

FE339

Diagram No. 8202-3

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-10-7-89
Registry No. . . . FE-339

LOCALITY

State Alaska
General Locality . . . Icy Strait
Sublocality Western Entrance to
Icy Passage
1989
CHIEF OF PARTY
CAPT J.C. Albright

LIBRARY & ARCHIVES

DATE June 4, 1990

FE339

17302 /
17300 /

17315 - needs address to Stat

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

500
530
531
16016

HYDROGRAPHIC TITLE SHEET

FE-339

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 10-7-89

State AlaskaGeneral locality Icy StraitLocality Western Entrance to Icy PassageScale 1:10,000 Date of survey October 25-28, 1989Instructions dated September 13, 1989 Project No. OPR-0186-RAVessel NOAA Ship RAINIER, Launches RA-4(2124), RA-6(2126)Chief of party CAPT J.C. AlbrightSurveyed by LT Nichel, ENS HainesSoundings taken by echo sounder, ~~hand lead~~ DSF 6000N, pneumatic depth gageGraphic record scaled by RAINIER PersonnelGraphic record checked by RAINIER PersonnelVerification by: R. Shipley Automated plot by PMC Xynetics PlotterEvaluation by: C.R. DaviesSoundings in fathoms ~~feet~~ at ~~MLW~~ MLLW

REMARKS: All times 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.

AWOIS/SURF 5MAY 6/6/90

R.W.W 6/7/90

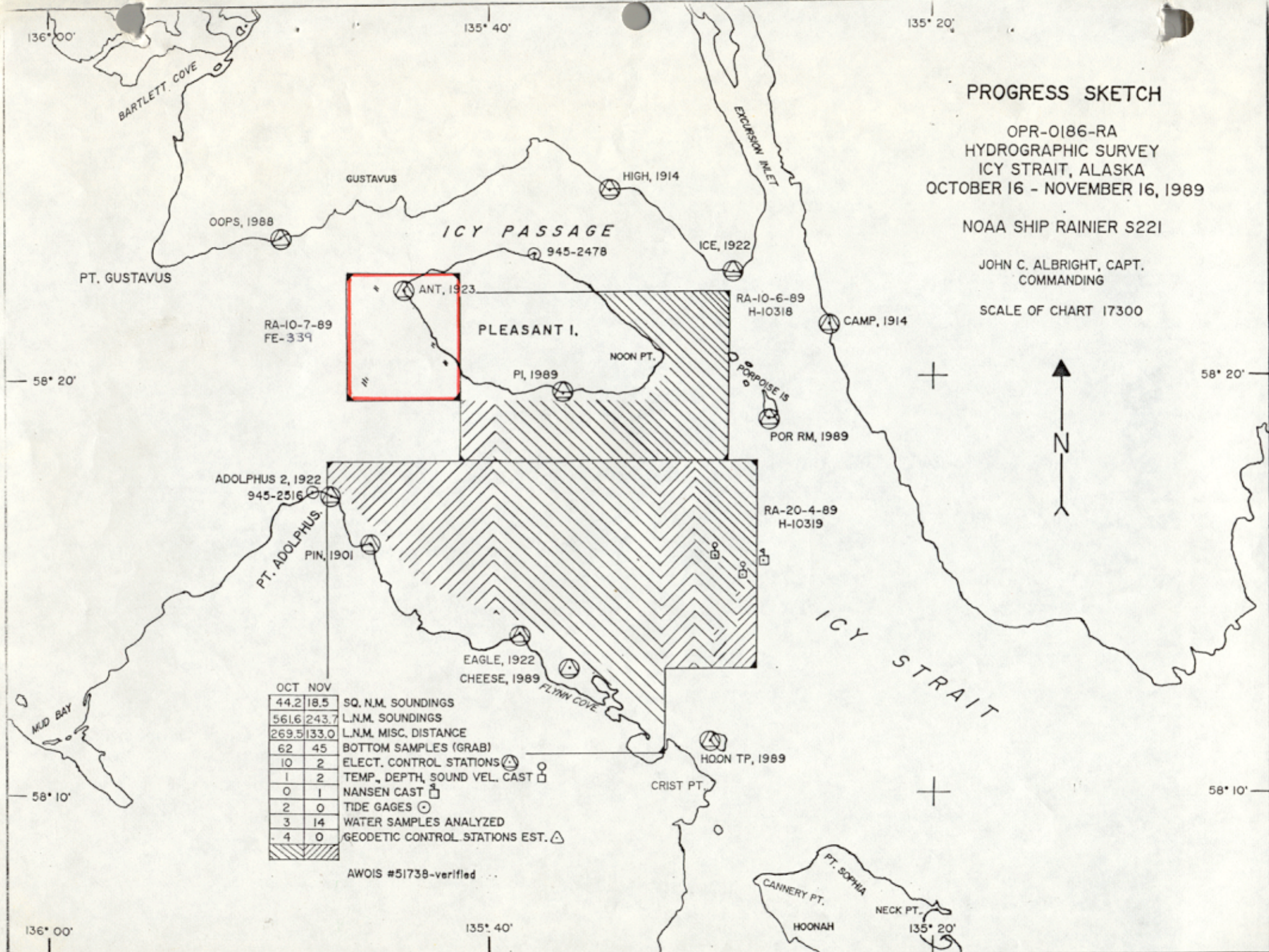
PROGRESS SKETCH

OPR-0186-RA
HYDROGRAPHIC SURVEY
ICY STRAIT, ALASKA
OCTOBER 16 - NOVEMBER 16, 1989

NOAA SHIP RAINIER S221

JOHN C. ALBRIGHT, CAPT.
COMMANDING

SCALE OF CHART 17300



OCT	NOV	
44.2	18.5	SQ. N.M. SOUNDINGS
561.6	243.7	L.N.M. SOUNDINGS
269.5	133.0	L.N.M. MISC. DISTANCE
62	45	BOTTOM SAMPLES (GRAB)
10	2	ELECT. CONTROL STATIONS (⊙)
1	2	TEMP, DEPTH, SOUND VEL. CAST (□)
0	1	NANSEN CAST (⊠)
2	0	TIDE GAGES (⊙)
3	14	WATER SAMPLES ANALYZED
4	0	GEODETIC CONTROL STATIONS EST. (△)

AWOIS #51738-verified

Field Examination to Accompany Hydrographic Survey H-10271

FE-339
Scale 1:10,000
1989

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

A. PROJECT ✓

A field examination of several shoals was completed in Icy Strait, Alaska as specified by Project Instructions OPR-0186-RA dated September 13, 1989.

The survey was conducted in response to NOAA Ship FAIRWEATHER's and N/CG245's recommendations to determine least depths over shoal soundings within FAIRWEATHER's 1988 survey H-10271 (Western Entrance to Icy Passage).

B. AREA SURVEYED ✓

The survey is located in southeast Alaska, in Icy Strait, along the west entrance to Icy Passage. The survey is bounded by latitudes $58^{\circ}22'30''\text{N}$ and $58^{\circ}19'30''\text{N}$, on the east by Pleasant Island, and on the west by longitude $135^{\circ}46'30''\text{W}$.

Data acquisition was conducted from October 25 to 28, 1989 (DN 298 - DN 301).

C. SOUNDING VESSELS ✓

All data were acquired from the automated survey launches aboard NOAA Ship RAINIER shown below:

<u>Vessel</u>	<u>EDP No.</u>	<u>Operation</u>
RA-4	2124	Hydrography
RA-5	2125	AML Cast
RA-6	2126	Hydrography

No changes to the standard sounding configurations were necessary.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS ✓

Survey launches RA-4 (2124) and RA-6 (2126) were equipped with Raytheon DSF-6000N echo sounders (Serial Numbers A119N and B048N, respectively). 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. Variations in the instrument initial, stylus arm length, and belt tension are not present in these echo sounders. 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. 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 were continuously monitored during data acquisition. All sounding data were scanned at least two times, not only to ensure all significant peaks and deeps were inserted, but also to verify the digitized depths.

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 1, 1989 by the Pacific Operations Group (N/OMA 1214). In addition, field system checks were performed each day the pneumatic gage was used.

Corrections to Echo Soundings ✓

Corrections to echo soundings were determined for static draft, heave, velocity of sound through water, settlement and squat, and predicted tides. All correctors were applied to the final field sheets. Sounding correctors apply to both narrow and wide beams of the echo sounder. Supporting data and computations for all corrections to echo soundings, except heave, are included in the Fall 1989 Corrections to Echo Soundings Data Package for OPR-O186-RA.

Static Draft ✓

For both launches, the distance from the transducer face to the gunwhale was measured with a large metal carpenter-square. Static draft measurements were then determined by dropping a leadline from the gunwhale to the water and subtracting this distance from the distance measured with the carpenter-square. The measurements from the gunwhale to the waterline were conducted with the fuel tanks averaging 3/4 full and three people aboard. A transducer depth of 0.3 fathom was determined for the launches on February 10, 1989. This transducer depth agrees with the launches' historical records.

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 fathom resulting from sea action.

Sound Velocity ✓

Data required to compute the correctors for the velocity of sound through water were obtained with an AML SVP Profiler, S/N 3004, which was calibrated at the Northwest Regional Calibration Center in Bellevue, WA on October 17, 1988.

One AML cast was taken at 58°25.5'N 135°29.6'W to a depth of 222.6m on DN 303. Velocity correctors were computed at 0.1-fathom increments using the PC program VELOCITY. Correctors were placed in velocity table #1, and were applied to all echo sounding data. An HDAPS listing of the table is appended to this report.

The AML cast was taken 10 nautical miles from the survey area. No apparent data quality problem.

Settlement and Squat ✓

Settlement and squat correctors were determined for both survey launches in Shilshole Bay, WA on February 23 and March 3, 1989. All tests were conducted over a hard bottom in depths well exceeding seven times the vessels' drafts. Both sea and wind were calm. Observations were made through a Zeiss Ni2 leveling instrument (S/N 103453) to a rod held vertically on deck, 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 before the correctors were computed.

The settlement and squat correctors used on-line are listed in Offset Table 1, a copy of which is appended to this report. *Filed with hydrographic data.*

Tide Correctors ✓

Tidal zoning and correctors applicable to predicted tides for the Juneau, Alaska tide station (945-2210) were provided on the chart accompanying the Project Instructions. The only zone affecting this survey has a height ratio corrector of "x 0.90"; there were no correctors for the times of predicted high and low water. An HDAPS listing of the data used in generating tide correctors is appended to this report.

Tide gages were installed and maintained by RAINIER personnel at tide stations on Pleasant Island (945-2478) and Point Adolphus (945-2516). The field tide records and the Field Tide Notes for these stations will be forwarded to N/OMA121 in accordance with Hydrographic Survey Guideline #50 and Section 4.3 of the Field Procedures Manual (FPM). A request for approved tides has been forwarded to N/OMA121. Copies of the Field Tide Notes and the requests for approved tides are appended to this report.

E. HYDROGRAPHIC SHEETS ✓

All field sheets were prepared aboard RAINIER, on an automated Bruning Zeta 924-A plotter. The HDAPS system draws graticules based on a Universal Modified Transverse Mercator projection. The three 8-1/2" x 11" 1:10,000-scale final field sheets are designated RA-10-7-89, and are labeled Sheets 1, 2, and 3.

All field sheets, accompanying field records, and this report are being forwarded to the Pacific Hydrographic Section (N/CG245) for ~~verification~~.
office processing

F. CONTROL STATIONS ✓

A listing of the geodetic stations used to control this survey is appended to this report.

Positions for all existing stations are from the NGS data base. All existing stations were recovered in accordance with methods stated in FPM 5.2.4. All stations meet or exceed Third-order, Class I standards for positioning. Geographic positions are

based on the North American Datum of 1983 and Ellipsoid GRS 1980. Further information can be found in the Fall 1989 Horizontal Control Report for OPR-O186-RA.

G. HYDROGRAPHIC POSITION CONTROL ✓

Soundings were located using Motorola Mini-Ranger Falcon 484 microwave, multi-range positioning equipment.

Positioning Equipment ✓

Two Mini-Ranger Falcon 484 console/R-T pairs and four shore transponders were used during the survey. The four shore transponder serial numbers/codes used were G3501/F, D2384/1, E2713/3 and F3256/E. The following table summarizes the mobile equipment used.

<u>EDP No.</u>	<u>Vessel</u>	<u>Console/R-T</u>	<u>DN</u>
2124	RA-4	E0138 / F3413 D0051/911615	298
2126	RA-6	F0247/D2395	299-301

Baseline Calibrations ✓

Opening baseline calibrations were conducted over water in accordance with FPM 3.1.2.1. The calibrations occurred on Lake Union, Seattle, WA on DN 262-272 over a known baseline of 966m (MR CAL 2). Closing calibrations will be completed in November in Seattle, WA. Calibration data and a description of the baseline can be found in the Fall 1989 Electronic Control Data Package for OPR-O186-RA.

The final field sheets were plotted with the opening baseline calibration correctors. If differences between opening and closing calibrations exceed the allowable limits stated in FPM 3.1.2.3, recommendations for prorated correctors will be included in the Fall 1989 Electronic Control Data Package.

Final baseline correctors were submitted along with the Fall 1989 Electronic Control Data Package. Correctors are adequate.

System Check Procedures ✓

Critical systems checks were conducted in accordance with FPM 3.1.2.2. Printouts of HDAPS screen graphics displaying multiple lines of position confirmed that the error circle radius and maximum residual did not exceed allowable rejection limits.

Antenna Offset Distances ✓

The offset correctors were 0.0 meters for both launches as each launch had its antenna located directly over the transducer. The offsets are included in the offset table appended to this report.

H. SHORELINE ✓

The shoreline detail shown in black on Sheets 1 and 2 (Items #1-6) was transferred from a stable-base copy of the smooth sheet for H-10271 (1:10,000 scale). *See Eval Report Section 2*

I. CROSSLINES ✓

Not Applicable.

J. JUNCTIONS ✓

Not Applicable.

K. COMPARISON WITH PRIOR SURVEYS

This survey was compared with prior survey H-10271 (1:10,000; 1988). In general, survey soundings agree within two fathoms of H-10271. Steep slopes along shore are the most probable causes for any discrepancies.

See EVAL Report Section 6

The seven items requiring investigation were noted in Section 6.12.3 of the Project Instructions, and are discussed below.

SHEET 1**Items #1, 2, 3:** Depths of 2.1, 2.2, and 1.3 fathoms

Investigation: These depths were investigated with an echo sounder search consisting of 20-meter north-south line spacing (DN 299, 301; Pos. Nos. 6431-5452 and 6802-6804). Depths of 1-11 fathoms were found in the area. Least depths of ~~1.7~~^{2.1}, ~~1.9~~^{2.2}, and ~~1.6~~^{1.3} fathoms were found at 58°22'15.5"N 135°44'08.2"W, 58°22'11.2"N 135°44'10.6"W, and 58°22'06.9"N 135°44'13.1"W respectively.

See Eval Report Section 6
Edm

SHEET 2**Items #4 and 5:** Depths of 0.8 and 2.2 fathoms

Investigation: These depths were investigated with an echo sounder search of 10-meter line spacing skewed northwest-southeast (DN 299; Pos. Nos. 6453-6474). Depths of 0.6-11 fathoms were found in the area. Least depths of 0.6 and 1.76 fathoms were found at 58°20'43.9"N, 135°42'30.7"W and 58°20'42.6"N, 135°42'19.6"W, respectively.

See Eval Report Section 6
Edm

Item #6: Depth of 8.5 fathoms

Investigation: This depth was investigated with 20-meter north-south line spacing (DN 298; Pos. Nos. 4000-4013). Depths of 7-16 fathoms were found in this area. A diver-obtained least depth of 7.6 fathoms is at 58°20'23.3"N, 135°42'04.8"W (DN 298; Pos. No. 4016). This item was reported as a danger to navigation to the Seventeenth Coast Guard District and Defense Mapping Agency/Hydrographic and Topographic Center (DMAHTC).

See EVAL Report Section 6
Edm

SHEET 3

Item #7: Depth of 35 fathoms

Investigation: This depth was investigated with 25-meter north-south line spacing over an area of approximately 400 x 600 meters (DN 299, 301; Pos. Nos. 6399-6430 and 6805-6807). A shoal with a least depth of ~~37~~ fathoms rises from surrounding depths of 60-65 fathoms. The shoal is centered at $58^{\circ}19'51.6''$ N, $135^{\circ}45'40.5''$ W.

See Encl
Repeat Section 6

Recommendations: Apply to H-10271 the least depths determined from the investigations described above.

Concur *EM*

L. COMPARISON WITH THE CHART

The areas surveyed were compared to NOS Charts 17302 (15th Ed.; May 20/89; 1:80,000) and 17300 (25th Ed.; Apr 29/89; 1:209,978). Items #1 through 5 fall within the limits of the 10-fathom curve. Item #6 (7.6 fms) lies outside of the charted 10-fathom curve, with the nearest charted sounding being 9 fathoms. Item #7 (34.9 fms) lies in an area charted at 59 fathoms.

Recommendations: The hydrographer recommends the least depths and depth curves from investigations of Items #6 and 7 be applied to the chart.

Concur *EM*

Dangers to Navigation

One danger to navigation originating from a dive investigation was reported to the Seventeenth Coast Guard District and the DMAHTC by radio message and letter. A copy of the danger to navigation correspondence is appended to this report.

EM

M. ADEQUACY OF THE SURVEY

This examination is complete and adequate to be used for charting purposes, and to be merged with the prior survey's data.

Concur

N. AIDS TO NAVIGATION ✓

Not applicable.

O. STATISTICS

<u>Vessel:</u>	<u>2124</u>	<u>2126</u>	<u>Total</u>	
# of Pos	13	82	95	
NM Hydro	0.6	7.0	7.6	
NM ² Hydrography	0.13	:	Velocity Casts	1
Detached Positions	1	:	Tide Stations	2
Bottom Samples	0	:	Magnetic/Current Stations	0

P. MISCELLANEOUS ✓

Tidal currents as high as two knots were noted flowing eastward during flood and westward during ebb tides.

Q. RECOMMENDATIONS

All but two of the assigned items (8.5 and 35 fms) were within 300 meters of the shore, where a sharp rise in the bottom is expected. The depths investigated were extensions of this sloping bottom, and not sudden features which could be considered hazardous to navigation. The hydrographer recommends that N/CG24 and N/CG245 carefully review data from surveys and verify prior survey recommendations to ensure the time and effort expended on investigations are worthwhile. *N/CG 245 acknowledges.*

R. AUTOMATED DATA PROCESSING ✓

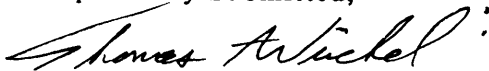
HDAPS programs "SURVEY" (version 3.03), "FILESYS" (version 1.20), and "POSTSUR" (version 3.03) were used in the creation of all field sheets, and the acquisition and processing of data. Version 4.00 of "POSTSUR", field-modified to plot without position numbers, was used in plotting the final field sheets. The survey data, stored according to sheet number, were forwarded to N/CG245 on 32-track tape cartridges. A listing of the acquisition and processing hardware components is appended to this report.

S. REFERRAL TO REPORTS ✓


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

<u>Title</u>	<u>Date Sent to N/CG245</u>
Fall 1989 Horizontal Control Report for OPR-O186-RA	December, 1989
Fall 1989 Electronic Control Report for OPR-O186-RA	December, 1989
Fall 1989 Corrections to Echo Soundings Report for OPR-O186-RA	November, 1989
Fall 1989 Coast Pilot Report, OPR-O186-RA	December, 1989

Respectfully Submitted,


Thomas A. Niichel
Lieutenant, NOAA

Approved and Forwarded,


John C. Albright
Captain, NOAA
Commanding Officer

CONTROL STATIONS

No	Type	Latitude	Longitude	H	Cart	Freq	Vel	Code	MM/DD/Y'
100	F	058:17:09.847	135:46:58.184	9	250	0.0	0.0	3	10/18/8'
101	F	058:22:02.097	135:44:01.316	4	250	0.0	0.0	F	10/18/8'
102	V	058:22:00.658	135:35:05.705	5	139	0.0	0.0		00/00/0'
103	V	058:13:00.750	135:36:26.826	5	139	0.0	0.0		00/00/0'
104	V	058:11:23.061	135:29:35.285	20	139	0.0	0.0		00/00/0'
105	F	058:13:54.846	135:38:41.748	4	250	0.0	0.0	E	10/18/8
106	V	058:20:23.377	135:32:11.011	9	139	0.0	0.0		00/00/0'
107	F	058:24:26.749	135:34:33.856	4	250	0.0	0.0	2	10/24/8
108	F	058:11:21.969	135:29:59.786	12	250	0.0	0.0	0	10/18/8
109	F	058:22:30.552	135:29:02.346	10	250	0.0	0.0	B	10/24/8
110	V	058:20:47.818	135:42:26.049	3	139	0.0	0.0		00/00/0'
111	V	058:12:48.704	135:35:06.724	8	139	0.0	0.0		00/00/0'
112	F	058:23:13.034	135:49:27.324	5	250	0.0	0.0	1	10/24/8
113	V	058:16:00.946	135:45:18.766	7	139	0.0	0.0		00/00/0'
114	F	058:19:02.197	135:27:19.510	8	250	0.0	0.0	C	10/24/8
115	F	058:21:14.164	135:24:44.196	8	250	0.0	0.0	5	10/24/8
116	F	058:19:30.080	135:36:48.509	2	250	0.0	0.0	4	10/27/8
117	F	058:16:10.918	135:20:35.724	2	250	0.0	0.0		10/27/8
118	F	058:19:02.197	135:27:19.510	0	250	0.0	0.0		10/27/8

NO.	NAME
100	ADOLPHUS 2, 1922
112	OOPS, 1988
101	ANT, 1923
105	EAGLE, 1922



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

NATIONAL OCEAN SERVICE

NOAA Ship RAINIER
1801 Fairview Avenue East
Seattle, Washington 98102-3767

November 20, 1989

Director
DMAHTC
6500 Brooks Lane
Washington, DC 20315

Dear Sir:

While conducting hydrographic survey operations in Icy Strait, Alaska, the NOAA Ship RAINIER discovered one danger to navigation. It has been reported to DMAHTC (NAVWARN) and the Seventeenth Coast Guard District. A copy of the correspondence describing it is enclosed.

Sincerely,

A handwritten signature in cursive script that reads "John C. Albright".

John C. Albright
Captain, NOAA
Commanding Officer

Enclosures





U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE

NOAA Ship RAINIER S221
1801 Fairview Avenue East
Seattle, Washington 98102-3767

November 20, 1989

Commander
Seventeenth Coast Guard District
Post Office Box 3-5000
Juneau, Alaska 99802

Dear Sir:

Attached is a confirmation copy of the radio message sent to your office regarding the danger to navigation which I recommend for inclusion in the Local Notice to Mariners for the Seventeenth Coast Guard District. A copy of a chartlet showing the area in which the danger exists is also attached.

Sincerely,

A handwritten signature in cursive script, appearing to read "John C. Albright".

John C. Albright
Captain, NOAA
Commanding Officer

Enclosures

cc: DMAHTC
N/CG221
N/MOP



ZCZC

NC

NC DE OA

P 222200Z NOV 89

FM NOAA S RAINIER

TO CCGDSEVENTEEN JUNEAU AK

DMAHTC (NAVWARN) WASHINGTON DC//MCNM//

INFO ZEN/NOAMOP SEATTLE WA

ACCT CM-VCAA

BT

UNCLAS

NOAA SHIP RAINIER HAS FOUND ONE DANGER TO NAVIGATION IN ICY STRAIT, ALASKA (PROJECT OPR-0106-RA) WITHIN THE LIMITS OF THE FIELD EXAMINATION FOR HYDROGRAPHIC SURVEY H-10271 (WESTERN ENTRANCE TO ICY PASSAGE). THE FOLLOWING INFORMATION IS PROVIDED FOR PUBLICATION IN LOCAL NOTICE TO MARINERS:

SHOAL COVERED 7-1/2 FATHOMS IS AT LATITUDE 58-20-23.3N, LONGITUDE 135-42-04.8W.

CHARTS AFFECTED: 17302 15TH ED 1:80,000 MAY 20/89 NAD83

17300 25TH ED 1:209,978 APR 29/89 NAD83

DEPTH IS REDUCED TO MLLW BASED ON PREDICTED TIDES.

GEOGRAPHIC POSITION IS BASED ON CHART DATUMS (NAD83).

THIS IS ADVANCE INFORMATION SUBJECT TO OFFICE REVIEW. QUESTIONS CONCERNING THIS MESSAGE SHOULD BE DIRECTED TO THE CHIEF, PACIFIC HYDROGRAPHIC SECTION AT (206) 526-6835. A LETTER WITH ATTACHED CHARTLET IS BEING MAILED TO CONFIRM THIS MESSAGE.

BT

NNNN

*App'd thru
LNM 49/89*

*1/2
LNM*

Approval Sheet

for

FE-

RA-10-7-89

Standard procedures were followed in accordance with the Hydrographic Manual, Fourth Edition; the Hydrographic Survey Guidelines; and the Field Procedures Manual 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: Febuary 27, 1990

MARINE CENTER: Pacific

OPR: O-186-RA

HYDROGRAPHIC SHEET: FE-339

LOCALITY: Alaska, Icy Strait, Western Entrance to Icy Passage

TIME PERIOD: October 25 - October 28, 1989

TIDE STATIONS USED: 945-2516 Pt. Adolphus, Icy Strait, Alaska

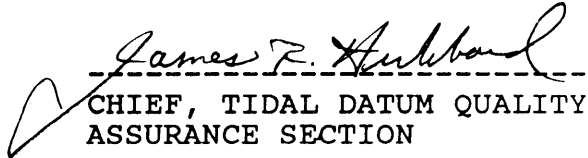
PLANE OF REFERENCE (MEAN LOWER LOW WATER): -0.18

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 12.96

REMARKS: RECOMMENDED ZONING

All times and heights are direct on Pt. Adolphus (945-2516).

Times are tabulated in Geenwich Mean Time.


CHIEF, TIDAL DATUM QUALITY
ASSURANCE SECTION



GEOGRAPHIC NAMES

Name on Survey
ICY STRAIT
WESTERN ENTRANCE TO
ICY PASSAGE

A ON CHART NO. 17302
B ON PREVIOUS SURVEY NO.
C ON U.S. QUADRANGLE MAPS
D FROM LOCAL INFORMATION
E ON LOCAL MAPS
F P.O. GUIDE OR MAP
G RAND McNALLY ATLAS
H U.S. LIGHT LIST
K

Name on Survey	A	B	C	D	E	F	G	H	K
ALASKA (TITLE)	X								1
ICY PASSAGE	X								2
ICY STRAIT	X								3
PLEASANT ISLAND	X								4
									5
									6
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									25

Approved:

Charles E. Harrington
Chief Geographer - N/CG 275

MAR 21 1990

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

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

DESCRIP-TION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR-GRAMS	PRINTOUTS	ABSTRACTS/SOURCE DOCUMENTS
ACCORDION FILES	1				
ENVELOPES					
VOLUMES					
CAHIERS					
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			95
POSITIONS REVISED			
SOUNDINGS REVISED			
CONTROL STATIONS REVISED			

	TIME-HOURS		
	VERIFICATION	EVALUATION	TOTALS
PRE-PROCESSING EXAMINATION			
VERIFICATION OF CONTROL			
VERIFICATION OF POSITIONS	32		32
VERIFICATION OF SOUNDINGS	36		36
VERIFICATION OF JUNCTIONS			
APPLICATION OF PHOTOBATHYMETRY			
SHORELINE APPLICATION/VERIFICATION			
COMPILATION OF SMOOTH SHEET	30		30
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EVALUATION OF SIDE SCAN SONAR RECORDS			
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Pre-processing Examination by J.L. Stringham	Beginning Date 11/29/89	Ending Date 11/29/89
Verification of Field Data by R. Shipley, M. Sanders	Time (Hours) 98	Ending Date 4/23/90
Verification Check by B.A. Olmstead, J. Stringham	Time (Hours) 18	Ending Date 4/26/90
Evaluation and Analysis by C.R. Davies	Time (Hours) 27	Ending Date 5/16/90
Inspection by D.J. Hill	Time (Hours) 3	Ending Date 5-17-90

EVALUATION REPORT
FE-339

1. INTRODUCTION

Survey FE-339 is a field examination accomplished by the NOAA Ship RAINIER under the Project Instructions OPR-0186-RA, dated September 13, 1989.

This survey occurred off the west side of Pleasant Island in Icy Strait, Alaska. The field examination was conducted to determine the least depth over seven shoals which were not adequately developed on survey H-10271. The surveyed area extends from latitude 58°19'40"N to latitude 58°22'20"N and longitude 135°41'42"W to longitude 135°45'48"W. The survey area is characterized by a very irregular rocky bottom. The bottom consists of mud, sand and shells. Depths range from 1 to 64 fathoms.

Predicted tides for Juneau, Alaska were used for the reduction of soundings during field processing. Approved hourly heights zoned from Pt. Adolphus, gage 945-2516, 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 and sound velocity correctors are adequate. An accompanying computer printout contains the parameters and the correctors. The electronic control correctors have been determined according to the established procedures and are adequate. However, since this is an HDAPS survey, the opening baseline correctors applied during data acquisition cannot be changed during office processing. Refer to the survey records for a review of the electronic control correctors used for the plotting of this survey.

A digital file has been generated for this survey as required by N/CG2 Hydrographic Survey Guideline No. 23, Completion of Digital Hydrographic Surveys, September 7, 1983.

2. CONTROL AND SHORELINE

Sections H of the hydrographer's report and the Horizontal and Electronic Control Reports for OPR-0186-RA, 1989, contain adequate discussions of horizontal control and hydrographic positioning.

Positions of horizontal control stations used during hydrography are 1988 field and published values based on NAD 83. These values were used during office processing for the computation of positions. The smooth sheet and accompanying overlays are annotated with NAD 27 adjustment ticks based on values

determined by N/CG121 for survey H-10271. Geographic positions based on NAD 27 may be plotted on the smooth sheet utilizing the NAD 83 projection by applying the following corrections.

Latitude: -1.234 seconds (-38.2 meters)
Longitude: 6.577 seconds (106.9 meters)

The shoreline drawn on survey FE-339 originates from the shoreline map TP-01318. This map was field verified in 1988 by the NOAA Ship FAIRWEATHER on survey H-10271. A stable base copy of survey H-10271 was used to draw the shoreline in black on survey FE-339.

The year of establishment of control stations shown on the smooth sheet originates with the hydrographer's signal list.

3. HYDROGRAPHY

With the exception noted in section 6 of 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 Field Procedures Manual except for the following.

Data was acquired on Day 301 utilizing two lines of position without a non-critical systems check. Section 3.1.3.3 of the Field Procedures Manual for Hydrographic Surveying, August 1988, requires a daily non-critical systems check when less than three lines of position are utilized. When a systems check cannot be acquired, an annotation in the raw records as to the precluding conditions should be provided. The data is consistent with adjoining data and has been accepted.

5. JUNCTIONS

Survey FE-339 falls within the limits of survey H-10271. A discussion of survey H-10271 can be found in section 6 of this report.

6. COMPARISON WITH PRIOR SURVEYS

H-10271(1988) 1:10,000

Survey H-10271 covers the entire area of survey FE-339. The area covered by Items 1 to 6 is extremely rocky. Small differences in position can account for depths differing as much as 5 fathoms. All items that were assigned to this survey were adequately investigated except for Item 5, a 2.2-fathom depth at latitude 58°20'41"N, longitude 135°42'29"W. The 1.6 fathom depth found on this survey at latitude 58°20'42.11"N, longitude 135°42'27.34"W and referenced in section K of the hydrographer's report does not delineate the offshore limit of the ledge. Therefore, the 2.2-fathom sounding from survey H-10271 was transferred to survey FE-339. Additional soundings and features are carried forward from survey H-10271 to delineate depth curves and clearly portray the junction areas. The other items are listed below.

Item	H-10271 Depth	Survey Depth	Position	Latitude(N)	Longitude(W)	
1	2.1(Fm)	2.0(Fm)	6445/2	58°22'15.89"	135°44'08.22"	chart 1 Fm
2	2.2	2.0	6440/4	58°22'11.18"	135°44'10.63"	chart 1/4 Fm
3	1.3	1.2	6451/2	58°22'06.87"	135°44'13.11"	Applied chart 3/4 Fm
4	0.8	0.6	6457/5	58°20'43.78"	135°42'28.51"	Applied
6	8.5	7.5Rk	4016	58°20'23.33"	135°42'04.81"	Applied
7	35	35	6411/8	58°19'51.53"	135°45'38.85"	Applied

With the transfer of the 2.2-fathom sounding from survey H-10271, survey FE-339 is adequate to supersede this prior survey in the common area.

H-4310(1923)WD 1:40,000

Wire-drag survey H-4310 covers the entire area of survey FE-339. There are no conflicts between the present survey and the effective depths of this wire-drag survey.

7. COMPARISON WITH CHART

Chart 17302, 15th edition, dated May 20, 1989; scale 1:80,000
 Chart 17300, 25th edition, dated April 29, 1989; scale 1:209,978

a. Hydrography

Charted hydrography originates with prior survey H-10271 and miscellaneous sources.

Survey FE-339 is adequate to supersede charted hydrography within the common area.

b. AWOIS

There are no AWOIS items originating from miscellaneous sources.

c. Controlling Depths

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

d. Aids to Navigation

There are no fixed aids or floating aids in the survey area.

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

One danger to navigation, a submerged rock, was reported by the hydrographer to the Coast Guard, DMAHTC and N/CG221. No other dangers were found during office processing.

cam

8. COMPLIANCE WITH INSTRUCTIONS

Survey FE-339 adequately complies with the Project Instructions.

9. ADDITIONAL FIELD WORK

This survey is a adequate field examination. No additional field work is needed.

Charles R. Davies

C. R. Davies
Cartographer

APPROVAL SHEET
FE-339

Initial Approvals:

The completed survey has been inspected with regard to survey coverage, delineation of depth curves, symbolization, comparison(s) with prior surveys and verification or disproval of charted data. The digital data have been completed and all revisions and additions made to the smooth sheet during survey processing have been entered in the magnetic tape record for this survey. Final control, position, and sounding printouts of the survey have been made and are included with the survey records. The survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.



Date: 5/17/90

Name
Chief, Hydrographic Processing Unit
Pacific Hydrographic Section

I have reviewed the smooth sheet, accompanying data, and reports. This survey and accompanying digital data meet or exceed NOS requirements and standards for products in support of nautical charting except where noted in the Evaluation Report.

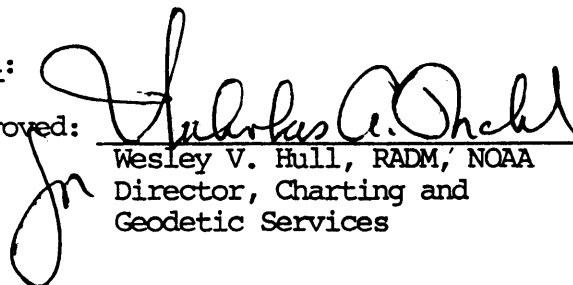


Date: 5/23/90

Name
Chief, Hydrographic Section

Final Approval:

Approved:



Wesley V. Hull, RADM, NOAA
Director, Charting and
Geodetic Services

Date: 6/5/90

135° 45' 00"

135° 44' 30"

135° 44' 00"

58° 23' 00"

58° 23' 00"

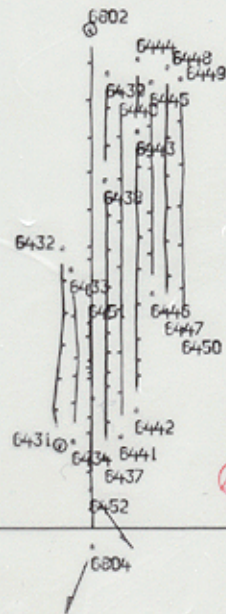
FE-339

**ALASKA, ICY STRAIT
WEST SIDE OF PLEASANT ISLAND**

**POSITION OVERLAY
Sheet 1 of 3**

58° 22' 30"

58° 22' 30"



135° 45' 00"

NAD 27
R.A.S.
J.L.S. ✓
04/19/90

58° 22' 00"

135° 45' 00"

135° 44' 30"

135° 44' 00"

135° 45' 00"

135° 44' 30"

135° 44' 00"

58° 23' 00"

58° 23' 00"

FE-339

ALASKA, ICY STRAIT WEST SIDE OF PLEASANT ISLAND

Date of Survey: October 1989

Scale-1:10,000

Soundings in FATHOMS and TENTHS at MLLW

Datum: NAD 83

Items 1,2,3

Sheet 1 of 3

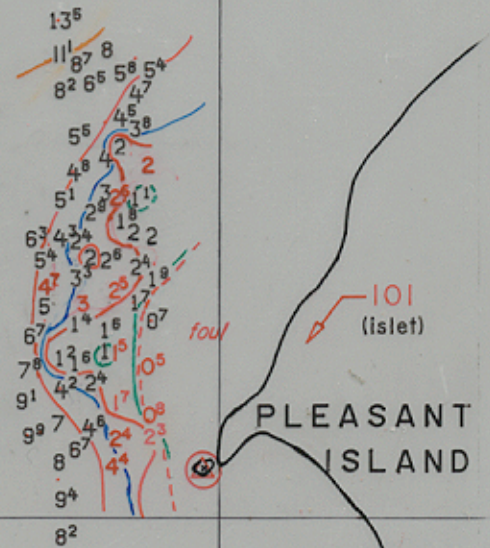
PASSAGE

58° 22' 30"

Soundings in red from H-10271 (1988)

58° 22' 30"

ICY



135° 45' 00"

NAD 27
R.A.S.
J.L.S. ✓
04/19/90

58° 22' 00"

135° 45' 00"

135° 44' 30"

135° 44' 00"

PLEASANT ISLAND

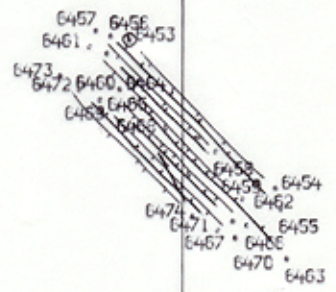
58° 21' 30" 135° 43' 00" 135° 42' 30" 135° 42' 00"

FE-339
ALASKA, ICY STRAIT
WEST SIDE OF PLEASANT ISLAND

POSITION OVERLAY
Sheet 2 of 3

135° 43' 00"
58° 21' 00"
NAD 27
R.A.S.
J.L.S. ✓
04/19/90

58° 21' 00"



58° 20' 30"

58° 20' 30"



135° 43' 00" 135° 42' 30" 135° 42' 00"

58° 21' 30" 135° 43' 00" 135° 42' 30" 135° 42' 00"

FE-339

ALASKA, ICY STRAIT WEST SIDE OF PLEASANT ISLAND

Date of Survey: October 1989
Scale-1:10,000
Soundings in FATHOMS and TENTHS at MLLW
Datum: NAD 83
Items 4,5,6
Sheet 2 of 3

135° 43' 00"

Sounding in red from H-10271 (1988)

58° 21' 00"

NAD 27
R.A.S.
J.L.S. ✓
04/19/90

58° 21' 00"

PLEASANT

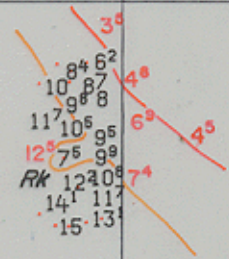


ISLAND

ICY
STRAIT

58° 20' 30"

58° 20' 30"



135° 43' 00"

135° 42' 30"

135° 42' 00"

135° 46' 00"

135° 45' 30"

135° 45' 00"

58° 20' 30"

58° 20' 30"

FE-339

ALASKA, ICY STRAIT

WEST SIDE OF PLEASANT ISLAND

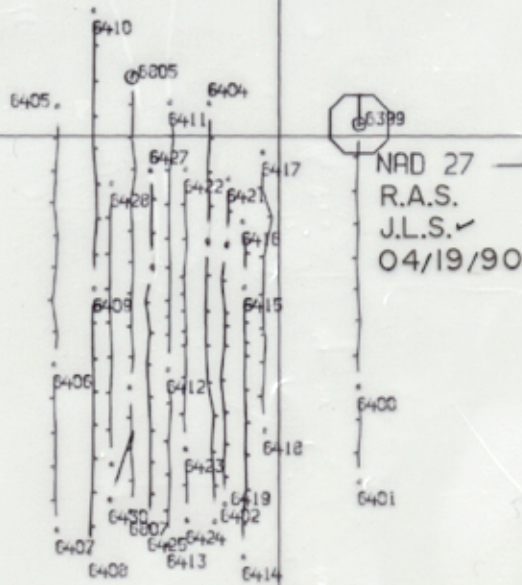
POSITION OVERLAY

Sheet 3 of 3

58° 20' 00"

135° 45' 00"

58° 20' 00"



58° 19' 30"

58° 19' 30"

135° 46' 00"

135° 45' 30"

135° 45' 00"

135° 46' 00"

135° 45' 30"

135° 45' 00"

58° 20' 30"

FE-339

58° 20' 30"

ALASKA, ICY STRAIT WEST SIDE OF PLEASANT ISLAND

Date of Survey: October 1989

Scale-1:10,000

Soundings in FATHOMS and TENTHS at MLLW

Datum: NAD 83

Item 7

Sheet 3 of 3

58° 20' 00"

135° 45' 00"

48
50
51 51
54 54 52 51 50
57 55 52 51 50
61 50 50 49 49 50
61 44 44 47 48 49
62 47 43 41 43 45
63 44 41 39 38 42
63 45 37 37 36 37 43
64 49 38 35 39 39
64 56 39 36 42 46
64 66 43 40 40 49
63 65 47 47 45 45 57
62 64 56 54 59 56 61
61 62 64 59 56 61
60 60 62 61 61 60
59 59 60 59

49

50 NAD 27
50 R.A.S.
50 J.L.S. ✓
50 04/19/90
50
50
51
53
54
55
56

58° 20' 00"

ICY STRAIT

58° 19' 30"

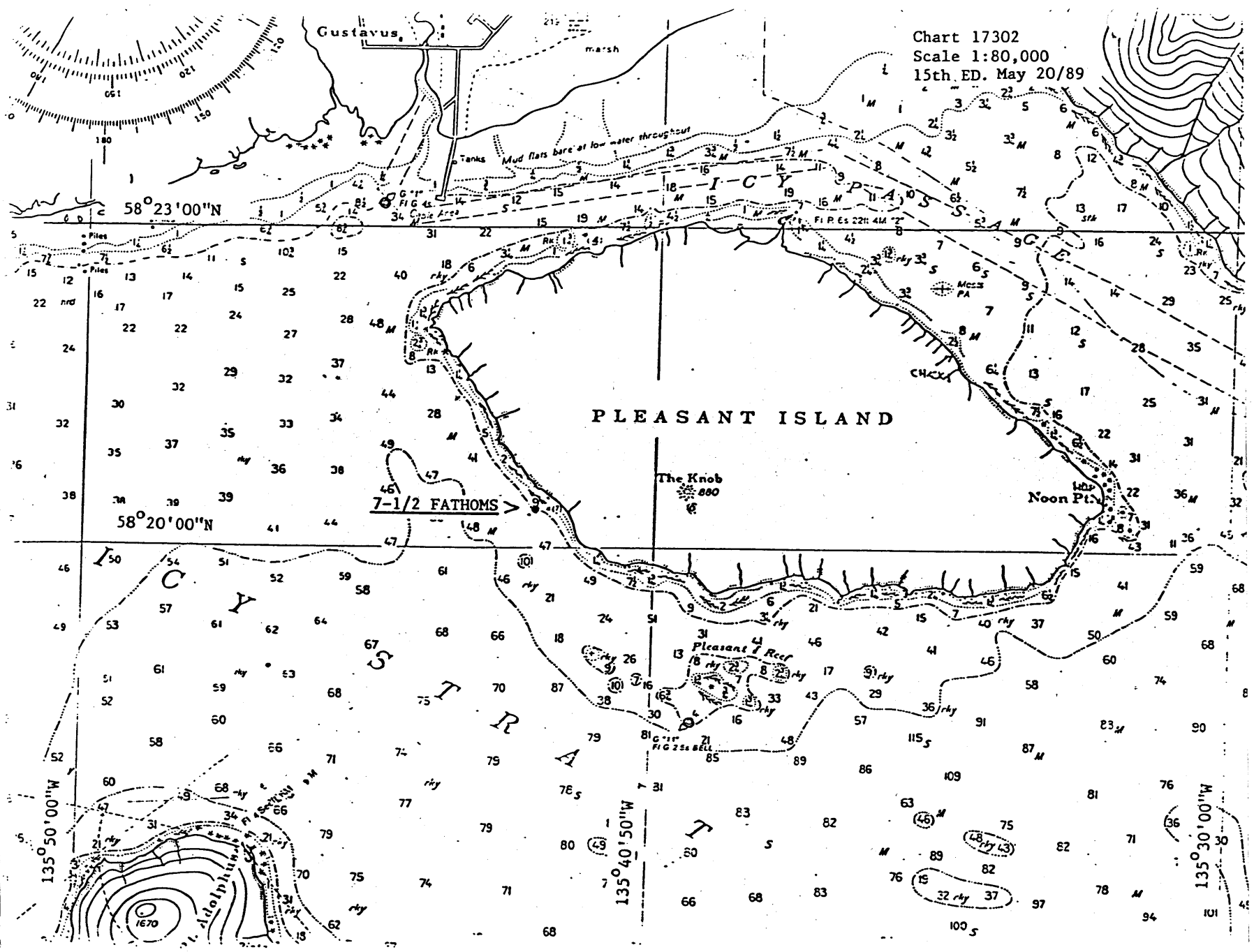
58° 19' 30"

135° 46' 00"

135° 45' 30"

135° 45' 00"

Chart 17302
Scale 1:80,000
15th. ED. May 20/89

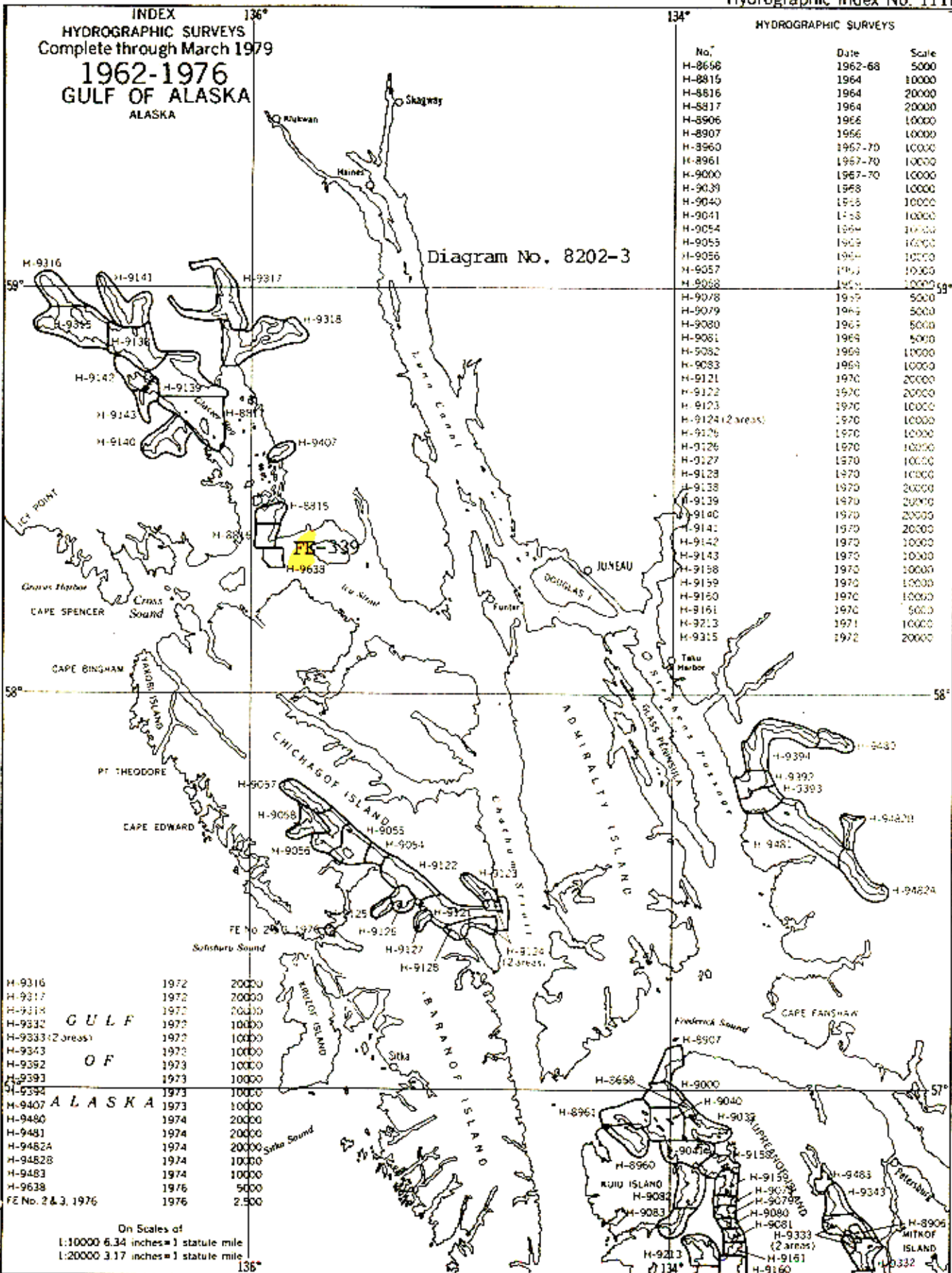


DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Survey
Washington, D.C.

Hydrographic Index No. 111E

INDEX
HYDROGRAPHIC SURVEYS
Complete through March 1979
1962-1976
GULF OF ALASKA
ALASKA

Diagram No. 8202-3



No.	Date	Scale
H-8656	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-9030	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-9150	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)

A-5124

MARINE CHART BRANCH
RECORD OF APPLICATION TO CHARTS

EXAMINED FOR NM
GDBU

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. FE-339

9-4-90 JB

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
17302	9-13-90	Ed Martin	Full Part Before After Marine Center Approval Signed Via Drawing No. 17
17300	9-13-90	Ed Martin	Full Part Before After Marine Center Approval Signed Via Drawing No. 28
17318	10/24/90	Don Black	Full Part Before After Marine Center Approval Signed Via Drawing No. 3
			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.
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