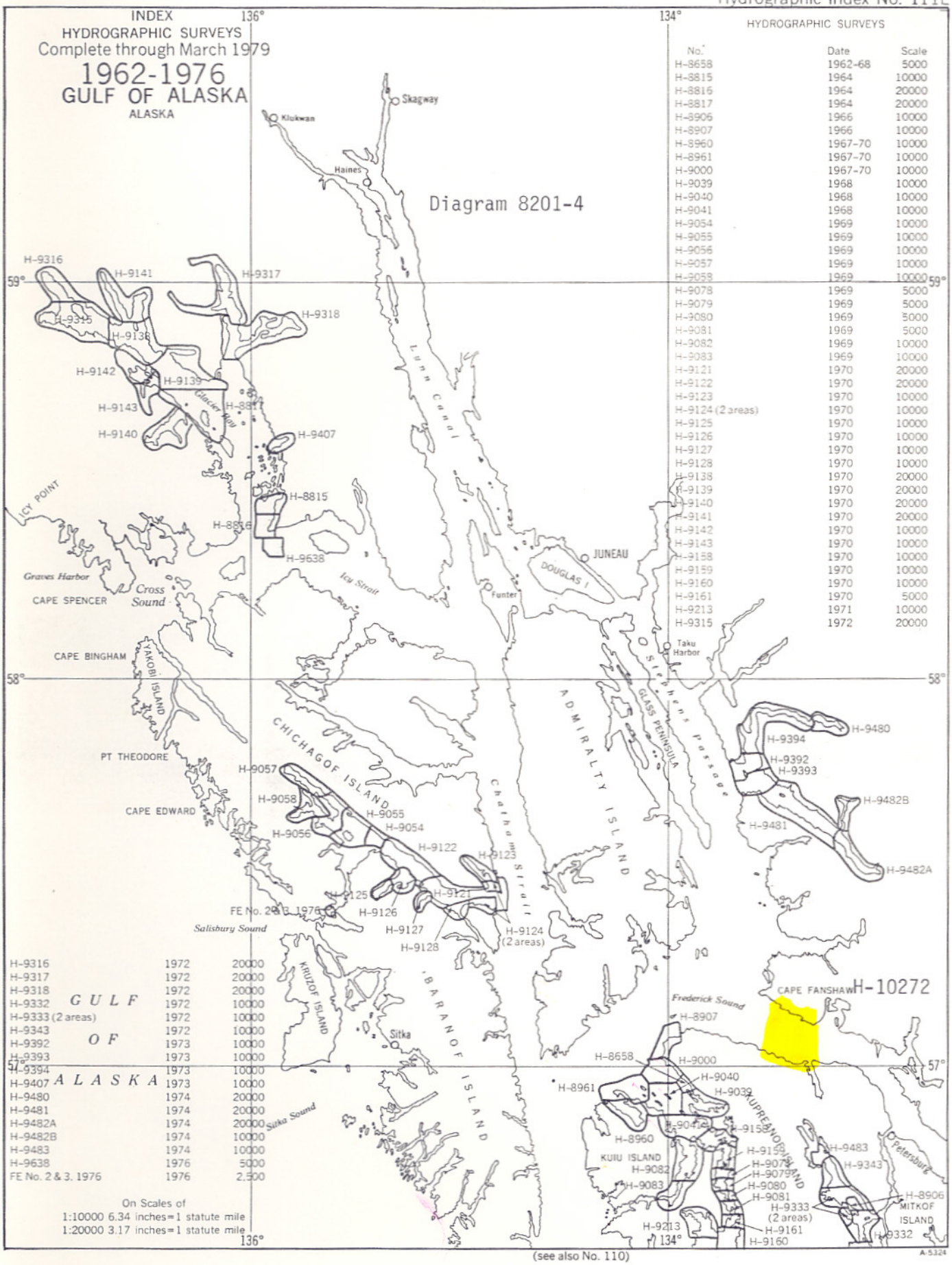
After review of the smooth sheet and accompanying reports, I hereby certify this survey is accurate, complete, and meets appropriate standards.

Sigmund R. Petersen 1-25-89

Director, Pacific Marine Center (Date)

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

Hydrographic Index No. 111E



HYDROGRAPHIC SURVEYS

No.	Date	Scale
H-8658	1962-68	5000
H-8815	1964	10000
H-8816	1964	20000
H-8817	1964	20000
H-8906	1966	10000
H-8907	1966	10000
H-8960	1967-70	10000
H-8961	1967-70	10000
H-9000	1967-70	10000
H-9039	1968	10000
H-9040	1968	10000
H-9041	1968	10000
H-9054	1969	10000
H-9055	1969	10000
H-9056	1969	10000
H-9057	1969	10000
H-9058	1969	10000
H-9078	1969	5000
H-9079	1969	5000
H-9080	1969	5000
H-9081	1969	5000
H-9082	1969	10000
H-9083	1969	10000
H-9121	1970	20000
H-9122	1970	20000
H-9123	1970	10000
H-9124 (2 areas)	1970	10000
H-9125	1970	10000
H-9126	1970	10000
H-9127	1970	10000
H-9128	1970	10000
H-9138	1970	20000
H-9139	1970	20000
H-9140	1970	20000
H-9141	1970	20000
H-9142	1970	10000
H-9143	1970	10000
H-9158	1970	10000
H-9159	1970	10000
H-9160	1970	10000
H-9161	1970	5000
H-9213	1971	10000
H-9315	1972	20000
H-9316	1972	20000
H-9317	1972	20000
H-9318	1972	10000
H-9332	1972	10000
H-9333 (2 areas)	1972	10000
H-9343	1973	10000
H-9392	1973	10000
H-9393	1973	10000
H-9394	1973	10000
H-9407	1973	10000
H-9480	1974	20000
H-9481	1974	20000
H-9482A	1974	20000
H-9482B	1974	10000
H-9483	1974	10000
H-9638	1976	5000
FE No. 2 & 3. 1976	1976	2,500

(see also No. 110)

NOAA FORM 75-96
(10-83)

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

MARINE CHART BRANCH

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10272

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
~~[illegible]~~			Full ~~Part Before~~ After Marine Center Approval Signed Via full application of
17367	08/16/89	[illegible]	Drawing No. sndgs. from SS.
17360	12/21/89	[illegible]	Full ~~Part Before~~ After Marine Center Approval Signed Via full application of
			Drawing No. Sndgs from SS
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
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SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED