

# 10338

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-10-4-90  
Registry No. H-10338

### LOCALITY

State Alaska  
General Locality Icy Strait  
Sublocality Lemesurier Island to  
Point Dundas  
19 90  
CHIEF OF PARTY  
CAPT J.C. Albright

### LIBRARY & ARCHIVES

DATE October 10, 1991

# 10338

wc/l

CHTS  
17318  
17302  
17300

**HYDROGRAPHIC TITLE SHEET**

H-10338

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-10-4-90

State Alaska

General locality Icy Strait

Locality Lemesurier Island to Point Dundas

Scale 1:10,000 Date of survey April 28- May 17, Oct. 8, 1990

Instructions dated February 22, 1990 Project No. OPR-0186-RA

Vessel NOAA Ship RAINIER Launches (2123), (2124), (2125), (2126)

Chief of party CAPT. J. C. Albright

Surveyed by LTJG Glang, LTJG Haines, ENS Muench, ENS Ward, ENS Weber

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

Graphic record scaled by RAINIER Personnel

Graphic record checked by RAINIER Personnel

Verification ~~Plot checked~~ by L. Deodato Automated plot by PMC Xynetics Plotter

Evaluation ~~Verification~~ by C. R. Davies

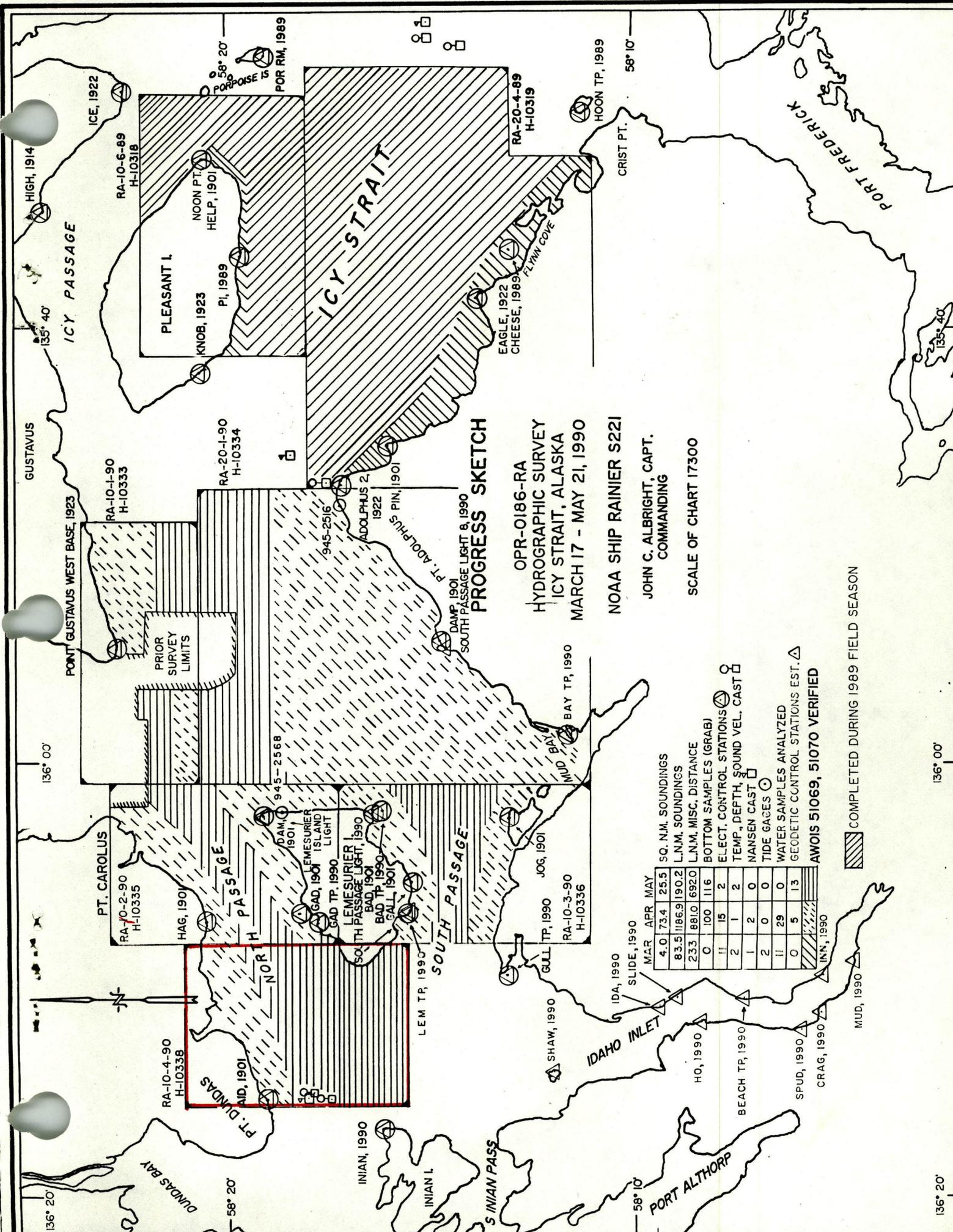
Soundings in ~~fathoms~~ <sup>meters</sup> ~~feet~~ at MLW MLLW and decimeters

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

*AWOIS and Surf chk mck  
11/13/91*

*SC 1-30-91*

*K.W.W. 11/1/91*



**PROGRESS SKETCH**

OPR-0186-RA  
 HYDROGRAPHIC SURVEY  
 ICY STRAIT, ALASKA  
 MARCH 17 - MAY 21, 1990

NOAA SHIP RAINIER S221

JOHN C. ALBRIGHT, CAPT.  
 COMMANDING

SCALE OF CHART 17300

COMPLETED DURING 1989 FIELD SEASON

	MAR	APR	MAY	
4.0	73.4	25.3		SQ. N.M. SOUNDINGS
83.5	1186.9	190.2		L.N.M. SOUNDINGS
233	881.0	692.0		L.N.M. MISC. DISTANCE
0	100	116		BOTTOM SAMPLES (GRAB)
11	15	2		ELECT. CONTROL STATIONS
2	1	2		TEMP., DEPTH, SOUND VEL., CAST
1	2	0		NANSEN CAST
2	0	0		TIDE GAGES
11	29	0		WATER SAMPLES ANALYZED
0	5	13		GEODETIC CONTROL STATIONS EST.
				AWOIS 51069, 51070 VERIFIED

INN, 1990

MUD, 1990

CRAG, 1990

SPUD, 1990

BEACH TR, 1990

HO, 1990

IDA, 1990

SLIDE, 1990

SHAW, 1990

GULL TR, 1990

JOG, 1901

RA-10-3-90  
H-10336

BAY TR, 1990

SOUTH PASSAGE LIGHT B, 1990

DAMP, 1901

PT. ADOLPHUS LIGHT, 1901

ADOLPHUS 2, 1922

945-2516

945-2568

PT. ADOLPHUS PIN, 1901

RA-20-1-90  
H-10334

PRIOR SURVEY LIMITS

RA-10-1-90  
H-10333

PONT GUSTAVUS WEST BASE, 1923

GUSTAVUS

ICE, 1922

HIGH, 1914

ICEY PASSAGE

ICEY STRAIT

PLEASANT I.

NOON PT. HELP, 1901

RA-10-6-89  
H-10318

POR POISE IS

POR RM, 1989

58° 20'

136° 00'

136° 40'

136° 20'

136° 00'

136° 40'

58° 10'

58° 10'

58° 20'

58° 20'

136° 20'

136° 40'

136° 20'

136° 40'

## Descriptive Report to Accompany Hydrographic Survey H-10338

Field Number RA-10-4-90

Scale 1:10,000

April - May 1990

NOAA Ship RAINIER

Chief of Party: Captain John C. Albright, NOAA

### A. PROJECT ✓

This basic hydrographic survey was completed in Icy Strait, southeast Alaska, as specified by Project Instructions OPR-O186-RA dated February 22, 1990. This survey is designated Sheet C on the revised sheet layout dated February 16, 1988.

This survey is one in a series which will provide contemporary hydrographic data for updating existing nautical charts and planned larger scale chart coverage of the Icy Strait area. It responds to the concerns of federal, state, and local governments in regard to navigational safety due to an increase in fishing and tour vessels operating in the vicinity. Requests for updated NOAA surveys have also come from the Southeastern Alaska Pilots' Association and NOAA vessels, which have cited inaccurately charted data and numerous rocks and shoals.

This survey was completed using procedures outlined in the January 1989 edition of the Field Procedures Manual for Hydrographic Surveying (FPM).

### B. AREA SURVEYED ✓

This survey is located in southeast Alaska, 65 NM west of Juneau, and extends from Lemesurier Island west to Point Dundas, in the North Passage of Icy Strait. The survey is bounded to the north by Glacier Bay National Park, and to the south by latitude  $58^{\circ}-15'-30''$ N. The survey's eastern and western limits are  $136^{\circ}-08'-30''$ W and  $136^{\circ}-16'-00''$ W, respectively. Survey data was acquired from April 28 to May 17, 1990 (DN 118-137).

*Additional work was done Oct 8, 1990, see attached letter, Additional work, Hydrographic Survey H-10338, dated Oct 28, 1990*

The bathymetry within the survey area is characterized by a deepening trend from east to west. The shoalest offshore sounding (29 meters) was found on a feature in the southwestern area of the survey. Soundings along the western survey limit are the deepest at approximately 260 meters. The bathymetry along the northern survey limit rises steeply to the shoreline, while the bathymetry along Lemesurier Island is less steep.

The topography along Lemesurier Island and the south shore of Glacier Bay National Park consists of dense forest, primarily sitka spruce and hemlock fir, on steep foothills. Shoreline, generally narrow and steep, consists of boulder and broken rock beaches. Low cliffs, with occasional ledge outcroppings, are also present.

The bottom characteristics consist primarily of fine green sand throughout the survey area, with black sand occurring in deeper areas and some broken shell found alongshore.

### C. SOUNDING VESSELS ✓

All sounding data were acquired by NOAA Ship RAINIER's four automated survey launches shown below:

<u>Vessel</u>	<u>EDP No.</u>	<u>Operation</u>
RA-3	2123	Hydrography Shoreline Verification
RA-4	2124	Hydrography Shoreline Verification
RA-5	2125	Hydrography Shoreline Verification Bottom Samples
RA-6	2126	Hydrography Shoreline Verification

No changes to the standard sounding configurations were necessary.

#### D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS ✓

All survey launches were equipped with the Raytheon DSF-6000N echo sounders shown below. 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 meters and tenths of meters. Six-meter 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.

#### Raytheon DSF-6000N Echo Sounders

<u>EDP No.</u>	<u>Serial No.</u>	<u>DN</u>
2123	B046N	118-133
2124	A119N A103N	122-133 134
2125	A117N	118-135
2126	A114N	118-121

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 were inserted, but also to verify the digitized depths. While running over steep or irregular areas, the echo sounders sometimes failed to track properly. Running at minimum speeds usually alleviated this problem, but marginal analog traces could not always be avoided.

Bar check lines were calibrated by RAINIER personnel during January-February 1990 at PMC. Calibration forms are included in the Spring 1990 Corrections to Echo Soundings Data Package for OPR-O186-RA.

### 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 DSF-6000N echo sounder. Supporting data and computations for all corrections to echo soundings, except heave, are included in the Spring 1990 Corrections to Echo Soundings Data Package for OPR-O186-RA.

### Static Draft ✓

For all launches, the distance from the transducer face to the gunwale was measured with a large metal carpenter's square. Static draft measurements were then determined by dropping a leadline from the gunwale to the water and subtracting this distance from the distance measured with the carpenter's square. The measurements from the gunwale to the waterline were conducted with the fuel tanks averaging 3/4 full and three people aboard. A transducer depth of 0.6 meter was determined for all launches on March 20, 1990. This transducer depth agrees with the launches' historical records.

### Heave ✓

Corrections for heave were applied while scanning echograms. The scanning technique used in comparing the analog trace with the digital record eliminated fluctuations resulting from sea action.

### Sound Velocity ✓

Correctors for the velocity of sound through water were determined from the casts listed below:

<u>Cast No.</u>	<u>Deepest Depth (m)</u>	<u>DN</u>	<u>Geographic Position</u>
6	157	115	58°17'54"N, 136°15'48"W
N4*	150	115	58°17'54"N, 136°15'48"W
7	119	131	58°17'34"N, 135°47'10"W
8	190	133	58°17'55"N, 136°15'27"W

N=Nansen cast

\*Data not applied to echo soundings as results were almost identical to those of cast No. 6.

Sound velocity correctors were acquired with an AML SVP Profiler, S/N 3042, calibrated at the Northwest Regional Calibration Center (NRCC) in Bellevue, WA on March 27, 1990.

Thermometers used for the Nansen cast were calibrated between April 26, 1989, and January 25, 1990, at NRCC. Two Beckman salinometers were calibrated at NRCC: S/N 24663 on February 7, 1990, and S/N 59265 on March 9, 1990.

Nansen cast No. N4 was taken on the same day as AML cast No. 6 to ensure the AML sensor was operating properly. The sound velocities determined by the two methods showed excellent agreement.

Surface water temperature and the corresponding sound velocity increased over time during the survey period. Sound velocity profiles showed significant regional variations within the

project area as well; therefore, sound velocity correctors were applied regionally as well as temporally to this survey. The casts used for each velocity table, and the days for which each velocity table applies, are shown below:

<u>Velocity Table No.</u>	<u>Cast No.</u>	<u>Applicable DN</u>
5	6	118-123
7	8	128-137
8		281

Velocity correctors were computed using the PC program VELOCITY (version 1.11) in accordance with Hydrographic Survey Guideline 69 (HSG 69), dated November 15, 1989. Printouts of velocity tables used in the HDAPS POST-SURVEY program are appended to this report. \*\*\*

#### Settlement and Squat ✓

Settlement and squat correctors were determined for three of the automated survey launches in Shilshole Bay, WA: Vesno 2124 and Vesno 2126 on February 23, and Vesno 2125 on March 13, 1990. Vesno 2123 was tested at the working grounds on April 12, 1990, near Pt. Aldolphus in Icy Strait. Vesno 2125 was retested on May 20, 1990, at Bartlett Cove near the working grounds as the March 1990 correctors for this launch varied slightly from 1989 data. Correctors from 1989 were applied to data from Vesno 2123 and Vesno 2125 during acquisition until the 1990 correctors became available. Final field sheets were prepared with 1990 data. *Settlement and squat correctors were applied by RPM on the smooth sheet.*

All tests were conducted over 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. Correctors were computed in accordance with Hydrographic Manual 4.9.4.2.

The following is a summary of Offset Tables used on this survey and their applicable period:

<u>EDP No.</u>	<u>Offset Table No.</u>	<u>Period used Online (DN)</u>
2123	1 (1989)	118-128
	3	129-137
2124	4	118-137
2125	1 (1989)	118-128
	5 (1989)**	129-137
	5 (1990)	<i>used for FFS only</i>
2126	6	118-137

\*\* Offset Table 5 (1989) is identical to 1 (1989).

Offset Tables 3,4,5 (1990) and 6 were used to prepare the final field sheets. Copies of all Offset Tables are appended to this report. \*\*\*

\* On June 29, 1990, RAINIER determined the HDAPS Survey Program and Post Survey Program do not apply settlement and squat correctors. Recommend the Offset Tables be applied to the smooth sheet when the HDAPS Post Survey Program is modified.

*Offset tables could not be applied directly to the smooth sheet because the HDAPS Survey Program was not modified at the time of office processing for Survey H-10338. Settlement and Squat correctors were manually applied through the FFS tables.*

\*\*\* Filed with the hydrographic data.

**Tide Correctors** ✓

Tidal zoning and correctors applicable to predicted tides for the Sitka, Alaska, reference station (945-1600) were provided on the Tidal Zoning Chart accompanying the Project Instructions, and are shown below.

<u>Zone</u>	<u>Time Corrections</u>	<u>Ratio</u>
East of line between 58°19'30"N, 136°14'06"W 58°13'12"N, 136°09'42"W	High water: +10 min Low water: +10 min	x1.40
West of line defined above:	High water: +10 min Low water: +10 min	x1.34

Although both zones encompass parts of the survey area, the majority of data was acquired within the first zone. Therefore, the correctors from this zone were applied to all soundings. Printouts of the HDAPS Predicted Tide Tables used to generate tide correctors are appended to this report. \*

The tide station for this survey was installed and maintained by RAINIER personnel on the east side of Lemesurier Island (945-2568). Although not specifically required for this survey, a tide station at Point Adolphus (945-2516) was also in operation. The field tide records and the Field Tide Notes for these stations have been forwarded to N/OMA121 in accordance with HSG 50 and FPM 4.3. The request for approved tides has been forwarded to N/OMA121. Copies of the Field Tide Notes and the request 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 two 1:10,000-scale final field sheets are designated RA-10-4E-90 and RA-10-4W-90 (HDAPS Plotter Sheet Table Nos. 25 and 26).

Each final field sheet (FFS) has a 1:10,000-scale overlay showing detached positions and bottom sample characteristics.

In addition, there are five 1:2,500-scale plotter sheets showing splits and 10-meter shoal developments.

<u>HDAPS Plotter Sheet No.</u>	<u>Scale</u>	<u>Description</u>
25	1:10,000	RA-10-4E-90
26	1:10,000	RA-10-4W-90
28	1:2,500	RA-10-4W-90, DEV 28
58	1:2,500	RA-10-4E-90, DEV 58
59	1:2,500	RA-10-4E-90, DEV 59
64	1:2,500	RA-10-4E-90, DEV 64
65	1:2,500	RA-10-4E-90, DEV 65

\* Filed with the hydrographic data

Heights of shoreline features on the final field sheets are shown with tenths of meters in decimals rather than superscript. This was approved by N/CG245 and is consistent with the HDAPS plotting convention in use when these sheets were prepared.

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

#### F. CONTROL STATIONS ✓

Positions for all existing stations are from the NGS data base and from positions established by FAIRWEATHER personnel during OPR-0186-FA-88. All existing stations were recovered in accordance with methods stated in FPM 5.2.4. New stations meet Third-Order Class 1 standards and were positioned via traverse method. Geographic positions are based on the North American Datum of 1983 and the Geodetic Reference System 1980 Ellipsoid. Further information can be found in the Spring 1990 Horizontal Control Report for OPR-0186-RA.

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

#### G. HYDROGRAPHIC POSITION CONTROL ✓

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

#### Positioning Equipment ✓

The following tables summarize the mobile console/RT units and shore transponders used:

##### Mobile Equipment

<u>EDP No.</u>	<u>Vessel</u>	<u>Console/RT</u>	<u>DN</u>
2123	RA-3	D0051/B1405	118-137
2124	RA-4	E0148/F3413	122-134
2125	RA-5	F0245/F3414	118-135
2126	RA-6	E0138/E2716 E0138/911615	118 119-121

##### Shore Equipment

<u>Transponder Serial No.</u>	<u>Code*</u>	<u>Transponder Serial No.</u>	<u>Code</u>
C1883	B/11	911059	1
G3500	C/12	B1106	2
F3256	E/14	E2713	3
G3501	F/15	F3248	4

\*hexadecimal/numerical designations

**Baseline Calibrations** ✓

Opening baseline calibrations were conducted over water in accordance with FPM 3.1.2.1. Calibrations were conducted at Sand Point, Lake Washington, Seattle, on DN 058-061, over a measured baseline of 1423 meters.

Final field sheets were plotted with the 1990 opening baseline calibration correctors. Detailed information, calibration data, and descriptions of the baselines can be found in the Spring 1990 Electronic Control Data Package for OPR-O186-RA.

**System Check Procedures** ✓

Critical systems checks were conducted in accordance with FPM 3.1.2.2. Printouts of the HDAPS SURVEY program Position Quality Page confirmed that the error circle radius (ECR) and maximum residual values were acceptable at times of hydrography.

**Problems and Unusual Position Configurations** ✓

Null zones and erratic ranges were occasionally experienced due to the destructive interference of direct and reflected microwaves. Due to these null zones, line-of-sight interruptions, etc., a small amount of data were acquired with ECR's or maximum residuals above the acceptable limits. Time-and-course interpolations were used during data processing to correct the position of these data if they plotted off of the vessel track.

On DN 119, the RT unit, S/N E2716, in Vesno 2126 failed. The RT unit was replaced with a spare RT, S/N 911615. Both RT units had been previously calibrated with console S/N E0138 during baseline calibrations.

**Antenna Offset Distances** ✓

The antenna offset distance was 0.0 meters for all launches as each launch had its antenna located over the transducer. Antenna offset and layback correctors are included in the Offset Tables appended to this report. \*

**H. SHORELINE** *See Section 2, ECR Report*

Two 1:10,000-scale shoreline map enlargements (T-sheets) of TP-01316 (1:20,000, 1988) were used to transfer shoreline detail to the final field sheets. TP-01316 is based on NAD83 datum. TP-01328 was also used on the smooth sheet.

Shoreline verification was conducted either at or near lower low water in accordance with FPM 7.0. The high water line was verified as shown on the T-sheet during shoreline verification. Changes to the HWL on the southwest of Lemesurier Island, located by hydrographic methods, are shown in red per FPM 7.1.2. Shoreline west of longitude 136°-15'-00"W, shown in brown, is from Chart 17302, 15th edition, and is for orientation purposes, per HSG 17. No shoreline manuscript was provided for this area.\* Changes to the charted HWL in this area are estimated and are shown with a dashed red line. *Shoreline map TP-01328 was transferred in black west of longitude 136°15'00"W. See smooth sheet*

Detached positions (DPs) taken at lower low water indicate that the T-sheet photography was flown during a stage of tide higher than MLLW. Isolated T-sheet rocks were often found to be high points on islets or reefs, and alongshore T-sheet rocks were often within foul areas or on rock and boulder beaches. No significant or prominent alongshore rocks were found at

\* Area covered by shoreline map TP-01328

these T-sheet locations. Alongshore T-sheet rocks were retained and shown on the final field sheets to represent the nature of the area.

The two 1:10,000-scale DP overlays show, via dotted line, the limits of various types of shoreline composition at the times the DPs were acquired. The two 1:10,000-scale final field sheets show the approximate 0-meter curve as a dashed line where steep shoreline prevented a launch from running sounding lines to the 0-meter curve.

Kelp symbols are shown on the FFS in areas where surface kelp was visible.

*Kelp symbols were transferred from the FFS to the smooth sheet.*

DPs were recorded on the master printouts. Detailed 1:10,000-scale paper plots showing all DPs and notes relating to each feature are included with the sheets submitted with this survey. Position numbers for all DPs are plotted on the two DP overlays. Cartographic codes have been included in the field records. Heights are recorded in meters and are corrected for predicted tides. The heights recorded for islets refer to the features' highest points. Heights of islets are shown above predicted MHW=3.29 meters IAW HSG 69.

## I. **CROSSLINES** ✓

A total of 34.1 nautical miles of crosslines were run perpendicular to mainscheme lines, representing 23.2% of the mainscheme hydrography. Crossline soundings agree within one meter compared to mainscheme soundings, except in areas of steep bottom topography. The vessel which acquired crossline data did not always collect the corresponding mainscheme data.

## J. **JUNCTIONS** *See EVAE Report, section 5*

This survey junctions with H-10335 (1:10,000; 1990) to the east, north of Lemesurier Island, and H-10336 (1:10,000; 1990) also to the east, south of Lemesurier Island. There are no contemporary surveys to the south or west. No irregularities were found when comparing soundings and depth contours. Agreement between overlapping soundings is excellent, with all junction soundings agreeing within one or two meters.

*Also surveys H-10357 and H-10371 junction survey H-10338.*

## K. **COMPARISON WITH PRIOR SURVEYS** *See EVAE Report, section 6*

There are no AWOIS items within the survey limits that originate from prior surveys or any other source.

The following prior survey lies within the limits of this survey:

### H-2618 (1:40,000; 1902)

A 1:40,000-scale copy of H-2618 was compared to this survey. The general agreement of depths and contours is good, although some soundings were illegible. Several soundings in the deep areas were found to be 3 meters to 10 meters shoaler on this survey than on H-2618. A 29<sup>m</sup> least depth (position no. 8511+1) at 58°15'52.83" N and 136°14'26.55" W was determined for a charted 35 fathom shoal originating from H-2618. This shoal was reported as a danger to navigation (see Appendix X). Inshore soundings were completely illegible on H-2618. *\* Least depth of 29.2m pos. 4072/07 at lat. 58°15'54.09 N, long. 136°14'24.05 W. (15.9 fathoms)*

**Recommendation:** The hydrographer recommends that the soundings and least depths acquired on this survey be used to supersede those of H-2618 within their common areas.

*Concur*

## L. COMPARISON WITH THE CHART *See Final Report, section 7*

This survey was compared to NOS Chart 17302, 15th Edition, May 20/89, 1:80,000 (NAD83).

### Comparison of Sounding Features ✓

All offshore charted soundings originate from the prior survey discussed in Section K and will not be discussed here.

All inshore soundings originate from prior survey H-2618 as well. Charted soundings were transferred onto the boat sheets for comparison. Similar soundings were found on the survey, generally within a 200-meter radius of the charted soundings, and agreed to within 2 meters of the surveyed depths. Although the 50 fathom sounding charted at  $58^{\circ}16'10.80''$  N and  $136^{\circ}09'45.60''$  W was not confirmed, similar depths exist 1/4 mile to the northeast and southeast.

**Recommendation:** Additional development to prove or disprove the charted 50 fathom depth will be completed during RAINIER's Fall 1990 continuation of Project OPR-O186-RA. *See letter dated Oct. 28, 1990, attached to this report.*

### Comparison of Non-Sounding Features ✓

In general, the chart adequately portrays all non-sounding features. Any changes to the charted shoreline were accurately shown on the T-sheets, with the exception noted in Section H (Shoreline) of this report.

### Dangers to Navigation ✓

Seven dangers to navigation within the limits of this survey were reported by radio message and hard copy to the Seventeenth Coast Guard District and DMAHTC. Copies of the correspondence are appended to this report. Position numbers associated with each danger are noted on the radio message copy. *One additional danger was reported during office processing, see letter attached.*

## M. ADEQUACY OF SURVEY ✓

This survey is complete and adequate to supersede the areas common to the prior surveys listed within Section 6.10 of the Project Instructions.

## N. AIDS TO NAVIGATION ✓

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

## O. STATISTICS ✓

Vessel:	<u>2123</u>	<u>2124</u>	<u>2125</u>	<u>2126</u>	<u>TOTAL</u>
# of Pos.	431	230	171	523	1355
NM of Hydro:	68.3	19.5	9.4	83.9	181.1

NM<sup>2</sup> Hydro: 17.6      Velocity Casts: 2

Detached Positions:	69	Tide Stations:	2
Bottom Samples:	55	Current/Magnetic Stations:	0

#### P. MISCELLANEOUS ✓

All bottom samples were forwarded to the Smithsonian Institution. In accordance with the Project Instructions, the distance between bottom samples was expanded to 40cm in depths greater than 200 meters.

No current measurements were made as no anomalous currents were observed within this survey's limits. During periods of maximum flood and ebb, launch OIC's estimated currents as high as 6-7 knots alongshore from Point Dundas eastward.

#### Q. RECOMMENDATIONS ✓

Recommend shoreline from CM-8410 be applied to this survey west of longitude 136°-15'-00"W. *Shoreline maps TP-01328 has been applied to the smooth sheet.* *CMCua*

#### R. AUTOMATED DATA PROCESSING ✓

Data acquisition and processing were accomplished with Hewlett-Packard (HP) 340M workstations and the following HDAPS programs:

<u>Program Name</u>	<u>Version</u>
SURVEY	4.13
SURVEY (PC-DAS)	3.55
POSTSUR	4.13
FILESYS	1.50
ABST	3.03
PLOTALL	1.30, 1.55
POINT	1.10
BACKUP	1.02
CONVERT	2.33
PRINTOUT	2.23
DIAGNOSTIC	2.15
INVERSE	1.01
INSTALL	1.20
COMPUTE	2.02
CONSTAT	2.02
CONPLOT	1.02
AUTOST (BIGAUTOST)	2.00

Detached positions for all bottom samples are included in Contact Table Nos. 24, 36 and 37. Copies of all contact tables are appended to this report.

The survey data, stored according to sheet number, were forwarded to N/CG245 on 32-track tape cartridges.

**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>
Spring 1990 Horizontal Control Data Package for OPR-O186-RA	July, 1990
Spring 1990 Electronic Control Data Package for OPR-O186-RA	July, 1990
Spring 1990 Corrections to Echo Soundings Data Package for OPR-O186-RA	July, 1990
Spring 1990 Coast Pilot Report for OPR-O186-RA	July, 1990

Respectfully Submitted,

*Gerd F. Glang*  
Gerd F. Glang  
Lieutenant (j.g.), NOAA

Approved and Forwarded,

*John C. Albright*  
John C. Albright  
Captain, NOAA  
Commanding Officer



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
Rockville, MD 20852-3019

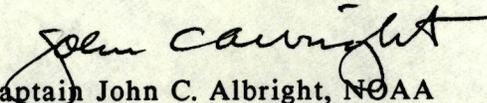
OFFICE OF NOAA CORPS OPERATIONS

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

October 28, 1990

MEMORANDUM FOR: Commander Pamela Chelgren-Koterba, NOAA  
Chief, Pacific Hydrographic Section

FROM:

  
Captain John C. Albright, NOAA  
Commanding Officer, NOAA Ship RAINIER

SUBJECT:

Additional Work, Hydrographic Survey H-10338

The enclosed work supplements Hydrographic Survey H-10338 (Lemesurier Island to Point Dundas, Icy Strait, Alaska, 1:10,000, April 28 - May 17, 1990) submitted as part of RAINIER's Spring 1990 project (OPR-0186-RA). A charted 50fm (91m) sounding (NOS Chart 17302, 15th edition, May 20/89) at 58°16'10.80"N, 136°09'45.60"W, was unconfirmed during that survey (see H-10338 Descriptive Report, page 9, Section L, *Comparison With The Chart*). On DN281, VESNO 2126 conducted 100m sounding lines over the charted 50fm depth, extending approximately 500m in all directions. These sounding lines were overlaid on a copy of the H-10338 Final Field Sheet (FFS). Although similar 91m depths exist approximately 450m northeast and southeast, closer inshore to Lemesurier Island, there is no indication of a 50fm depth as charted. Depths and contour curves from this additional work compare almost exactly to H-10338.

*The charted 50 fm depth is considered disproven. All data was added to the spring work.*  
Updated versions of the HDAPS Survey (4.51), Postsur (4.15), Filesys (1.68), Abst (3.05), Plotall (1.74), Point (1.10), Backup (1.02), Inverse (1.21), Constat (2.05, with RA mods), and Conplot (1.02, with RA mods) programs were used in data acquisition and processing. New HDAPS programs used were Loadnew (1.00) and Quick (1.02). Velocity corrections were determined using the Velocity (1.11) PC program. Other programs are stated in the H-10338 Descriptive Report (DR), page 10, Section R, *Automated Data Processing*.

Sounding equipment is discussed in the H-10338 DR, page 2, Section D, *Sounding Equipment and Corrections to Echo Soundings*. The echosounder serial number is indicated on the enclosed raw master printout (RMPO). Corrections to echosoundings will be discussed in the Fall 1990 Corrections to Echo Soundings Report, November 1990. The HDAPS Velocity Table used for this FFS is enclosed.

Control stations for this additional work are discussed in the H-10338 DR, page 6, Section F, *Control Stations*, and the Spring 1990 Horizontal Control Report, May 1990, for Project OPR-0186-RA. A printout of the HDAPS Control Station Table is enclosed with this data.

Hydrographic position control is discussed in the H-10338 DR, page 6, Section G, *Hydrographic Position Control*. Positioning equipment is listed on the enclosed RMPO. Baseline calibrations will be discussed in the Fall 1990 Electronic Control Data



Package, November 1990. A printout of the HDAPS C-O Table is enclosed with this data. ✓

Shoreline, crosslines, and junctions are not applicable to this additional work. Comparisons to the prior survey (H-2618, 1902, 1:40,000) and to the chart (NOS Chart 17302, 15th edition, May 20/89) are as discussed in paragraph one. Possible reasons for position differences between the charted 50m sounding and the closest 91m sounding on this survey include the hydrographic positioning method of the 1902 survey, and the disparity of scales between the chart and this survey. ✓

This additional work is adequate to supplement, and completes, Hydrographic Survey H-10338. Statistics are as stated on the enclosed RMPO. No aids to navigation occur within the limits of this additional work. No additional miscellaneous data was acquired. *CONCUR*

No further recommendations for Hydrographic Survey H-10338 are provided. ✓

CONTROL STATIONS								
No	Type	Latitude	Longitude	H	Cart	Freq	Vel	Code MM/DD/YY
100	F	058:17:09.847	135:46:58.184	15	250	0.0	0.0	04/03/90
101	F	058:22:02.097	135:44:01.316	4	250	0.0	0.0	03/17/90
102	V	058:22:00.658	135:35:05.705	5	139	0.0	0.0	03/17/90
103	F	058:13:00.750	135:36:26.826	3	250	0.0	0.0	03/17/90
105	F	058:13:54.846	135:38:41.748	10	250	0.0	0.0	03/17/90
106	F	058:20:23.377	135:32:11.011	9	139	0.0	0.0	03/17/90
107	F	058:24:26.749	135:34:33.856	4	250	0.0	0.0	03/17/90
108	F	058:11:21.969	135:29:59.785	9	250	0.0	0.0	03/17/90
109	F	058:22:30.552	135:29:02.346	10	250	0.0	0.0	03/17/90
110	F	058:20:47.818	135:42:26.049	9	139	0.0	0.0	03/17/90
112	F	058:23:13.034	135:49:27.324	5	250	0.0	0.0	03/17/90
113	F	058:16:00.946	135:45:18.766	13	250	0.0	0.0	03/17/90
114	F	058:19:02.314	135:27:19.259	4	250	0.0	0.0	03/17/90
115	F	058:21:14.164	135:24:44.196	8	250	0.0	0.0	03/17/90
116	F	058:19:30.080	135:36:48.509	11	250	0.0	0.0	03/17/90
119	F	058:16:25.074	136:02:19.250	11	250	0.0	0.0	04/03/90
120	F	058:19:08.821	136:02:27.081	10	250	0.0	0.0	04/03/90
121	F	058:14:46.247	135:54:25.037	14	250	0.0	0.0	2 04/03/90
122	V	058:19:06.224	136:02:50.149	0	0	0.0	0.0	00/00/00
123	V	058:20:40.574	136:06:22.997	0	0	0.0	0.0	00/00/00
124	F	058:15:28.422	136:05:36.899	8	250	0.0	0.0	B 04/03/90
125	F	058:13:05.322	136:02:32.343	10	250	0.0	0.0	F 04/03/90
126	V	058:13:28.804	136:08:23.540	0	0	0.0	0.0	00/00/00
127	V	058:19:08.242	136:02:27.086	0	0	0.0	0.0	00/00/00
128	F	058:22:47.408	135:54:44.931	<del>13</del>	250	0.0	0.0	5 04/03/90
129	V	058:15:36.000	136:06:48.000	0	0	0.0	0.0	00/00/00
130	V	058:14:54.000	135:54:18.000	0	0	0.0	0.0	00/00/00
131	V	058:20:30.117	136:07:23.370	0	0	0.0	0.0	00/00/00
132	F	058:18:16.785	136:07:04.282	10	250	0.0	0.0	04/12/90
205	F	058:13:54.846	135:38:41.748	10	250	0.0	0.0	03/17/90
133	F	058:16:16.743	136:02:14.424	11	250	0.0	0.0	E 04/16/90
134	F	058:20:30.117	136:07:23.370	5	250	0.0	0.0	04/16/90
135	F	058:16:08.426	136:16:52.403	13	250	0.0	0.0	C 04/16/90
136	F	058:19:03.968	136:15:34.968	13	250	0.0	0.0	04/27/90
137	F	058:13:12.460	136:09:58.937	7	250	0.0	0.0	3 04/27/90
138	F	058:17:49.341	136:07:31.798	5	250	0.0	0.0	04/27/90
200	V	058:16:10.395	136:16:58.703	3	139	0.0	0.0	00/00/00
139	F	058:11:48.296	135:58:34.324	4	250	0.0	0.0	4 05/11/90
140	F	058:15:38.126	136:07:13.227	5	250	0.0	0.0	1 05/15/90

~~120 - DAM~~

125 - JOG

~~126 - POINT GUSTAVUS WEST BASE~~

132 - GAD

134 - HAG

135 - INIAN

136 - AID

137 - GULL TP

138 - GAD TP

140 - LEM TP

Additional work

No	Type	Latitude	CONTROL STATIONS		H	Cart	Freq	Vel	Code	MM/DD/YY
			Longitude							
134	F	058:20:30.117	136:07:23.370		7	250	0.0	0.0		00/00/00
135	F	058:16:08.426	136:16:52.403		13	250	0.0	0.0	A	10/06/90
136	F	058:19:03.968	136:15:34.968		6	250	0.0	0.0		00/00/00
137	F	058:13:12.460	136:09:58.937		8	250	0.0	0.0	2	10/06/90
140	F	058:15:38.126	136:07:13.227		3	250	0.0	0.0		00/00/00
141	F	058:11:59.173	136:14:14.330		11	250	0.0	0.0	4	10/07/90
142	F	058:09:31.117	136:11:35.135		8	250	0.0	0.0	C	10/07/90
143	F	058:08:20.318	136:11:55.436		3	250	0.0	0.0		00/00/00
144	F	058:08:55.680	136:10:50.658		3	250	0.0	0.0		00/00/00
145	F	058:07:21.399	136:11:12.236		4	250	0.0	0.0		00/00/00
146	F	058:05:54.452	136:12:13.799		3	250	0.0	0.0		00/00/00
147	F	058:05:28.751	136:11:28.521		2	250	0.0	0.0		00/00/00
148	F	058:05:23.893	136:10:02.361		2	250	0.0	0.0		00/00/00
149	F	058:04:47.366	136:09:13.600		3	250	0.0	0.0		00/00/00
150	F	058:09:28.836	136:13:15.301		9	250	0.0	0.0	5	10/07/90
151	F	058:12:56.558	136:16:30.744		12	250	0.0	0.0	3	10/06/90
152	F	058:15:48.046	136:07:57.536		8	250	0.0	0.0	1	10/06/90

CONTROL STATIONS

- 135 - Inian
- 137 - Gull TP
- 151 - Icy
- 152 - Yak



**U.S. DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
Office of NOAA Corps Operations  
NOAA Ship RAINIER S221  
1801 Fairview Avenue East  
Seattle, Washington 98102-3767

July 6, 1990

Director  
DMAHTC  
6500 Brooks Lane  
Washington, D.C. 20315

Dear Sir:

While conducting hydrographic survey operations in Icy Strait, Alaska, the NOAA Ship RAINIER discovered twelve dangers to navigation. These items are in addition to the eight dangers reported in 1989 (reference letter dated December 26, 1989) and the thirteen dangers reported April 16, 1990. They have been reported to DMAHTC (NAVWARN) and the Seventeenth Coast Guard District. A copy of the correspondence describing the dangers is enclosed.

Sincerely,

A handwritten signature in cursive script, reading "John C. Albright", is written over the typed name.

John C. Albright  
Captain, NOAA  
Commanding Officer

Enclosures





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

Office of NOAA Corps Operations  
NOAA Ship RAINIER S221  
1801 Fairview Avenue East  
Seattle, Washington 98102-3767

July 6, 1990

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 dangers to navigation which I recommend for inclusion in the Local Notice to Mariners for the Seventeenth Coast Guard District. These items are in addition to the eight dangers reported in 1989 (reference letter dated December 26, 1989) and the thirteen dangers reported April 16, 1990. A copy of the chart showing the areas in which the dangers exist is also attached.

Sincerely,

John C. Albright  
Captain, NOAA  
Commanding Officer

Enclosures

cc: DMAHTC  
N/CG221  
PMC





P 061610Z JUL 90  
 FM NOAA S RAINIER  
 TO CCGDSEVENTEEN JUNEAU AK  
 DMAHTC (NAVWARN) WASHINGTON DC//MCNM//  
 INFO NOAA MOP SEATTLE WA  
 ACCT CM-VCAA

BT  
 UNCLAS

NOAA SHIP RAINIER HAS FOUND TWELVE DANGERS TO NAVIGATION IN ICY STRAIT, ALASKA (PROJECT OPR-0186-RA) WITHIN THE LIMITS OF HYDROGRAPHIC SURVEYS H-10338 (LEMESURIER ISLAND TO PT DUNDAS; ITEMS A-G) AND H-10333 (ICY PASSAGE TO PT CAROLUS; ITEMS H-L). THESE DANGERS SUPPLEMENT THOSE REPORTED IN MY P 262100Z DEC 89 AND P 170322Z APR 90 MESSAGES. THE FOLLOWING INFORMATION IS PROVIDED FOR PUBLICATION IN LOCAL NOTICE TO MARINERS:

*KVJ / TBOST*  
*JMA 061616Z*  
*JUL*

CHARTS AFFECTED:	17302	15TH ED	1:80,000	MAY 20/89	NAD83
	17300	25TH ED	1:209,978	APR 29/89	NAD83
	17318	2ND ED	1:80,000	JAN 12/85	NAD27

DEPTHS ARE REDUCED TO MLLW BASED ON PREDICTED TIDES.

ITEM	DANGER	DEPTH	DATUM	LATITUDE	LONGITUDE	PosNo.
A.	SHOAL SUBM	15 3/4FM	NAD83	58-15-52.83N	136-14-26.55W	8511+1
B.	SHOAL SUBM	9 1/2FM 9FM 3FT	NAD83 NAD27	58-20-18.28N 58-20-19.58N	136-10-15.38W 136-10-08.79W	4143+2
C.	SHOAL SUBM	7 1/2FM 7FM 3FT	NAD83 NAD27	58-20-06.95N 58-20-08.25N	136-11-13.35W 136-11-06.76W	4153+4
D.	SHOAL SUBM	10FM	NAD83	58-17-05.54N	136-09-23.87W	4216+3
E.	SHOAL SUBM	13 1/2FM	NAD83	58-17-20.25N	136-09-19.50W	4224+3
F.	ROCK COV	3/4FM 0FM 5FT	NAD83 NAD27	58-19-12.80N 58-19-14.10N	136-15-08.00W 136-15-01.41W	2012
G.	ROCK AWASH	0FM 0FM 0FT	NAD83 NAD27	58-20-12.25N 58-20-13.90N	136-11-46.90W 136-11-40.31W	6008
H.	SHOAL SUBM	10 1/2FM 10FM 4FT	NAD83 NAD27	58-21-09.00N 58-21-10.30N	136-00-42.50W 136-00-35.91W	↑ H-10338
I.	SHOAL SUBM	5FM 5FM 0FT	NAD83 NAD27	58-20-53.50N 58-20-54.80N	136-00-02.50W 135-59-55.91W	
J.	SHOAL SUBM	3/4FM 0FM 5FT	NAD83 NAD27	58-22-23.50N 58-22-24.80N	135-54-34.00W 135-54-27.41W	
K.	SHOAL SUBM	12 3/4FM 12FM 5FT	NAD83 NAD27	58-21-39.00N 58-21-40.30N	136-00-36.00W 136-00-29.41W	
L.	ROCK AWASH	0FM 0FM 0FT	NAD83 NAD27	58-22-27.10N 58-22-28.40N	135-54-08.00W 135-54-01.41W	

NUMEROUS UNCHARTED ROCKS EXIST BETWEEN PT DUNDAS AND PT CAROLUS, ALONG THE WESTERN END OF LEMESURIER ISLAND, AND FROM PT GUSTAVUS TO ABOUT 3NM EAST, GENERALLY AT OR NEAR THE LOW WATER LINE. MARINERS SHOULD EXERCISE CAUTION WHEN NAVIGATING CLOSE INSHORE IN THESE AREAS.

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



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL OCEAN SERVICE  
OFFICE OF CHARTING AND GEODETIC SERVICES  
Seattle, Washington 98115-0070

June 18, 1991

Commander (OAN)  
Seventeenth Coast Guard District  
P.O. Box 3-5000  
Juneau, AK 99802-1217

Dear Sir:

During office review of hydrographic survey H-10338, Alaska, Icy Strait, Danger to Navigation affecting chart 17302 (15th ed., May 20, 1989: NAD 83).

It is recommended that the enclosed Report of Dangers to Navigation be included in the Local Notice to Mariners.

Questions concerning this report should be directed to the Pacific Hydrographic Section at (206) 526-6853.

Sincerely,

Pamela R. Chelgren-Koterba  
Commander, NOAA  
Chief, Pacific Hydrographic Section

Enclosure

cc: DMA/TC  
N/CG221



REPORT OF DANGERS TO NAVIGATION

Hydrographic Survey Registry Number: H-10338  
Survey Title: State: Alaska  
Locality: Icy Strait  
Sublocality: Lemesurier Island to Point Dundas  
Project Number: OPR-0186-RA, NOAA Ship RAINIER

The following item was discovered during office processing of hydrographic survey H-10338.

Object discovered: Rock corrected to <sup>L</sup>MMLW

Affected nautical chart

<u>CHART</u> <u>NUMBER</u>	<u>EDITION</u>		<u>REPORTED</u> <u>HEIGHT</u>	<u>CHARTED</u> <u>HORIZ</u> <u>DATUM</u>	<u>APPROXIMATE</u> <u>GEOGRAPHIC POSITION</u>	
	<u>NO.</u>	<u>DATE</u>			<u>LATITUDE (N)</u>	<u>LONGITUDE (W)</u>
17302	15th	5/20/89	RK uncov 1.0 ft	NAD 83	58°19'55.4"	136°12'19.5"

Questions concerning this report should be directed to the Pacific Hydrographic Section at (206) 526-6853.

## APPROVAL SHEET

for

**H-10338**

**RA-10-4-90**

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

ORIGINAL

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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: July 24, 1990

MARINE CENTER: Pacific

OPR: O-186-RA

HYDROGRAPHIC SHEET: H-10338

LOCALITY: Lemesurier Island to Pt. Dundas, Icy Strait, Alaska

TIME PERIOD: April 28 - May 17, 1990

TIDE STATIONS USED: 945-2569, Lemesurier Is., Icy Strait, Alaska

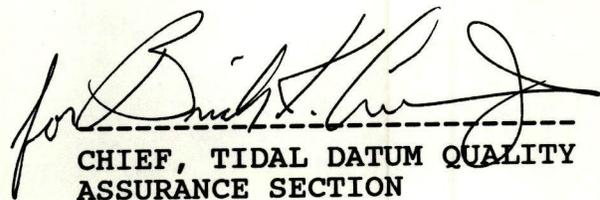
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 8.41 ft.

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 12.3 ft.

REMARKS: RECOMMENDED ZONING

1. West of 136 8.5'W and East of 136 11.5'W, times are direct and apply a X0.93 range ratio.
2. West of 136 11.5'W and East of 136 14.5'W, times are direct and apply a X0.90 range ratio.
3. West of 136 14.5'W and East of 136 17.5'W, times are direct and apply a X0.88 range ratio.

Note: Times are tabulated in Greenwich Mean Time.

  
CHIEF, TIDAL DATUM QUALITY  
ASSURANCE SECTION

ORIGINAL

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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: January 29, 1991

MARINE CENTER: Pacific

OPR: O-186-RA

HYDROGRAPHIC SHEET: H-10338 (additional work)

LOCALITY: Lemesurier Island to Pt. Dundas, Icy Strait, Alaska

TIME PERIOD: October 8, 1990

TIDE STATIONS USED: 945-2569, Lemesurier Is., Icy Strait, Alaska

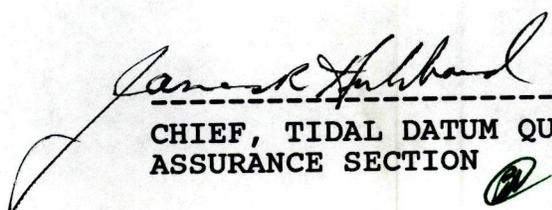
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 8.05 ft.

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 12.2 ft.

REMARKS: RECOMMENDED ZONING

1. West of 136 8.5'W and East of 136 11.5'W, times are direct and apply a X0.93 range ratio.
2. West of 136 11.5'W and East of 136 14.5'W, times are direct and apply a X0.90 range ratio.
3. West of 136 14.5'W and East of 136 17.5'W, times are direct and apply a X0.88 range ratio.

Note: Times are tabulated in Greenwich Mean Time.

  
-----  
CHIEF, TIDAL DATUM QUALITY  
ASSURANCE SECTION 

GEOGRAPHIC NAMES

H-10338

Name on Survey	ON CHART NO. 17302 ON PREVIOUS SURVEY NO. CON U.S. QUADRANGLE MAPS TP-01316 TP-01328 P.O. GUIDE OR MAP GRAND MCNALLY ATLAS U.S. LIGHT LIST										
	A	B	C	D	E	F	G	H	K		
ALASKA (title)	X	X	X	X							1
DUNDAS, POINT	X	X	X			X					2
ICY STRAIT (title)	X	X	X	X							3
LEMESURIER ISLAND	X	X	X	X							4
NORTH PASSAGE	X		X	X							5
SOUTH PASSAGE	X		X	X							6
											7
											8
											9
											10
											11
											12
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											22
											23
											24
											25

Approved:

*Charles E. Harrington*

Chief Geographer - N/C 2x5

SEP 21 1990

**HYDROGRAPHIC SURVEY STATISTICS**

H-10338

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT
SMOOTH SHEET		1	SMOOTH OVERLAYS: POS., ARC, EXCESS		7
DESCRIPTIVE REPORT		1	FIELD SHEETS AND OTHER OVERLAYS		11
DESCRIP-TION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR-GRAMS	PRINTOUTS	ABSTRACTS/SOURCE DOCUMENTS
ACCORDION FILES	2				
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			1242
POSITIONS REVISED			
SOUNDINGS REVISED			
CONTROL STATIONS REVISED			
	TIME-HOURS		
	VERIFICATION	EVALUATION	TOTALS
PRE-PROCESSING EXAMINATION			
VERIFICATION OF CONTROL			
VERIFICATION OF POSITIONS	95		95
VERIFICATION OF SOUNDINGS	240		240
VERIFICATION OF JUNCTIONS			
APPLICATION OF PHOTOBATHYMETRY			
SHORELINE APPLICATION/VERIFICATION			
COMPILATION OF SMOOTH SHEET	106		106
COMPARISON WITH PRIOR SURVEYS AND CHARTS		7	7
EVALUATION OF SIDE SCAN SONAR RECORDS			
EVALUATION OF WIRE DRAGS AND SWEEPS			
EVALUATION REPORT		16	16
GEOGRAPHIC NAMES			
OTHER* <u>Digitizing</u>	22		22
*USE OTHER SIDE OF FORM FOR REMARKS			
	<b>TOTALS</b>		
	463	23	483

Pre-processing Examination by	M. Brown	Beginning Date	7-11-90	Ending Date	7-25-90
Verification of Field Data by	L. Deodato	Time (Hours)	441	Ending Date	7-30-91
Verification Check by	J. Stringham	Time (Hours)	36	Ending Date	8-1-91
Evaluation and Analysis by	C. R. Davies	Time (Hours)	23	Ending Date	9-20-91
Inspection by	D. Hill	Time (Hours)	4	Ending Date	10-1-91

# EVALUATION REPORT

H-10338

## 1. INTRODUCTION

Survey H-10338 is a basic hydrographic survey accomplished by the NOAA Ship RAINIER under the following Project Instructions.

OPR-O186-RA, dated February 22, 1990

This survey occurred in Alaska and covers an area in Icy Strait from Lemesurier Island to Point Dundas. The surveyed area extends from latitude 58/15/28N to latitude 58/20/43N and from longitude 136/08/21W to longitude 136/16/00W. Shoreline along the mainland and Lemesurier Island is characterized by rocks, rock ledges, boulder beaches and numerous submerged rocks near shore. The bottom consists of sand, shells and pebbles. Depths range from zero to 263 meters.

Predicted tides for Juneau, Alaska, were used for the reduction of soundings during field processing. Approved hourly heights zoned from Lemesurier Island, Alaska, gage 945-2569, were used during office processing.

The field sheet parameters have been revised to center the hydrography on the smooth sheet and to change the projection to polyconic. The TRA, sound velocity and electronic control correctors are adequate. An accompanying computer printout contains the parameters and the correctors.

A digital file has been generated for this survey as required by the specifications contained in Hydrographic Survey Guideline No. 52, Standard Digital Data Exchange Format, April 15, 1986. 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 depiction of survey data.

## 2. CONTROL AND SHORELINE

Sections F and G of the hydrographer's report and the 1990 Horizontal and Electronic Control Reports for OPR-O186-RA, contain adequate discussions of horizontal control and hydrographic positioning.

Positions of horizontal control stations used during hydrography are 1990 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 with the NGS program, NADCON. Geographic positions based on NAD 27 may be plotted on the smooth sheet utilizing the NAD 83 projection by applying the following corrections.

Latitude: -1.281 seconds (-39.619 meters)  
Longitude: 6.600 seconds (107.484 meters)

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

The quality of several positions exceeds limits in terms of error circle radius and residual. A review of the data, however, indicates that none of these fixes are used to position dangers to navigation. The features or soundings located by these fixes are consistent with surroundings. These fixes are considered acceptable.

The following shoreline maps apply to this survey.

	<u>Photo Date</u>	<u>Class</u>
TP-01316	June 1987	III
TP-01328	June 1985	III

### 3. HYDROGRAPHY

Except as noted below, 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.

Standard depths curves were adequately drawn and developed with the exception of the zero, one, two, three and five-meter curves.

### 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, January 1989 edition.

### 5. JUNCTIONS

Survey H-10338 junctions with the following surveys.

<u>Survey</u>	<u>Year</u>	<u>Scale</u>	<u>Area</u>
H-10335	1990	10000	East
H-10336	1990	10000	Southeast
H-10357	1990	10000	South
H-10371	1991	10000	Southwest

With the exception of survey H-10371, all junctions are complete. The junction with survey H-10371 has not been formally completed since this survey is in preliminary processing. The junction with survey H-10371 and survey H-10338 will be addressed in the evaluation report for survey H-10371. Some soundings have been transferred to survey H-10338 to better portray the bottom in the common area. There are no contemporary surveys to the northwest. A comparison with this survey and the charted depths reveals good agreement.

## **6. COMPARISON WITH PRIOR SURVEYS**

**H-2618(1902) 1:40000**

Survey H-2618 covers the entire area of the present survey. Generally, the soundings agree between 2 to 4 meters, with extreme cases of 10 meters. Survey H-10338 tends to be shoaler than the prior survey on all accounts. This area has experienced earthquakes, possible isostatic rebound and natural accretion and erosional processes. These processes, the different horizontal datums and the relative accuracy of the data acquisition techniques account for the differences between the soundings of the two surveys. See section K of the hydrographer's report for additional discussion.

In accordance with Hydrographic Survey Guideline No. 39, the effects of the 1964 Prince William Sound earthquake were considered in the comparison of these surveys. No reasonable adjustment value for prior soundings could be determined.

Survey H-10338 is adequate to supersede the prior survey within the common area.

There are no AWOIS items originating from survey H-2618 applicable to the present survey.

## **7. COMPARISON WITH CHART**

**Chart 17302, 15th edition, dated May 20, 1989; scale 1:80000**

### **a. Hydrography**

Charted hydrography originates with survey H-2618 and miscellaneous sources and requires no further discussion.

Survey H-10334 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 or floating aids to navigation within the survey limits.

### **e. Geographic Names**

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

### **f. Dangers to Navigation**

The hydrographer reported five shoals and two rocks to the USCG. A copy of the message is attached. One additional danger was discovered during office processing and was reported to the Coast Guard, DMATC and N/CG221, see attached letter.

**8. COMPLIANCE WITH INSTRUCTIONS**

Survey H-10334 adequately complies with the Project Instructions.

**9. ADDITIONAL FIELD WORK**

This is a good hydrographic survey. No additional field work is required.

*Charles R. Davies*  
Charles R. Davies  
Cartographer

APPROVAL SHEET  
H-10338

Initial Approvals:

The completed survey has been inspected with regard to survey coverage, delineation of the depth curves, development of critical depths, cartographic symbolization, comparison with prior surveys and verification or disproval of charted data. The digital data have been completed and all revisions and processing have been entered in the magnetic tape record for this survey. Final control, position, and sounding printouts 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.

Dennis Hill Date: October 1, 1991  
Dennis J. Hill  
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.

Douglas G. Hennick Date: 1 Oct 1991  
Commander Douglas G. Hennick, NOAA  
Chief, Pacific Hydrographic Section

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Final Approval

Approved:

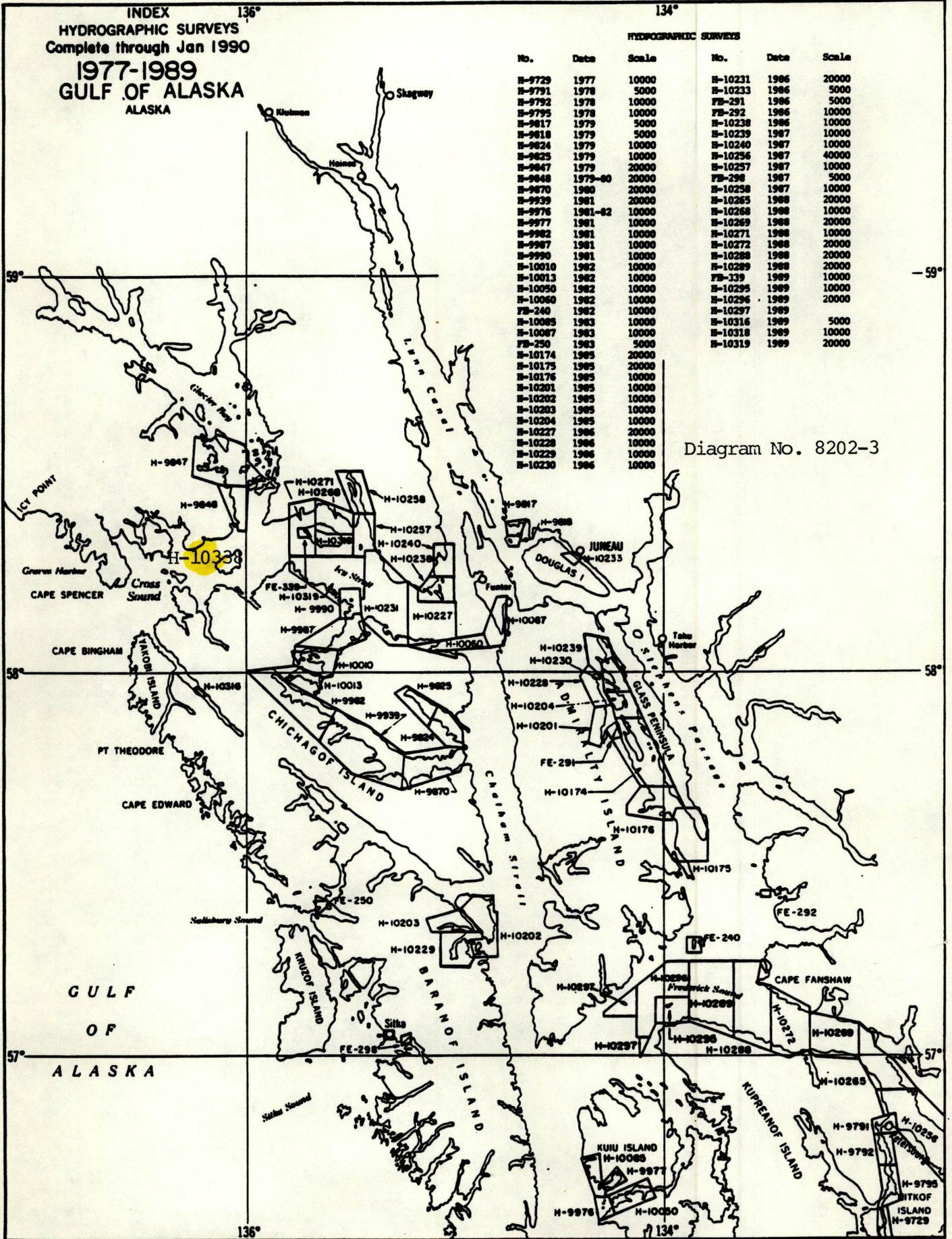
J. Austin Yeager Date: 10/25/91  
J. Austin Yeager  
Rear Admiral, NOAA  
Director, Coast and Geodetic Survey

INDEX  
HYDROGRAPHIC SURVEYS  
Complete through Jan 1990  
1977-1989  
GULF OF ALASKA  
ALASKA

HYDROGRAPHIC SURVEYS

No.	Date	Scale	No.	Date	Scale
H-9729	1977	10000	H-10231	1986	20000
H-9791	1978	5000	H-10233	1986	5000
H-9792	1978	10000	FB-291	1986	5000
H-9795	1978	10000	FB-292	1986	10000
H-9817	1979	5000	H-10238	1986	10000
H-9818	1979	5000	H-10239	1987	10000
H-9824	1979	10000	H-10240	1987	10000
H-9825	1979	10000	H-10256	1987	40000
H-9847	1979	20000	H-10257	1987	10000
H-9848	1979-80	20000	FB-298	1987	5000
H-9870	1980	20000	H-10258	1987	10000
H-9939	1981	20000	H-10265	1988	20000
H-9976	1981-82	10000	H-10268	1988	10000
H-9977	1981	10000	H-10269	1988	20000
H-9982	1981	10000	H-10271	1988	10000
H-9987	1981	10000	H-10272	1988	20000
H-9990	1981	10000	H-10288	1988	20000
H-10010	1982	10000	H-10289	1988	20000
H-10013	1982	10000	FB-339	1989	10000
H-10050	1982	10000	H-10295	1989	10000
H-10060	1982	10000	H-10296	1989	20000
FB-240	1982	10000	H-10297	1989	
H-10085	1983	10000	H-10316	1989	5000
H-10087	1983	10000	H-10318	1989	10000
FB-250	1983	5000	H-10319	1989	20000
H-10174	1985	20000			
H-10175	1985	20000			
H-10176	1985	10000			
H-10201	1985	10000			
H-10202	1985	10000			
H-10203	1985	10000			
H-10204	1985	10000			
H-10227	1986	20000			
H-10228	1986	10000			
H-10229	1986	10000			
H-10230	1986	10000			

Diagram No. 8202-3



(see also No. 110)



