10265

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-20-1-88

Registery No. H-10265

LOCALITY

State Alaska

General Locality Frederick Sound

Sublocality Point Agassiz to Cape Strait

19 88

CHIEF OF PARTY
CAPT J.C. Albright

LIBRARY & ARCHIVES

DATE April 21, 1989

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

10265

CP
CHT
17367 } CARTOG SIGN OFF ON FORM IN BACK
17360

NOAA FORM 77-28 (11-72)

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

HYDROGRAPHIC TITLE SHEET

REGISTER NO.

H-10265

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 20-1-88

State Alaska

General locality Frederick Sound

Locality Point Agassiz to Cape Strait

Scale 1:20,000 Date of survey April 11 to May 6, 1988

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

Vessel NOAA Ship RAINIER (2120), Launches (2123), (2124) and (2126)

Chief of party CAPT John C. Albright, NOAA

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, Pneumatic Gage (Dives)

Graphic record scaled by RAINIER Personnel

Graphic record checked by RAINIER Personnel

Verification by: ~~Processed by~~ Matthew Sanders Automated plot by PMC Xynetics Plotter

Evaluation by: ~~Verification~~ Gordon E. Kay

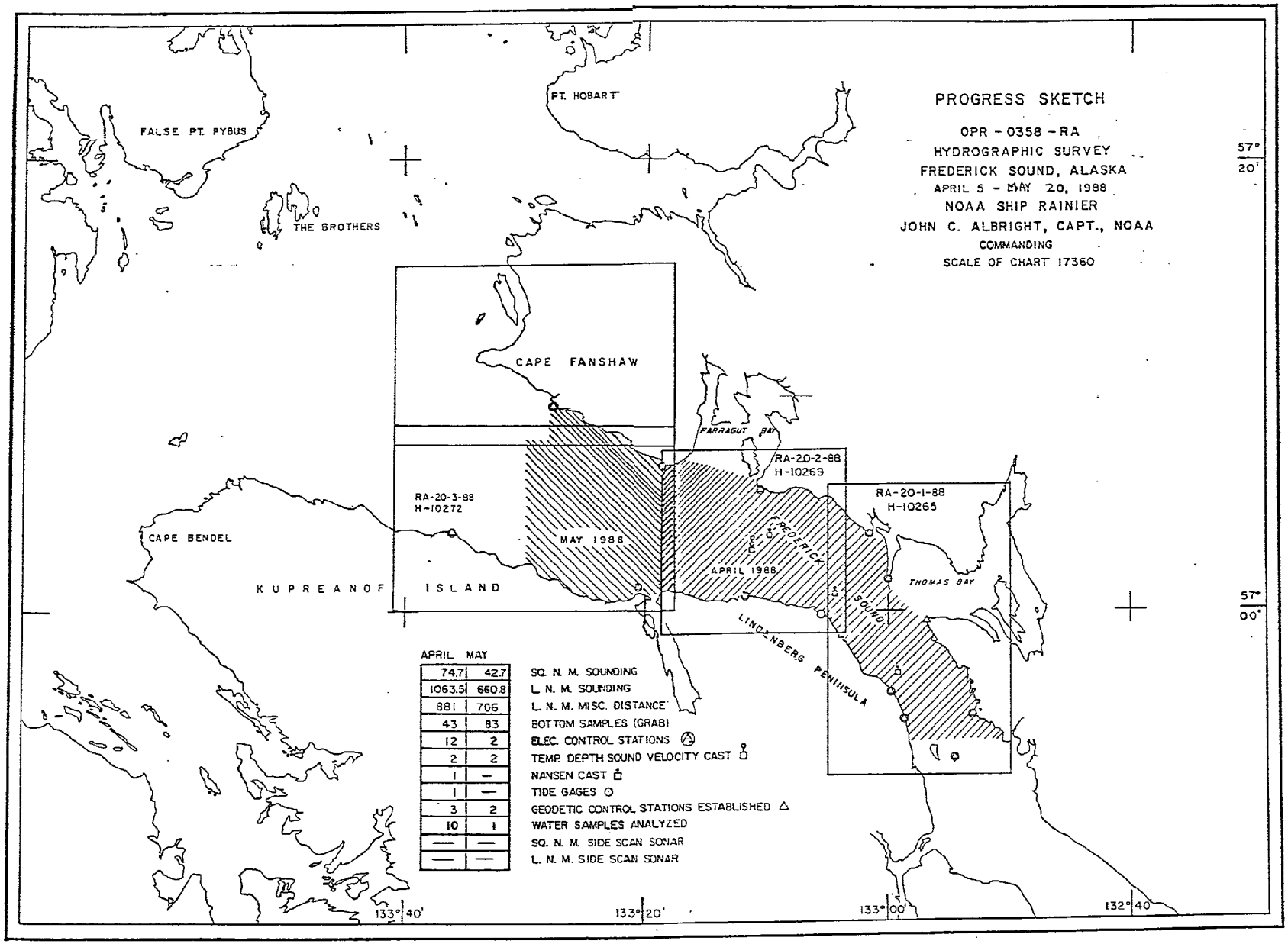
Soundings in fathoms ~~feet~~ at ~~MLW~~ MLLW and tenths of Fathoms

REMARKS: All times are UTC. Revisions and marginal notes in black were generated during office processing. All separates are filed with the hydrographic data, as a result page numbering may be interrupted or non-sequential.

Depths described in feet contained in section K have not been revised. Refer to corrected fathom values.

3-21-97 ✓ AWOIS and SURF 5/89 RWD

☆ 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
FARRAGUT BAY
RA-20-2-88
H-10269
RA-20-3-88
H-10272
RA-20-1-88
H-10265
CAPE BENDEL
MAY 1988
APRIL 1988
KUPREANOF ISLAND
FREDERICK SOUND
THOMAS BAY
LINDENBERG PENINSULA
57° 20'
57° 00'
133° 40'
133° 20'
133° 00'
132° 40'
APRIL MAY
74.7 42.7 SQ. N. M. SOUNDING
1063.5 660.8 L. N. M. SOUNDING
881 706 L. N. M. MISC. DISTANCE
43 83 BOTTOM SAMPLES (GRAB)
12 2 ELEC. CONTROL STATIONS
2 2 TEMP. DEPTH SOUND VELOCITY CAST
1 — NANSEN CAST
1 — TIDE GAGES
3 2 GEODETIC CONTROL STATIONS ESTABLISHED
10 1 WATER SAMPLES ANALYZED
— — SQ. N. M. SIDE SCAN SONAR
— — L. N. M. SIDE SCAN SONAR

Descriptive Report to Accompany Hydrographic Survey H-10265

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

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

A. Project

A basic hydrographic survey using the navigable area concept was completed in the eastern portion of Frederick Sound, Alaska, as specified by Project Instructions OPR-O358-RA, dated January 29, 1987, Change Number 1, dated February 27, 1987, Change Number 2, dated September 22, 1987, and Change Number 3, dated March 8, 1988.

This survey was one of a series to 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.

The survey is designated sheet B on the revised sheet layout dated February 18, 1988. The field number is RA-20-1-88 and the registry number is H-10265.

B. Area Surveyed

The survey was located in the eastern portion of Frederick Sound, Alaska. The survey area is bounded on the south by a line one-half mile north of the Sukoi Islets, latitude 56°54'14"N, and on the north by the Alaska mainland and a line running across the entrance to Thomas Bay from southeast of Wood Point to Point Vandeput. It is bounded on the east by the Alaska mainland and on the west by the Lindenberg Peninsula on Kupreanof Island and a line just east of Cape Strait, longitude 133°04'45"W. The shoreline in this portion of Frederick Sound is steep with rocks and rock outcrops, except in the vicinity of Thomas Bay and the spit of Point Vandeput where it is sandy with embedded rocks and boulders. In this area, the bottom slopes gently away from shore several hundred yards before dropping off sharply.

The bottom throughout the survey area was found to be deep and steeply sloping, with the exceptions of the mud flats southeast of the entrance to Thomas Bay. These mud flats are only visible at or near low tide and extend as much as four hundred yards into the Sound from Wood Point. They are a hazard for vessels

entering or exiting Thomas Bay. A reef and shoal are also present northwest of the entrance to Thomas Bay. They extend from Point Vandeput to the western limit of the marked channel to Thomas Bay. Shoals and rocks visible only at low tide are present from Wood Point south to Point Agassiz.

Data acquisition was conducted from April 11 through May 6 1988 (DN 102 - DN 127).

C. Sounding Vessels

All data were acquired from the ship and three automated survey launches.

Sounding Vessels

Vessel	EDP No.	Operation
RAINIER	2120	Bottom samples, Nansen cast Plessy casts
RA-3	2123	R/R
RA-4	2124	R/R
RA-6	2126	R/R Shoreline Verification

No changes to the standard sounding configurations were necessary.

D. Sounding Equipment and Corrections to Echo Soundings

All automated survey launches were equipped with Raytheon DSF-6000N echo sounders. The echo sounders were operated in the HIGH + LOW (HIGH DIGITIZED) function, using manual 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. All DSF-6000 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 day 102 S/N A114N in vessel 2124 malfunctioned and was replaced with S/N A103N starting with fix number 4036. S/N A114N was replaced in vessel 2124 on day 112. On day 119 S/N B046N in vessel 2123 was replaced with A103N due to excessive noise on the analog trace while sounding at high speeds. See the Corrections to Echo Sounding Report, OPR-0358-RA-88 for more discussion on echo sounder performance.

While running over extremely steep, irregular bottoms, the echo sounders failed to track properly at times. Running at minimum speeds usually alleviated this problem, but marginal analog traces could sometimes not be avoided.

Raytheon DSF-6000N Echo Sounders

Vessel	Serial Number	Day Numbers
2120	A114N	119
2123	B046N	102-114
	A103N	119-127
2124	A114N	102
	A103N	102-111
	A114N	112-119
2126	A119N	102-119

Least depths were sometimes obtained by divers 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). Systems checks of the pneumatic gage were performed before each dive.

Corrections to Echo Soundings

Corrections to echo soundings were determined for heave, draft, velocity of sound through water, settlement and squat, and tides. These correctors are eventually to be applied to all echo soundings. However, in plotting the final field sheet, the determined correctors were applied for heave, velocity, and draft only. Settlement and squat correctors were not applied. Predicted tide correctors were used in lieu of field-determined correctors, and the field tide records have been forwarded to N/OMA121, in accordance with Hydrographic Survey Guideline #50 and the PMC OPORDER. 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 scanning technique used in comparing the analog trace with the digital record was chosen to eliminate fluctuations greater than 0.2 fathoms resulting from sea action.

Draft

Transducer depths of 0.3 fathom were measured for all four 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, midships, in a location such that all sounding corrections apply to both the low- and high-frequency echo-sounder signals.

Velocity Correctors

Velocity of sound through water and the associated corrections to echo soundings were determined by two sound velocity casts using a Plessey Sound Velocity Sensor (S/N 5652 coupled to a Hewlett Packard 5326B Universal Frequency Counter (S/N 1312A02159). The velocity sensor was calibrated at Northwest Regional Calibration Center (NRCC) in Bellevue, Washington on April 4, 1988.

On day 105 a Plessy cast (cast #1) was performed to a depth of 140 meters in the deepest water of the survey area. On day 115 another Plessy cast was conducted (cast #2) to a depth of 225 meters in the deep water immediately northwest of the survey area (within the limits of sheet RA-20-2-88). On day 101 a Nansen cast was performed within the survey area as a check on the Plessy SVD sensor. There was excellent agreement between the Nansen and Plessy cast #1. The velocity correctors used for this survey were determined by taking a mean of the results from the two Plessy casts. Velocity tape number 1, as listed in *~~Appendix IV~~, was used on the final field sheet for this survey and was used to reduce soundings during office processing

* has been filed with the field records.

Velocity Cast Locations

Cast No.	Deepest Depth (m)	Day Number	Geographic Position
N	130	101	56°57.2'N, 132°59.7'W
1	140	105	57°00.9'N, 133°04.3'W
2	225	115	57°03.5'N, 133°10.0'W

N=Nansen cast

The Plessy and Nansen casts provide data only at discreet, preselected depths, rather than continuously throughout the water column. Therefore, the method used to compute velocity correctors is similar to that outlined in the Hydrographic Manual Fourth Edition as Example 2 on page 4-77. All supporting data of the Plessy and Nansen casts can be found in the Corrections to Echo Sounding Report for OPR-0358-RA-88.

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 the settlement and squat tests 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 sea and wind were calm. Observations were made through a Zeiss Ni2 leveling instrument (S/N 87102) to a rod held vertically on 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 tide height differences were normalized to the tide height of the dead-in-the-water level readings.

Soundings on the final field sheet are not corrected for settlement and squat. TC/TI tapes for each automated sounding vessel have been prepared and submitted with this survey. Records of settlement and squat data are included in the Corrections to Echo Sounding Report for OPR-0358-RA-88.

Tide Correctors

Tide correctors for this survey were provided on a chartlet accompanying the Project Instructions. There were two corrector zones within the survey area. However, to aid in the logistics of acquiring and processing data, only one set of correctors was used. The difference between corrector zones is small. The correctors apply to predicted tides for Juneau, Alaska (945-2210).

A tide station was established at Cape Strait (945-1559). A request for approved tides ~~has been filed (Appendix IX),~~ has been filed with the Field Records.

Tide Correctors

Applicable Area	Time Correction High Water	Time Correction Low Water	Height Ratio
northwest area *	- 15 min	- 10 min	x0.95
southeast area	- 15 min	- 10 min	x0.98

* these correctors were applied to all soundings

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 final field sheet, a 1:20,000-scale projection, was plotted on one plotter sheet designated RA-20-1-88. Two expansion sheets were plotted at 1:10,000-scale for development where line spacing was less than 100 meters.

Expansion Sheet Limits

Sheet	Survey Area	Boundaries
Expansion #1	AWOIS 51181-51186 (25m splits)	North - 57°00'04"N South - 56°59'00"N East - 132°57'33"W West - 132°59'18"W

Expansion #2	Uncharted Shoal (50m splits)	North - 57°02'56"N South - 57°01'18"N East - 133°01'48"W West - 133°04'48"W

Depth ~~contours~~ CURVES were drawn on the final field sheet in accordance with the Hydrographic Manual. In areas of extremely steep bathymetry, not all prescribed ~~contours~~ could be portrayed and still retain legibility.

CURVES

Depth ~~Contours~~ CURVES on Final Field Sheet

Depth ~~Contour~~ Curves (fm)	Color
0	Orange
1	Green
2	Red
3	Blue
5	Red
10	Orange
20	Blue
30	Violet
40	Green
50	Red

Several areas immediately seaward of the western shore may appear to have small gaps between the mainscheme and shoreline soundings. These areas have been surveyed. The plotter pen was lifted in such areas to retain legibility on the final field sheet. THE SMOOTH SHEET DISPLAYS ALL SIGNIFICANT DEPTHS.

The final field sheets, expansion sheets, and accompanying field records, along with this Descriptive Report, are being forwarded to the Pacific Marine Center (N/MOP21) for ~~verification.~~ OFFICE PROCESSING

F. Control Stations

ELEVEN geodetic stations were used to control this survey. Positions for AG, BRIDGE, CATCH 2, FOX, NEW, NOON, SAND, SOUTH GRAND, and SQUARE are from the NGS data base. CAPE STRAIT LIGHTHOUSE was positioned during this survey and a new unadjusted field position was computed for it. The NGS published position for WAVE 2 was found to be in error because check angles obtained from three different stations during recovery were not in agreement by up to 14 seconds. A new unadjusted field position was computed for it. The positioning of WOOD 2 was in response to a request from the U.S. Coast Guard. WOOD 2 was not used for position control during this survey.

Horizontal Control Stations

Station	Order, Class	Date Established	Signal No.
AG	3,I	1917	132

	BRIDGE	1,I	1917	145
	CAPE STRAIT			
@	LIGHTHOUSE	3,I	1988	133
	CATCH 2	1,I	1917	142
	FOX	1,I	1917	134
	NEW	1,I	1917	106
	NOON	1,I	1917	136
	SOUTH GRAND	1,I	1917	144
	SAND	3,I	1917	141
	SQUARE	1,I	1917	138
	WAVE 2	3,I	1988	139
	WOOD 2	3,I	1988	*

* Not used for hydrographic control

@ Cape Strait Lighthouse was found to be in Error. A new readjusted Position has been determined. See attached 76-40.

CAPE STRAIT LIGHTHOUSE was located by an open traverse from SQUARE with auxiliary check angles from WOOD 2 and WAVE 2. WOOD 2 was located by a closed traverse from SQUARE to WOOD 2 to SAND. WAVE 2 was located by triangulation from SAND and NOON.

All stations met Third-order, Class I standards for positioning. Further information can be found in the 1988 Horizontal Control Report, OPR-O358-RA-88.

Geographic positions were based on the North American Datum of 1927 and Clark Ellipsoid of 1866.

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

Five Mini-Ranger console-R/T pairs and nine shore transponders were used during the project. The following table chronologically summarizes the vessel and console-R/T pair configurations used on this survey.

Mobile equipment configuration

Day Numbers	Vessel EDP No.	Vessel Name	Console-R/T Serial No.
102-114	2123	RA-3	720/B1405
126	2123	RA-3	711/B1405
102-113	2124	RA-4	30269/B1388
103	2126	RA-6	711/C1712

The table below lists the shore transponder serial numbers.

Shore equipment

Transponder Serial Number	Code
G3510	A
E2868	B
G3500	C
F3256	E
G3501	F
B1412	0
C1883	1
B1106	2
911635	3

Baseline Calibrations

Baseline calibrations were conducted in accordance with PMC OPORDER 3.3. Three baselines over water were used during the project. The first baseline was 1312 meters, the second was 1446 meters, and the third was 1626 meters (see table below). Calibration results and descriptions of the baselines can be found in the 1988 Electronic Control Report OPR-0358-RA-~~88~~.

Calibration Sites

Location	Distance	Description
Seattle, WA	1312 m	Sandpoint pier to Matthews Beach
Farragut Bay, AK	1446 m	Read Island to mainland Alaska
Kodiak, AK	1626 m	Bell Flats Hwy to NOS Tidal BM

The opening baseline correctors are the final correctors because the closing correctors did not differ by more than six meters from the opening correctors. All baseline calibration data are presented in Electronic Control Report OPR-0358-RA-~~88~~. the 1988

System Check Procedures

System checks were conducted in accordance with PMC OPORDER 3.3. Critical checks were made at least weekly and noncritical checks were made daily if critical checks were not acquired.

Fixed point observations were made for critical system checks . Fixed point observations were conducted at stations NEW (106), NOON (136), AG (132), SAND (141), and CATCH 2 (142).

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

The receiver/transponder (R/T) unit C1712 was paired with console 711 and assigned to launch RA-6 after the opening calibration in Seattle. On DN 104, this R/T failed to receive signals, and the previously calibrated pair from launch RA-5 (715/911102) were placed in RA-6. Fixed point critical system checks confirmed the validity of the opening calibration after the transfer. No data were collected by RA-5 before the Mini-Ranger unit was switched, and only one day of data was acquired by RA-6 using 711/C1712 (DN 103).

The R/T unit B1405 on launch RA-3 failed on DN 124. The R/T was repaired and calibrated on DN 125 with console 711 for codes A, B, 1, and 3, and subsequently used for hydrography on DN 126 of this survey.

Null zones and erratic ranges were occasionally experienced due to the destructive interference of direct and reflected rf waves. This problem was reduced significantly by raising the transponders above many of the stations to twenty feet using two ten-foot Raydist tower sections. In addition, the launch antennae were given four-foot extensions useful in increasing the line-of-sight range as well as decreasing the amount of microwave reflection received at the launch. Small errors in position of ten to thirty meters observed on both the automated plotter and the steering needle as the launches neared null zones were rejected and replaced with time and course interpolations.

A minimal amount of soundings were acquired with signal strengths one unit below cutoff. Inspection of baseline calibration data shows the associated error to be less than 10 meters, or less than 0.5 millimeter at the scale of the survey. Therefore, no significant degradation of data quality occurred when using signal strengths at one unit below cutoff.

The following table summarizes significant events in the electronic control for the survey.

Summary of Significant Events

DN	Event Description
102	First day of hydro for survey (April 11, 1988)
104	Console-R/T pair 711/C1712 on RA-6 replaced by pair 715/911102 (April 13, 1988).

125 Console-R/T pair 711/B1405 calibrated for RA-3 (May 4, 1988).

127 Last day of hydro for sheet B (May 6, 1988)

Antenna Offset Distances (ANDIST)

ANDIST (antenna offset distance) was 0,0 in all cases; each launch had its antenna located over the depth transducer.

H. Shoreline

With no NOS shoreline maps available, shoreline features on the final field sheet were transferred from 1:20,000-scale enlargements of the following NOS chart and USGS topographic map.

NOS Chart 17367	USGS Topographic Map
Scale 1:40000	Petersburg Quadrangles, Alaska
9th Ed.	Scale 1:63,360
4/21/79	D-3, 1961

Shoreline details were verified by visual inspection from vessel 2126. All shoreline inspection was accomplished at low stages of tide.

In many areas with steeply sloping bedrock or rocky beaches the chart shows ledge symbols. Most of the ledges are outside of the navigable area, however no major discrepancies were found with the ledges as they appear on the chart blowups. Ledges that did extend into the navigable area were treated as rocks with DP's taken on the outer most limits and the inshore area was noted as being foul.

The locations of significant offshore features were recorded as detached positions on raw data printouts. Cartographic codes were assigned in the field records.

Shoreline details and features were transferred to the field sheet in brown, with additions shown in black. Detached positions were plotted on the final field sheet with their four-digit position numbers. Heights are given in feet and have been corrected for predicted tides. Heights given for rocks and islets refer to the highest portion of each feature.

Check fixes were acquired for over 90% of the shoreline features. A check rate was not available on the remaining features.

Two rocks which appear on the final field sheet north of Point Vandeput were not addressed because they were inaccessible and outside of the navigable area. These rocks are plotted in brown. THESE ROCKS ARE OUTSIDE THE LIMITS OF THE NAS AND ARE NOT SHOWN ON THE SMOOTH SHEET.

Four rocks which did not appear on the source documents were designated as Dangers to Navigation (Section L).

I. Crosslines

A total of 28.0 nautical miles of crosslines were run, representing 9.4% of the mainscheme hydrography. A sample of 50 comparisons was made across the sheet.

Crossline/Mainscheme Agreement

Within 0.0 fathoms	99%
Within 1.0 fathoms	100%

With no major discrepancies noted, agreement between mainscheme and crossline soundings was evaluated to be very good.

J. Junctions

SEE EVALUATION REPORT SECTION 5

This survey junctions with survey H-10256 (1987), 1:40000-scale, along the southern edge of the sheet. No irregularities were found with soundings or depth contours when comparing the surveys. Agreement of overlapping soundings between surveys was considered excellent, as can be seen from the following table.

Sounding Agreement With H-10256

Within 0.1 fathom	80%
Within 1.0 fathom	100%

K. Comparison With Prior Surveys

SEE EVALUATION REPORT SECTION 4 AND 6.

This survey was compared to prior survey H-1804 (1887), a 1:80,000-scale smooth sheet. The 1:80000-scale boat sheet, H-1806 (1887), was also used for comparison. The following results were obtained from a sample of eighty-eight comparisons taken across the entire sheet.

Sounding Agreement With H-1804 and H-1806

Discrepancy (fathoms)	Agreement
1.0	74 %
2.0	79 %
3.0	81 %
4.0	83 %
5.0	84 %
6.0	87 %
7.0	91 %
11.0	93 %
12.0	94 %
13.0	95 %

14.0	96 %
17.0	97 %
19.0	97 %
20.0	98 %
26.0	99 %
30.0	100 %

There was no systematic difference in sign or magnitude of discrepancies with prior surveys. Seventeen of the larger discrepancies were investigated by reduced line spacing in areas where H-10265 was deeper than the prior surveys. No indication of shoaling was found during any of the investigations. Positional and sounding techniques used during the prior survey are probably the cause for these discrepancies. It is recommended that H-10265 soundings supersede all prior survey data.

Of significance is a prior survey sounding of 21 fathoms at 57°01.7'N, 133°03.0'W. This sounding is surrounded by depths of 60 to 70 fathoms on the prior survey. The area was investigated with a 50-meter north-south and east-west line spacing pattern which is plotted on expansion #2. A dive investigation produced a least depth of 85.9 feet (14.3 fathoms) at 57°01'49.33"W, 133°02'52.71"W (fix no. 5095). The echo sounder investigation showed the limits of the shoal to be more extensive than indicated on the prior survey. The least depth was reported as a Danger to Navigation (Section L).

Six AWOIS item investigations originated with three 1:20,000-scale wire drag surveys, H-4316 (1923), H-4443A (1924) and H-4443B (1924). See AWOIS listing in Appendix XI. All depths have been reduced to MLLW using predicted tides data.

AWOIS 51181

Feature: Charted 5 fathoms wire drag ~~grounding~~ SOUNDING from H-4443B, WD. The scaled position is 56°59'13.0"N, 132°57'52.0"W.

Investigation: This area was developed on Expansion Sheet #1 with 25-meter line spacing and crosslines over shoals. Least depths were obtained by pneumatic gage during a dive investigation. A 3-meter x 1.5-meter rock outcrop with a least depth of 28.2 feet (4.7 fathoms) was discovered during a 50-meter radius circle search at 56°59'~~12.0~~11.97"N, 132°57'~~56.4~~52.79"W (fix no. 4526).* The bottom in this area is gently sloping and covered with cobbles, with the AWOIS rock protruding 3.0 feet above the rest. Water visibility was 20 feet. The development is plotted on Expansion Sheet #1. * THIS POSITION IS 32.79 METERS SOUTHWEST FROM THE AWOIS POSITION.

Recommendation: The charted 5 fathoms should be replaced with the least depth as described above. CONCUR

AWOIS 51182

Feature: Charted ~~5.1~~ 5 1/4 fathoms wire drag ~~grounding~~ Sounding from H-4443A WP. The charted position is 56°59'17.5"N, 132°58'05.5"W.

Investigation: The area was developed with 25-meter line spacing and crosslines. A least depth of 28.8 feet (4.8 fathoms) was obtained by pneumatic gage at 56°59'17.4"N, 132°58'05.9"W (fix no. 5091)*. A dive investigation using a circle search with a 50-meter sweep radius was conducted and the bottom was observed to be flat and covered with cobbles. The water visibility was 25 feet. The development is plotted on Expansion Sheet #1.

* This Position is 7.56 Meters from the AWOIS Position

Recommendation: The charted 5.1 1/4 fathoms should be replaced by the least depth as described above. CONCUR

AWOIS 51183

Feature: Charted ~~3.8~~ 3 3/4 fathoms wire drag ~~grounding~~ HANG from H-4316 WD. The charted position is 56°59'18.2"N, 132°58'14.0"W. The AWOIS Listing is in error by showing the longitude as 132°57'14.0"W, which plots the sounding in a foul area near Wood Point.*

* STATEMENT INCORRECT. SEE EVALUATION REPORT SECTION 4

Investigation: The feature was developed with 25-meter line spacing and crosslines. A 3-meter diameter rock was found with a least depth of 22.0 feet (3.6 fathoms) by pneumatic gage during a dive investigation at 56°59'18.5"N, 132°58'14.6"W (fix no. 4661)*. A circle search with a 50-meter radius was used. Water visibility was 20 feet. The bottom is covered with cobbles and the AWOIS rock rises 4 feet off the bottom. The development is plotted on Expansion Sheet #1.

Recommendation: The charted 3.8 3/4 fathoms should be replaced by the least depth as described above. CONCUR

* This Position is 12.43 METERS NORTHWEST FROM the AWOIS Position.

AWOIS 51184

Feature: Charted 1.5 1/2 fathoms wire drag ~~grounding~~ HANG from H-4316 WD. The charted position is 56°59'~~38~~37.50"N, 132°58'33"W.

Investigation: The feature was developed with 25-meter line spacing and crosslines. A least depth of 8.7 feet (1.45 fathoms) was obtained at 56°59'40.0"N, 132°58'34.3"W (fix no. 4922)* by pneumatic gage during a dive investigation. A circle search was not possible due to a large, thick kelp bed. However, the area was combed by the divers and several other rocks within 30 meters of the least-depth rock had depths within 1 foot of the least-depth rock. Water visibility was 35 feet. The development is plotted on Expansion Sheet #1.

Recommendation: The charted 1.5 fathoms should be replaced with the least depth as described above. CONCUR

* This Position is 81.33 METERS NORTHWEST FROM the AWOIS Position.

AWOIS 51185

Feature: Charted 1.~~3~~ 1/4 fathoms wire drag ~~grounding~~ HANG from H-4316 WD. The charted position is 56°59'45"N, 132°58'43"W.

Investigation: The feature was developed with 25-meter line spacing and crosslines. A least depth of 6.6 feet (1.1 fathoms) on a 3-meter diameter rock was obtained by pneumatic depth gage during a dive investigation at 56°59'45.1"N, 132°58'42.6"W (fix no. 4921). A circle search was not possible due to a large, thick kelp bed. However, the divers systematically investigated the area and the least depth point was obvious. Water visibility was 35 feet. The bottom is a cobble covered, gradually sloping shoal and the AWOIS rock rises 4 feet above bottom. The development is plotted on Expansion Sheet #1.

Recommendation: The charted ~~1.3~~ 1 1/4 fathoms should be replaced with the least depth as described above. CONCUR

* This Position is 6.69 Meters Northwest from the AWOIS Position

AWOIS 51186 SEE EVALUATION REPORT SECTION 6

Feature: Charted 2.~~8~~ 3/4 fathoms wire drag ~~grounding~~ HANG from H-4316 WD. The charted position is 56°59'52"N, 132°~~58'43~~ 59'00"W.

Investigation: The feature was developed with 25-meter line spacing and crosslines. A least depth of 22.6 feet (3.7~~8~~ fathoms) was obtained by pneumatic gage at 56°59'52.9"N, 132°59'00.2"W (fix no. 5094). A dive investigation using a circle search with a 100-meter radius was conducted over this area. Water visibility was 25 feet. The bottom is flat and covered with cobbles and boulders. No indication of a 2.~~8~~ 3/4 fathom least depth was found. This development is plotted on Expansion Sheet #1. 2 3/4 FM Found at Latitude 56°59'49.65"North, Longitude 132°58'53.68"West.

WAS EXCESSED

Recommendation: The charted 2.~~8~~ 3/4 fathoms should be replaced with the 2 3/4 least depth as described above.

An additional dive was conducted in the area of AWOIS items 51181-51186 where there was indication of an uncharted shoal from the echo sounder investigation. The dive revealed a large rock at 56°59'25.06"N, 132°58'21.22"W (fix no. 5093), with a least depth of 7.9 feet (1.3 fathoms) from the pneumatic gage. The nearest charted depth in this area is 2.75 fathoms. It is recommended that the least depth from the dive investigation be charted in the position as described above. This feature was reported as a Danger to Navigation. CONCUR

L. Comparison With the Chart SEE EVALUATION REPORT SECTION 7

Survey H-10265 was compared to the following charts:

Charts for Comparison

Chart Number	Scale	Edition	Date
17360	217,828	26th	08/18/84
17367	40,000	9th	04/21/79

Danger to Navigation Reports

The following dangers to navigation were discovered and have been reported to the Seventeenth Coast Guard District, Juneau, Alaska ~~(Appendix X).~~

Dangers to Navigation

Feature	Least Depth	Plotted on Smooth Sheet	Fix no.	Position
Shoal	1.3 fathoms	1.4 RK	5093	56°59'25"N 132°58'21"W AWOIS ITEM 21181
Shoal	14.3 fathoms	14.5	5095	57°01'49"N 133°02'53"W
Rock	1.6 feet	¥ (2)	8038	56°54'11"N 132°50'57"W
Rock	exposed 1.0 feet	¥ (1)	8039	56°54'24"N 132°51'36"W
Rock	1.4 feet	¥ (1)	8041	56°55'32"N 132°53'14"W
Rock	1.3 fathoms	1.1 RK	8047	57°01'18"N 133°00'13"W
Rock	1.4 fathoms	1.1 RK	8048	57°01'20"N 133°00'13"W
Rock	1.8 fathoms	1.6 RK	8049	57°01'45"W 133°00'18"W

Comparison of Sounding Features

All of the soundings on charts 17360 and 17367 came from survey H-1804 (1887). A comparison of these soundings can be found in section K. SEE EVALUATION REPORT SECTION 7

Non-Sounding Features

Non-sounding features are described in section H.

M. Adequacy of Survey

This survey is complete and adequate to be used for charting purposes, and to supersede any historical data, WITHIN THE COMMON AREA OF THIS NAVIGABLE AREA SURVEY.

N. Aids to Navigation

There are two floating aids to navigation within the survey area. These are located at the entrance to Thomas Bay and both observed positions were compared to published positions in the 1988 Light List (LL), Volume VI.

Floating Aids to Navigation

Buoy (LL #)	Position No.	Published	Observed
Thomas Bay Entrance Buoy 1 (23230)	#8044	56°59.3'N 132°58.2'W	56°59'17.35"N 132°58'12.47"W
Thomas Bay Entrance Lighted Bell Buoy 2 (23225)	#8043	56°59.1'N 132°57.8'W	56°59'07.82"N 132°57'47.~~36~~"W

Buoy 1 is a can buoy; buoy 2 is a bell buoy with a flashing six second red light.

There are two fixed aids to navigation within the survey area. These are Cape Strait Light and Beacon Point Daybeacon BP. Both were located using third order, class I traverse techniques, and there was good agreement between the computed positions and the published positions in the 1988 Light List (LL), Volume VI.

Fixed Aids to Navigation

LL #	Aid	Observed	Published
23220	Beacon Point Daybeacon BP	56°56'23.362"N 132°59'38.~~708~~"W	56°56.4'N 132°59.6'N
23240	Cape Strait Light	56°59'54.~~488~~"N 133°05'26.~~171~~"W	56°59.9'N 133°05.5'W

Cape Strait Light is a flashing six second white light. The structure also has a diamond-shaped dayboard divided into four diamond-shaped colored sectors with white sectors at the side corners and red sectors at the top and bottom corners.

The Beacon Point Daybeacon BP structure has a square green dayboard with the letters "BP" in the center. The dayboard is bordered with green reflective tape.

O. Statistics

EDP No.	Number of Positions	Nautical Miles of Sounding Lines
2120	27	0
2123	~~1123~~ 1073	201.3
2124	~~1094~~ 1081	163.2
2125	0	0
2126	~~637~~ 625	199.3
TOTAL	~~2882~~ 2806	563.8

SQUARE MILES OF HYDROGRAPHY	:	38.4
MILES OF SIDE SCAN	:	0.0
BOTTOM SAMPLES	:	27
TIDE STATIONS	:	1
VELOCITY CASTS	:	3
DAYS OF PRODUCTION	:	21
MAGNETIC STATIONS	:	0
CURRENT STATIONS	:	0

P. Miscellaneous

All bottom samples have been submitted to the Smithsonian Institution (Appendix VII). Bottom samples were spaced nine centimeters, rather than six centimeters, at the survey scale because anchoring is not possible in practically all of the survey area for the water is too deep. Also, no substantial difference was found in the characteristics of the samples acquired throughout the survey area, and the samples obtained confirmed the charted bottom characteristics.

Reconnaissance current observations for diving operations were made at the mouth of Thomas Bay on April 12, 1988. The set of the current was 042° true during flood and 230° true during ebb. A maximum ebb current speed of 1.8 knots was observed at 1400 ADT.

Loran-C comparisons were made during bottom sample acquisition and forwarded to the Defense Mapping Agency Hydrographic/Topographic Center (DMAHTC) per PMC OPORDER 1.2.4.

Q. Recommendations

The hydrographer considers field work on this survey to be complete and adequate to supersede prior surveys, WITH IN THE COMMON AREAS

Considerable fishing and recreational boat traffic was observed in the vicinity of Thomas Bay. This area should be surveyed as soon as shoreline photography has been obtained.

R. Automated Data Processing

Data acquisition and processing were accomplished with a PDP 8/e Hydroplot computer system, using the standard programs.

Computer Programs Used For Data Processing

NUMBER	DESCRIPTION	VERSION
RK 112	HYPERBOLIC,R/R HYDROPLOT	3/01/86
RK 116	RANGE-AZIMUTH RTS	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 226	RANGE-AZ POSN & SND 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
RK 562	THEODOLITE CALIBRATION	9/05/84
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 (DOCUMENTATION ONLY)	6/02/75

In plotting the final field sheet, 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, especially least depths, have been transferred by hand to the final field sheet from NSP data.

Fix Numbers

A standard series of fix numbers was assigned to each survey vessel.

Vessel Number	Survey Fixes
2120	1-27
2123	3000-3998
	2000-2072
2124	4000-5095
2126	6000-6579
	8000-8059

The following position numbers are duplicates:
3555-3641, 6544-6579, 6612

S. Referral to Reports

Several supplementary reports contain additional information relevant to this survey.

Supplemental Reports

TITLE	DATE SENT TO MARINE CENTER
Horizontal Control Report, OPR-O358-RA-88	July, 1988
Electronic Control Report, OPR-O358-RA-88	July, 1988
Corrections to Echo Sounding Report OPR-0358-RA-88	July, 1988
Marine Mammal Report, RP-12-88	June, 1988
Coast Pilot Report, OPR-O358-RA-88	June, 1988

Respectfully Submitted;
Carl R. Groeneveld
Carl R. Groeneveld
Ensign, NOAA

Approved and Forwarded;
John C. Albright
John C. Albright
Captain, NOAA
Commanding Officer, RAINIER

FIELD TIDE NOTE

OPR-O358-RA-88, Frederick Sound, Alaska

OPR-O358-RA-88, Frederick Sound Alaska, includes three hydrographic surveys which were completed during April-May 1988. H-10265 (Sheet B), H-10269 (Sheet C), and H-10272 (Sheet D) are the affected surveys. Field-tide reduction of soundings was based on predicted tides computed with program AM 500, Predicted Tide Generator, by using the predicted tides for the Juneau, Alaska, tide station (945-2210). Three corrector zones were prescribed for the project area, but as an aid in processing logistics, only two sets of correctors were used. The corrector set which covered the most area of a particular survey was applied. The table below shows the small difference between the corrector sets.

	Time Correction		Height
Sheet	High Water	Low Water	Ratio
NONE	-0hr 15min	-0hr 10min	0.98
B,C	-0hr 15min	-0hr 10min	0.95
D	-0hr 15min	-0hr 10min	0.91

Near the beginning and end of the project, leveling was conducted at the Juneau tide station to connect three bench marks with the staff. The opening levels were conducted by RAINIER personnel on April 15 and closing levels were conducted by FAIRWEATHER personnel and will be submitted separately.

The following tide station was installed in the project area:

CAPE STRAIT, FREDERICK SOUND, ALASKA (945-1559)

Geographic Locale - 56° 59.9' N, 133° 05.6' W

Installation Date - April 10, 1988

Removal Date - May 18, 1988

Gage Type - Bristol bubbler (S/N 67A-16205) with a backup Bristol bubbler (S/N 73A-235). The gages were placed on a wooden trestle behind the Cape Strait light structure. The orifices were attached to a steel plate which was anchored to the bottom with four-foot sand anchors. Below the surf zone, tubing was anchored with rocks and chain. Above the surf zone, the tubing was secured to the bedrock with eye bolts.

Staff - The staff was 12 feet long made of four-inch aluminum angle iron with vitrified scale. It was secured to bedrock with 2x4 wooden braces and angle iron located 50 feet north of BM 1559 B. The staff stop was a stainless steel hex machine bolt located at 16.120 ft on the staff.

Staff Zero/Gage Zero

Gage # 67A-16205	Gage # 73A-235
Before 4/23: 0.64	Before 4/23: 1.18
After 4/23: 1.68	After 4/23: 1.87

Gage Time - Universal Coordinated Time

Bench Marks - Five bench marks were recovered at this station: 1559 A 1987, 1559 B 1987, 1559 C 1987, 1559 D 1987, and 1559 E 1987. The five bench marks were connected in the initial and final leveling.

Levels - Installation levels were completed on April 10, connecting the five bench marks mentioned above. Final levels were completed on May 18. The initial and final levels agreed to within 0.002 m.

Marigram Records -

GAGE # 67A-16205: Marigram records are continuous:

FROM	TO
4/10/88 @ 2212	4/16/88 @ 1502
4/16/88 @ 1630	4/17/88 @ 1535
4/17/88 @ 1725	4/18/88 @ 1620
4/18/88 @ 1800	4/22/88 @ 2305
4/22/88 @ 2300	4/23/88 @ 1735
4/23/88 @ 1824	4/27/88 @ 1653
4/27/88 @ 1711	5/10/88 @ 1940
5/10/88 @ 1933	5/18/88 @ 2105

GAGE # 73A-235: Marigram records are continuous:

FROM	TO
4/10/88 @ 2211	4/11/88 @ 1659
4/11/88 @ 1724	4/12/88 @ 1839
4/12/88 @ 1845	4/14/88 @ 1918
4/14/88 @ 1930	4/16/88 @ 1712
4/16/88 @ 1825	4/17/88 @ 1940
4/17/88 @ 2125	4/18/88 @ 2232
4/18/88 @ 2355	4/19/88 @ 1639
4/19/88 @ 1720	4/19/88 @ 2242
4/19/88 @ 2300	4/20/88 @ 1935
4/20/88 @ 1947	4/23/88 @ 1730
4/23/88 @ 1824	4/27/88 @ 1648
4/27/88 @ 1650	5/3/88 @ 1755
5/3/88 @ 1800	5/5/88 @ 2250
5/5/88 @ 2256	5/12/88 @ 2022
5/12/88 @ 2025	5/14/88 @ 0140
5/17/88 @ 2130	5/18/88 @ 2036

Station Problems

On April 20, the chart drive from gage 73A-235 was replaced with a new chart drive (S/N: 210102) after having repeated problems keeping time and paper alignment.

Due to an extreme spring low tide, the orifices were exposed during the following dates and times (differences in time occur because of correct time and gage time adjustments):

	#73A-235 Gage Time	#67A-16205 Gage Time
April 16	1710 to 1825	1500 to 1630
April 17	1940 to 2127	1530 to 1730
April 18	2230 to 2355	1620 to 1800
April 19		1720 to 1815

No hydrographic data were collected from April 16 to April 18. Because the orifice on gage 73A-235 was set slightly deeper than the orifice on gage 67A-16205, no tide data were lost on April 19. Inspection of the marigram records revealed that the tide trace did not fall to zero upon exposure. Gage 67A-16205 fell to 1.0 feet, and gage 73A-235 fell to 2.5 feet upon exposure. Therefore, on April 23, RAINIER personnel brought the orifices to the surface to calibrate a zero trace. Before calibrating, the gages were exposed to atmosphere and read the same as when previously exposed during the spring low tides. The orifices were then placed at a deeper depth to avoid exposure during spring low tides. Three hour observations were made on the morning of April 24.

On May 14, at approximately 0140 the paper in gage 73A-235 jammed. This caused a loss of data until May 17 at 2130, when the paper was replaced. During the same time interval the primary gage (67A-16205) functioned normally.

MASTER STATION LIST
OPR-0358-RA-88, FREDERICK SOUND, ALASKA
RA-20-1-88 (H-10265)

✓ MJC

FINAL VERSION
MAY 4, 1988

```
106 3  56 55 16731✓132 58 36061✓ 250 0007 000000.
/NEW 1917            NGS QUAD 561324    STA. 1068.

132 4  56 55 24281✓132 53 04508✓ 250 0007 000000.
/AG 1917             NGS QUAD 561324    STA. 1004.

133 3  56 59 54488✓133 05 26172✓ 250 0010 000000.
/CAPE STRAIT LIGHTHOUSE                 RAINIER G.P..

134 3  56 53 36589✓132 54 49074✓ 250 0009 000000.
/FOX                 NGS QUAD 561324    STA. 1041.

136 3  56 56 23258✓132 59 37953✓ 250 0009 000000.
/NOON                NGS QUAD 561324    STA. 1072.

138 2  57 01 10477✓132 59 57475✓ 250 0007 000000.
/SQUARE              NGS QUAD 571323    STA. 1024.

139 2  56 58 41099✓132 56 14272✓ 250 0010 000000.
/WAVE 2                                 RAINIER G.P..

141 3  56 59 28831 133 04 32810  250 0005 000000. Not used
/SAND                NGS QUAD 561331    STA. 1091. for control

142 3  57 03 30047 133 01 52188  139 0005 000000. Not used
/CATCH 2             NGS QUAD 571332    STA. 1003. for control

144 3  57 05 22442 133 10 40177  250 0009 000000.
/SOUTH GRAND         NGS QUAD 571332    STA. 1027.

145 3  57 00 42643 133 12 04595  250 0010 000000.
/BRIDGE              NGS QUAD 571332    STA. 1002.
```

NOAA FORM 76-40
(8-74)

Replaces C&GS Form 567.

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

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

ORIGINATING ACTIVITY
- [x] HYDROGRAPHIC PARTY
- [ ] GEODETIC PARTY
- [ ] PHOTO FIELD PARTY
- [ ] COMPILATION ACTIVITY
- [ ] FINAL REVIEWER
- [ ] QUALITY CONTROL & REVIEW GRP.
- [ ] COAST PILOT BRANCH

(See reverse for responsible personnel)

- [ ] TO BE CHARTED
- [x] TO BE REVISED
- [ ] TO BE DELETED

REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
RAINIER	ALASKA	FREDERICK SOUND	5/88

The following objects HAVE [ ] HAVE NOT [ ] been inspected from seaward to determine their value as landmarks.

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
OPR-0358-RA		H-10265	NAD 1927

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE °N ′	LATITUDE // D.M. Meters	POSITION LONGITUDE °W ′	LONGITUDE // D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
BEACON POINT DAYBEACON	1988 Light List Number 23220 SG on skeleton tower	56° 56'	23.362 722.66	132°59'	38.708 654.63		F-2-6-L MAY 5 1988	17360 17367
BP								
CAPE STRAIT LIGHT	1988 Light List Number 23240 F1 W 6 sec (Height=30 Ft) NR on skeleton tower	56° 59'	54.488 1685.53	133°05'	26.171 442.00		F-2-6-L MAY 5, 1988	17360 17367

L-423(88)

RESPONSIBLE PERSONNEL		
TYPE OF ACTION	NAME	ORIGINATOR
OBJECTS INSPECTED FROM SEAWARD	JOHN C. ALBRIGHT, CAPT., NOAA Commanding Officer Chief of Party	☐ PHOTO FIELD PARTY ☒ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ OTHER *(Specify)*
POSITIONS DETERMINED AND/OR VERIFIED	CARL R. GROENEVELD, ENS., NOAA	FIELD ACTIVITY REPRESENTATIVE
		OFFICE ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES		☐ REVIEWER ☐ QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'

(Consult Photogrammetric Instructions No. 64,

OFFICE

I. OFFICE IDENTIFIED AND LOCATED OBJECTS

Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object.

EXAMPLE: 75E(C)6042
8-12-75

FIELD

I. NEW POSITION DETERMINED OR VERIFIED

Enter the applicable data by symbols as follows:

F - Field	P - Photogrammetric
L - Located	Vis - Visually
V - Verified	
1 - Triangulation	5 - Field identified
2 - Traverse	6 - Theodolite
3 - Intersection	7 - Planetable
4 - Resection	8 - Sextant

A. Field positions* require entry of method of location and date of field work.

EXAMPLE: F-2-6-L
8-12-75

*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.

FIELD (Cont'd)

B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object.

EXAMPLE: P-8-V
8-12-75
74L(C)2982

II. TRIANGULATION STATION RECOVERED

When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery.

EXAMPLE: Triang. Rec.
8-12-75

III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH

Enter 'V-Vis.' and date.

EXAMPLE: V-Vis.
8-12-75

**PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.

SUPERSEDES NOAA FORM 76-40 (2-71) WHICH IS OBSOLETE, AND EXISTING STOCK SHOULD BE DESTROYED UPON RECEIPT OF REVISION.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1974-665-073/1030 Region 6

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

June 10, 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 District:

The NOAA Ship RAINIER of the National Ocean Service has conducted 1988 charting operations in eastern Frederick Sound, Alaska. Three fixed aids to navigation were located by geodetic methods to third order, class I standards on the NAD27 datum:

1. Beacon Point Daybeacon, 56°56'23.362"N and 132°59'38.708"W.

2. Cape Strait Light, 56°59'54.488"N and 133°05'26.171"W.

3. Grand Point Light, 57°05'28.974"N and 133°11'06.353"W

The following dangers to navigation have been discovered (all depths have been reduced to MLLW using predicted tides; positions are based on NAD 27 datum):

1. Rock with a least depth of 1.6 feet at 56°54'11"N and 132°50'57"W.

2. Rock exposed 1.0 feet at 56°54'24"N and 132°51'36"W.

3. Rock with a least depth of 1.4 feet at 56°55'32"N and 132°53'14"W.

4. Shoal with a least depth of 1.3 fathoms at 56°59'25"N and 132°58'21"W.

5. Rock with a least depth of 1.3 fathoms at 57°01'18"N and 133°00'13"W.

6. Rock with a least depth of 1.4 fathoms at 57°01'20"N and 133°00'13"W.

7. Rock with a least depth of 1.8 fathoms at 57°01'45"N and 133°00"18"W.

8. Shoal with a least depth of 14.3 fathoms at 57°01'49"N and 133°02'53"W.

9. Rock with a least depth of 9.8 fathoms at 57°00'52"N and 133°15'47"W.

10. Rock with a least depth of 2.0 fathoms at 57°00'45"N and 133°15'43"W.

11. Shoal with a least depth of 3.5 fathoms at 57°04'52"N and 133°05'29"W.

12. Shoal with a least depth of 8.8 fathoms at 57°00'44"N and 133°13'12"W.

13. Shoal with a least depth of 5.2 fathoms at 57°00'39"N and 133°15'47"W.

14. Shoal with a least depth of 12.1 fathoms at 57°05'14"N and 133°11'18"W.

15. Shoal with a least depth of 1.1 fathoms at 57°05'57"N and 133°11'17"W.

16. Snag exposed 0.4 feet at 57°05'45"N and 133°11'13"W.

17. Shoal with a least depth of 11.2 fathoms 57°07'57"N and 133°11'50"W (Position Approximate).

18. Shoal with a least depth of 15.9 fathoms 57°08'10"N and 133°10'23"W (Position Approximate).

Features 1-8 were discovered while working on survey H-10265, Frederick Sound, Point Agassiz to Cape Strait. Features 9-16 were discovered while working on survey H-10269, Frederick Sound, Cape Strait to Bay Point. Features 17 and 18 were discovered outside of the project area in Farragut Bay while transiting to and from anchorage.

The following NOS charts are affected:

17360	26th ed 8/18/84	1:217828	NAD27 DATUM
17367	9th ed 4/21/79	1:40000	NAD27 DATUM

These are preliminary depths, heights, and positions subject to office review. Questions concerning these data can 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

Enclosure

cc: DMAHTC
N/CG222
N/MOP

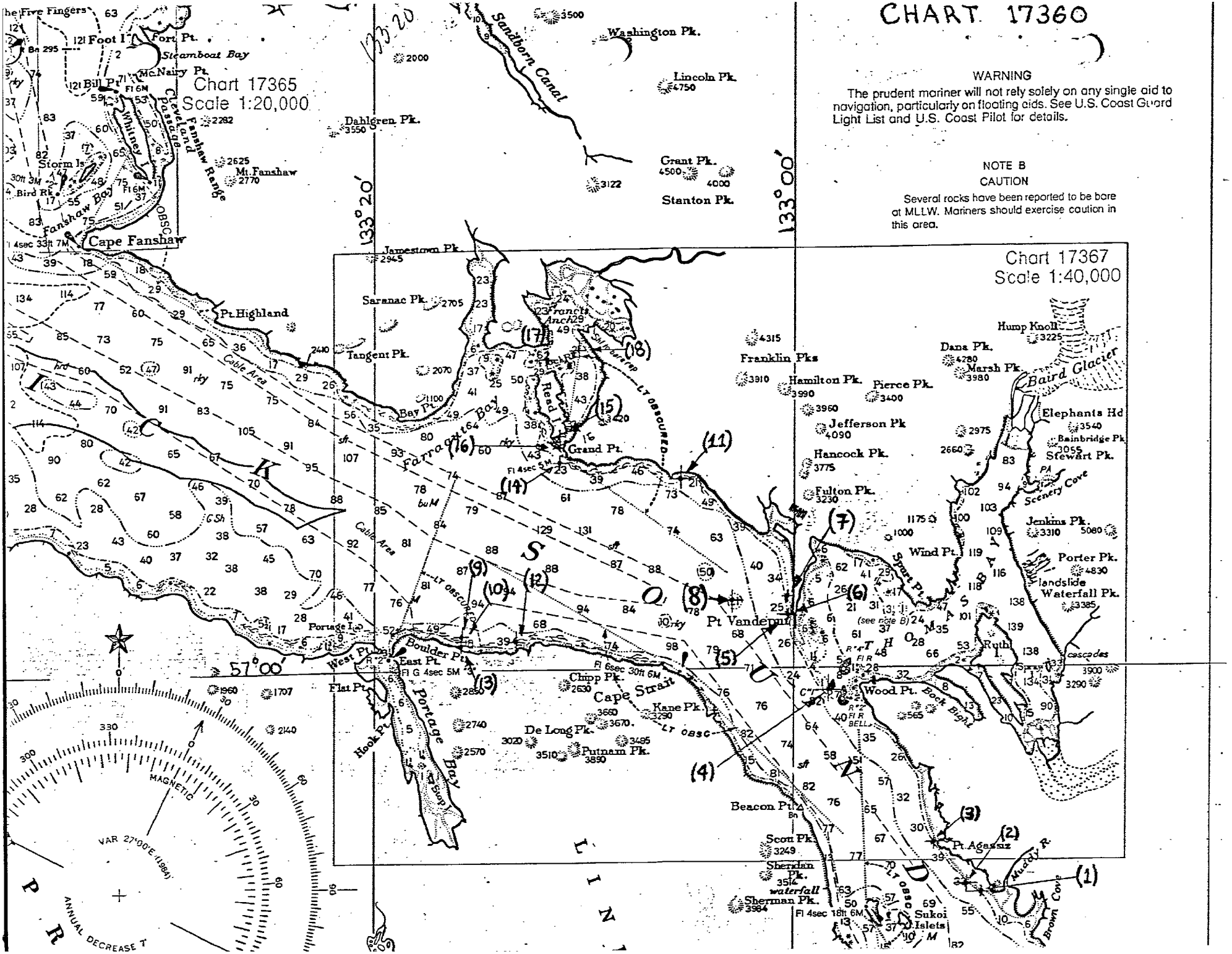


CHART 17360
WARNING
The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast Pilot for details.
NOTE B
CAUTION
Several rocks have been reported to be bare at MLLW. Mariners should exercise caution in this area.
Chart 17365
Scale 1:20,000
Chart 17367
Scale 1:40,000
133°20'
133°00'
57°00'
Sandborn Canal
Washington Pk.
Lincoln Pk.
Grant Pk.
Stanton Pk.
Dahlgren Pk.
Fort Pt.
Steamboat Bay
McNairy Pt.
Foot I.
Bill Pt.
Whitney I.
Cleveland Passage
Fanshaw Range
Mt. Fanshaw
Storm Is.
Bird Rk.
Fanshaw Bay
Cape Fanshaw
OBSC
Jamestown Pk.
Saranac Pk.
Pt. Highland
Tangent Pk.
Cable Area
Bay Pt.
Farragut Bay
Read I.
Grand Pt.
Francis Anch.
Ship Anchorage
LT OBSCURED
Franklin Pks
Hamilton Pk.
Pierce Pk.
Jefferson Pk
Hancock Pk.
Fulton Pk.
Hump Knoll
Dana Pk.
Marsh Pk.
Baird Glacier
Elephants Hd
Bainbridge Pk
Stewart Pk.
Scenery Cove
Jenkins Pk.
Wind Pt.
Porter Pk.
landslide
Waterfall Pk.
Spurt Pt.
Pt. Vandeput
(see note B)
Ruth
cascades
Wood Pt.
Book Bight
Portage I.
West Pt.
Boulder Pt.
East Pt.
Fl G 4sec 5M
Fl 6sec 30ft 6M
Chipp Pk.
Cape Strait
Flat Pt.
Hook Pt.
Portage Bay
Kane Pk.
LT obsc
De Long Pk.
Putnam Pk.
Beacon Pt.
Scon Pk.
Sheridan Pk.
waterfall
Sherman Pk.
Fl 4sec 18ft 6M
Sukoi Islets
Pt. Agassiz
Mucky R.
Brown Cove
MAGNETIC
VAR 27°00'E (1984)
ANNUAL DECREASE 7'
PRINCE OF WALES ISLAND

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

June 10, 1988

Director
DMAHTC
6500 Brooks Lane
Washington, DC 20315

Dear Sir:

During 1988 surveys in eastern Frederick Sound, Alaska, the NOAA Ship RAINIER located three aids to navigation and discovered eighteen dangers to navigation. These have been reported to the Seventeenth Coast Guard District for publication in the Local Notice to Mariners. A copy of the report describing them is enclosed.

Sincerely,

John C. Albright
Captain, NOAA
Commanding Officer

Enclosure

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 DISTRICT:
//THE NOAA SHIP RAINIER OF THE NATIONAL OCEAN SERVICE HAS COMPLETED CHARTING OPERATIONS IN FREDERICK SOUND. THE FOLLOWING DANGERS TO NAVIGATION HAVE BEEN DISCOVERED. ALL DEPTHS AND HEIGHTS REDUCED TO MLLW USING PREDICTED TIDES AND ALL POSITIONS BASED ON NAD27 DATUM.

A. 1.6 FEET ROCK AT 56/54/11N 132/50/57W
B. 1.0 FOOT EXPOSED ROCK AT 56/54/24N 132/51/36W
C. 1.4 FEET ROCK AT 56/55/32N 132/53/14W
D. 1.3 FATHOM SHOAL AT 56/59/25N 132/58/21W
E. 1.3 FATHOM ROCK AT 57/01/18N 133/00/13W
F. 1.4 FATHOM ROCK AT 57/01/20N 133/00/13W
G. 1.8 FATHOM ROCK AT 57/01/45N 133/00/18W
H. 14.3 FATHOM SHOAL AT 57/01/49N 133/02/53W
I. 9.8 FATHOM ROCK AT 57/00/52N 133/15/47W
J. 2.0 FATHOM ROCK AT 57/00/45N 133/15/43W
K. 3.5 FATHOM SHOAL AT 57/04/52N 133/05/29W
L. 8.8 FATHOM SHOAL AT 57/00/44N 133/13/12W
M. 5.2 FATHOM SHOAL AT 57/00/39N 133/15/47W
N. 12.1 FATHOM SHOAL AT 57/05/14N 133/11/18W
O. 1.1 FATHOM SHOAL AT 57/05/57N 133/11/17W
P. 0.4 FOOT EXPOSED SNAG AT 57/05/45N 133/11/13W
THE FOLLOWING POSITIONS ARE APPROXIMATE:
Q. 11.2 FATHOM SHOAL AT 57/07/57N 133/11/50W
R. 15.9 FATHOM SHOAL AT 57/08/10N 133/10/23W

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 CHARTLET IS BEING MAILED TO YOU TO CONFIRM THIS MESSAGE.
BT
#0000

NNNN

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

JUN 27 1983

N/MOP21x2/JM

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

Dear Sir:

During the office review of hydrographic survey H-10265, Alaska, Frederick Sound, Point Agassiz to Cape Strait, changes were noted (see below) which affect the following chart:

17367 (9th ed., 04/21/79; datum: NAD 27)

Questions concerning the survey may be directed to Cdr. Thomas W. Richards, Chief, Nautical Chart Branch, telephone (206) 526-6835.

The following statements are recommended for inclusion in the Local Notice to Mariners; depths are reduced to MLLW:

A. "A rock, covered by 4.7 fathoms, is located at latitude 56/59/12N, longitude 132/57/56W. The rock is in the entrance channel to Thomas Bay, between buoy 1 and buoy 2. The rock bears 100 degrees true, 4.15 nautical miles from Cape Strait Light." retained Per Hydro

B. "A rock, covered by 4.8 fathoms, is located at latitude 56/59/17N, longitude 132/58/06W. The rock is in the entrance channel to Thomas Bay, at the location of the charted 5 1/4 fathom depth. The rock bears 099 degrees true, 4.08 nautical miles from Cape Strait Light." retained

C. "Depths of 7 fathoms were found at the location of the charted 26 fathom depth, at latitude 56/57/39N, longitude 132/54/54W, bearing 112 degrees true and 6.2 nautical miles from Cape Strait Light." Revised Per Hydro

D. "Depths of 0 to 1 fathoms were found at the location of the charted 9 fathom depth, at latitude 56/57/03N, longitude 132/54/06W, bearing 115 degrees true and 6.8 nautical miles from Cape Strait Light." used ½ fm sndg from Hydro sheet

E. "Depths of 9 fathoms were found at the location of the charted 12 fathom depth, at latitude 56/55/58N, longitude 132/53/37W, bearing 122 degrees true and 7.5 nautical miles from Cape Strait Light." Revised Per Hydro

Sincerely,

Robert L. Sandquist

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

ATTACHMENT A

APPROVAL SHEET

Descriptive Report to Accompany

Hydrographic Survey

RA-20-1-88

H-10265

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-10265

LOCALITY: Point Agassiz to Cape Strait, Frederick Sound, AK

TIME PERIOD: April 11 - May 18, 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 E. Mullin

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-10265

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	
AGASSIZ, POINT										1
ALASKA (title)										2
BEACON POINT										3
FREDERICK SOUND										4
KUPREANOF ISLAND										5
LINDERBERG PENINSULA										6
STRAIT, CAPE										7
SUKOI ISLETS										8
THOMAS BAY										9
VANDERPUT, POINT										10
WOOD POINT										11
										12
										13
										14
										15
										16
				Approved:						17
										18
				Charles E. Harrington						19
				Chief Geographer						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

REGISTRY NUMBER
H-10265

HYDROGRAPHIC SURVEY STATISTICS

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	SMOOTH OVERLAYS: POS., ARC, EXCESS	8
DESCRIPTIVE REPORT	1	FIELD SHEETS AND OTHER OVERLAYS	3

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

SHORELINE DATA

SHORELINE MAPS (List):

PHOTOBATHYMETRIC MAPS (List):

NOTES TO THE HYDROGRAPHER (List):

SPECIAL REPORTS (List):

NAUTICAL CHARTS (List):

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			2806
POSITIONS REVISED			13
SOUNDINGS REVISED			120
CONTROL STATIONS REVISED			
	TIME-HOURS		
	VERIFICATION	*EVALUATION*	*TOTALS*
PRE-PROCESSING EXAMINATION			
VERIFICATION OF CONTROL			
VERIFICATION OF POSITIONS	170.0		170.0
VERIFICATION OF SOUNDINGS	103.5		103.5
VERIFICATION OF JUNCTIONS			
APPLICATION OF PHOTOBATHYMETRY			
SHORELINE APPLICATION/VERIFICATION			
COMPILATION OF SMOOTH SHEET	88.0		88.0
COMPARISON WITH PRIOR SURVEYS AND CHARTS		12.0	12.0
EVALUATION OF SIDE SCAN SONAR RECORDS			
EVALUATION OF WIRE DRAGS AND SWEEPS		34.0	34.0
EVALUATION REPORT			
GEOGRAPHIC NAMES			
OTHER*			
*USE OTHER SIDE OF FORM FOR REMARKS — TOTALS	361.5	46.0	407.5

Pre-processing Examination by John Miller	*Beginning Date* 4/11/88	*Ending Date* 7/5/88
Verification of Field Data by Matthew Sanders	*Time (Hours)* 361.5	*Ending Date* 12/21/88
Verification Check by J. Stringham, B. Olmstead	*Time (Hours)* 57	*Ending Date* 12/21/88
Evaluation and Analysis by Gordon E. Kay	*Time (Hours)* 44.0	*Ending Date* 2/13/89
Inspection by Dennis J. Hill	*Time (Hours)* 2	*Ending Date* 3/2/89

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

PACIFIC MARINE CENTER
EVALUATION REPORT
H-10265

1. INTRODUCTION

Survey H-10265 is a navigable area survey accomplished by the NOAA Ship RAINIER under the following Project Instructions.

OPR-0358-RA, 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 an area in Frederick Sound extending from Cape Strait at longitude 133°04'45"N southeast to just north of the Sukoi Islands at latitude 56°54'06"N. The surveyed area includes the entrance to Thomas Bay. The mountains around Frederick Sound are steep. The slope continues at the water line to the bottom of the sound, where depths reach 87 fathoms. There are portions of the shoreline in this section of Frederick Sound that are rugged with scattered rocks and bedrock outcrops. The bottom consists of mud and sand.

Predicted tides for Juneau, Alaska were used for the reduction of soundings during field processing. Approved hourly heights zoned from Cape Strait, gage 945-1558, 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 revised data.

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 1988 Horizontal and Electronic Control Reports for OPR-0358-RA 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. 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: 1.236 seconds (38.2 meters)
Longitude: -6.220 seconds (-105.2 meters)

The year of establishment of control stations shown on the smooth sheet originates with the field records and the published NGS data.

There are nine weak fixes, angles of intersection less than 30 degrees or more than 150 degrees, 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.

There are no registered shoreline maps applicable to this survey. Shoreline depicted on the smooth sheet originates with the following sources.

a. U.S.G.S. map, Petersburg (D-3), dated 1961, scale 1:63,360

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

c. Blueprint 131922 (revisions compiled on chart base of chart 17367)

Shoreline is drawn in brown ink on the smooth sheet for orientation purposes only.

The shoreline is shown in dashed red in the vicinity of latitude 57°04'36"N, longitude 133°04'06"W. It is plotted using estimated distances observed by the hydrographer and listed in the raw data printouts.

3. HYDROGRAPHY

The mountains along Frederick Sound have steep slopes that continue below the waterline into the sound. The steep slopes produce deep soundings very close to the shoreline. The depth curves were drawn with the farthest offshore curve retained over the shoaler depth curves. 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 follows.

a. The hydrographer did not adequately supersede prior surveys by not comparing to surveys H-3991(1917)WD, H-4316(1923)WD, H-4443a(1924) and H-4443b(1924)WD as required by section 6.10. of the Project Instructions; see section 6.

b. The hydrographer did not acquire adequate sounding data in the vicinity of latitude 56°58'54"N, longitude 132°57'06"W to develop the 3-fathom curve, the inshore limit for this navigable area survey, as required by section 1.8.1. of the Project Instructions; see section 9.

c. In Section K, Comparison with Prior Surveys, the hydrographer states that the AWOIS contains an incorrect geographic position for item 51183. A review of the AWOIS reveals that the hydrographer was using an obsolete version of the AWOIS listing, dated January 15, 1987. The correct version which should have been in use during the survey is dated February 22, 1988. This version contains the correct geographic position. Failure to use the appropriate versions of support documents may result in erroneous conclusions and improper charting recommendations. This statement in the Descriptive Report has been noted as being incorrect.

d. Section N., Aids to Navigation, of the hydrographer's report compares Light List positions to surveyed positions of aids to navigation. The positions contained in the Light List are approximate. The hydrographer should compare surveyed positions with the chart and with the DIPFILE as required in section 2.4.2. of the Project Instructions; see section 7.d.

5. JUNCTIONS

Survey H-10265 junctions with the following surveys.

Survey	Year	Scale	Area
H-10256	(1987)	1:20,000	South
H-10269	(1988)	1:20,000	West

The junctions with surveys H-10256 and H-10269 are complete. Soundings are in good agreement. Some soundings from surveys H-10256 and H-10269 have been carried forward to survey H-10265 in the junction area to better portray the bottom and to bring the depth curves into agreement.

There are no contemporary surveys to the northeast in Thomas Bay. A comparison was made to chart 17367, 9th edition, in the junction area. The entrance to Thomas Bay is marked by a rocky shoal which is charted. The present survey depicts a portion of the shoal in considerable detail; however, further development is required to determine if the charted presentation is adequate.

6. COMPARISON WITH PRIOR SURVEYS

H-1804(1887) 1:80,000
H-1806(1887) 1:80,000
H-4443a(1924) 1:20,000

Surveys H-1804 and H-1806 cover the entire area of the present survey. Soundings depicted on survey H-1804 also appear on survey H-1806. Survey H-1806 appears to be a preliminary version of survey H-1804. Some discrepancies between these priors and survey H-10265 were noted and are discussed in the hydrographer's report, section K, pages 11-12. In general, the prior surveys compare well to the present survey in deeper depths. The development of shoals on these priors, however, is inadequate, which is probably due to the hydrographer's inability to discover all shoal points using a leadline within the time allowed for the survey.

Survey H-4443a is located in the junction area near Thomas Bay. Present soundings agree well with this prior survey. However, in the vicinity of latitude 56°58'54"N, longitude 132°57'06"W present hydrography was not adequate to develop the 3-fathom curve. Twelve soundings were transferred from survey H-4443a to survey H-10265 in red ink.

With the transfer of soundings from survey H-4443a to the smooth sheet, survey H-10265 is adequate to supersede the prior surveys within the common area, which, in some areas, does not include the area between the 3-fathom curve and the high water line. Hydrography depicted on the smooth sheet inshore of the 3-fathom curve is adequate to supplement that depicted on prior surveys, but is not adequate to supersede with the following exception. The offshore shoal at the entrance to Thomas Bay is sufficiently developed to supersede prior survey information within the limits of common hydrography.

T-3687(1917) 1:20,000
T-3688(1917) 1:20,000

These shoreline maps were compared to survey H-10265. The present survey located more offshore rocks than these prior surveys. Survey H-10265 is adequate to supersede these prior maps as a source for charted hydrography.

H-3991(1917)WD 1:20,000
H-4316(1923)WD and Supplemental Work 1:20,000
H-4443b(1924)WD 1:20,000

Wire drag surveys H-3991WD, H-4316WD and H-4443bWD agree with the present survey.

AWOIS items 51181, 51182, 51183, 51184 and 51185 originate from the above priors and the disposition of each is adequately discussed in section K of the hydrographer's report, pages 12-14.

AWOIS item 51186, a charted 2 3/4-fathoms (16-feet) depth from survey H-4316WD, is located at the center of an underwater ridge that extends northwest from AWOIS item 51185, a 1.2-fathom depth, to depths over 6.0

fathoms. This entire area was developed by echosounder with 25-meter line spacing and investigated with divers using a 100-meter circle search technique. The shoalest depth close to the AWOIS position is a 2.8-fathom sounding located at position number 5003/3, latitude 56°59'49.65"N, longitude 132°58'53.68"W. This sounding is 129.11 meters southeast from the AWOIS location. However, as the hydrographer indicates, there are deeper depths in the range of 3.4 to 4.1 fathoms at the AWOIS location. The charted 2 3/4-fathom depth is considered disproven at the charted location. This complex area should be charted at the discretion of the compiler with soundings from this survey.

7. COMPARISON WITH CHART

Chart 17360, 26th Edition, dated August 18 1984; scale 1:217,828
Chart 17367, 9th Edition, dated April 21, 1979; scale 1:40,000

a. Hydrography

All hydrography on charts 17360 and 17367 originates with the prior surveys and requires no further discussion.

Survey H-10265 is adequate to supersede charted hydrography within the common area. Section 6 contains additional discussion regarding the supersession of hydrography inshore of the 3-fathom depth curve.

b. AWOIS

There are no AWOIS items originating from miscellaneous sources applicable to this survey.

c. Controlling Depths

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

d. Aids to Navigation

There are two fixed aids and two floating aids located within the area of this survey. These aids have been positioned during this survey. The new positions agree well with the charted positions and those shown in the DIPFILE. These fixed and floating aids serve their intended purpose.

The cable areas charted through the center of the survey area were not investigated and should remain as charted.

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 sent a Danger to Navigation letter to the Seventeenth Coast Guard District on November 24, 1987. Five additional dangers were found during office processing and were reported to the Seventeenth Coast Guard District and DMA on July 27, 1988. Copies of these reports are attached.

8. COMPLIANCE WITH INSTRUCTIONS

Survey H-10265 adequately complies with the Project Instructions mentioned in section 1 of the report.

9. ADDITIONAL FIELD WORK

This is a adequate hydrographic survey. Additional field work is recommended on a low priority basis to develop the holiday mentioned in section 4.b of this report.

Gordon E. Kay
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-10265. This survey meets or exceeds Charting and Geodetic Services' standards for products in support of nautical charting.

Dennis Hill 3-27-89

For Chief, Nautical Chart Branch (Date)

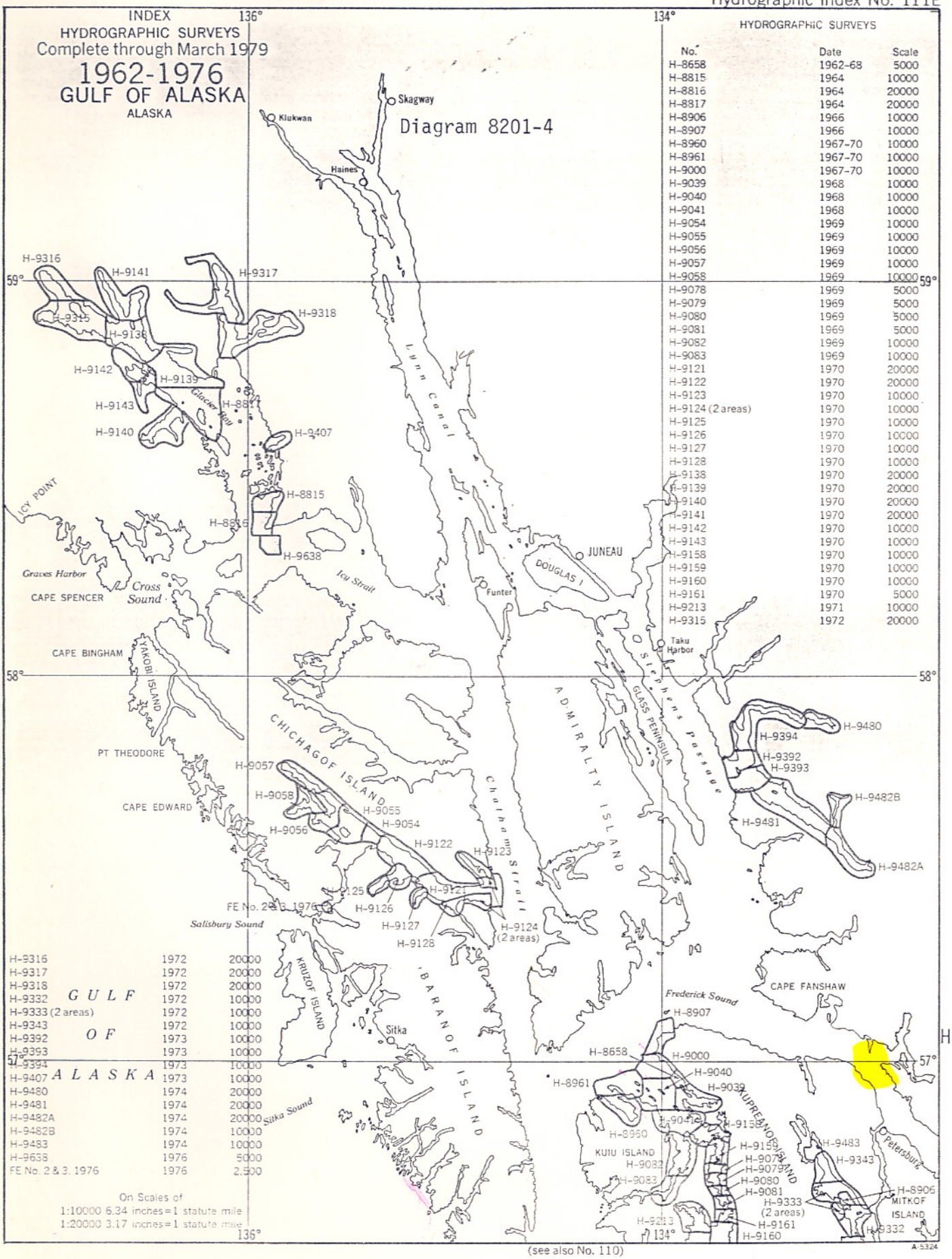
After review of the smooth sheet and accompanying reports, I hereby certify this survey is accurate, complete, and meets appropriate standards.

Sigmund R. Petersen 3/27/89

Director, Pacific Marine Center (Date)

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

Hydrographic Index No. 111E



H-10265

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	20000
H-9332	1972	10000
H-9333 (2 areas)	1972	10000
H-9343	1972	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

On Scales of
1:10000 6.34 inches = 1 statute mile
1:20000 3.17 inches = 1 statute mile

(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-10265

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
17367	11/27/89	ALMACEN	Full ~~Part Before~~ After Marine Center Approval Signed Via full application of
			Drawing No. sndgs. from SS. Dwg #8-H
17360	1/4/90	Efiel B. Domingo	Full ~~Part Before~~ After Marine Center Approval Signed Via full application of
			Drawing No. Soundings from SS Dwg #8-H
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.

SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED.