

10271

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. FA-10-2-88

Registry No. H-10271

LOCALITY

State Alaska

General Locality .. Icy Strait

Sublocality Western Entrance to

..... Icy Passage

1988

CHIEF OF PARTY
CAPT G.R. Schaefer

LIBRARY & ARCHIVES

DATE March 14, 1989

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

10271

CI-201-89

GP

cls: 17302
17318
17300

HYDROGRAPHIC TITLE SHEET

H-10271

INSTRUCTIONS - The Hydrographic Sheet should be accompanied by this form,
filled in as completely as possible, when the sheet is forwarded to the Office.

FIELD NO.

FA-10-2-88

State AlaskaGeneral locality Icy StraitLocality Western Entrance to Icy PassageScale 1:10,000 Date of survey 04/29/88 to 05/17/88Instructions dated March 8, 1988 Project No. OPR-0186-FA-88Vessel FAIRWEATHER (2020), (2023), (2024), (2025), (2026), (2028) and (2029)Chief of party CAPTAIN G.R.SchaeferLCDR Mason, LT Ruiz, ENS Bernard, ENS Nodine, ENS Lemon, ENS Birk-RisheimSurveyed by ENS Neander, ENS Nichel and CST KrickSoundings taken by echo sounder, ~~hand lead, pole~~ Raytheon DSF 6000N, sounding pole, pneumatic gageGraphic record scaled by FAIRWEATHER PersonnelGraphic record checked by FAIRWEATHER PersonnelVerification
~~Protracted~~ by L. DeodatoAutomated plot by PMC Xynetics PlotterEvaluation
~~Examined~~ by C.R.DaviesSoundings in fathoms ~~feet~~ at MLW MLLW and tenths of fathoms

REMARKS: All times are UTC. Marginal notes in black 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 MAM 3/29/89

SC 327-97

MONTHLY PROGRESS SKETCH

OPR-0186-FA-88

ICY STRAIT, ALASKA

NOAA SHIP FAIRWEATHER S-220

CAPT. GLEN R. SCHAEFER, CMDG

SCALE FROM NOS CHART 17300

APRIL TO MAY 1988

AWO.I.S. 51074 -- VERIFIED

Rock exposed 3 feet 58° 27' 00.6" N
135° 28' 27.0" W

AWO.I.S. 51075 --DISPROVED

	APRIL	MAY
SQ NM SOUNDING LINE	15	24
LN M SOUNDING LINE	314	373
BOTTOM SAMPLES	38	272
HYDRO CONTROL STATIONS	20	—
SV/D NANSEN CAST	4	3
TIDE GAUGE INSTALLATION	3	—
HYDROGRAPHY		

1987

⊕ SV/D NANSEN CAST

⊖ TIDE GAUGE

⊙ S/L VERIFICATION

△ STA. ESTABLISHED

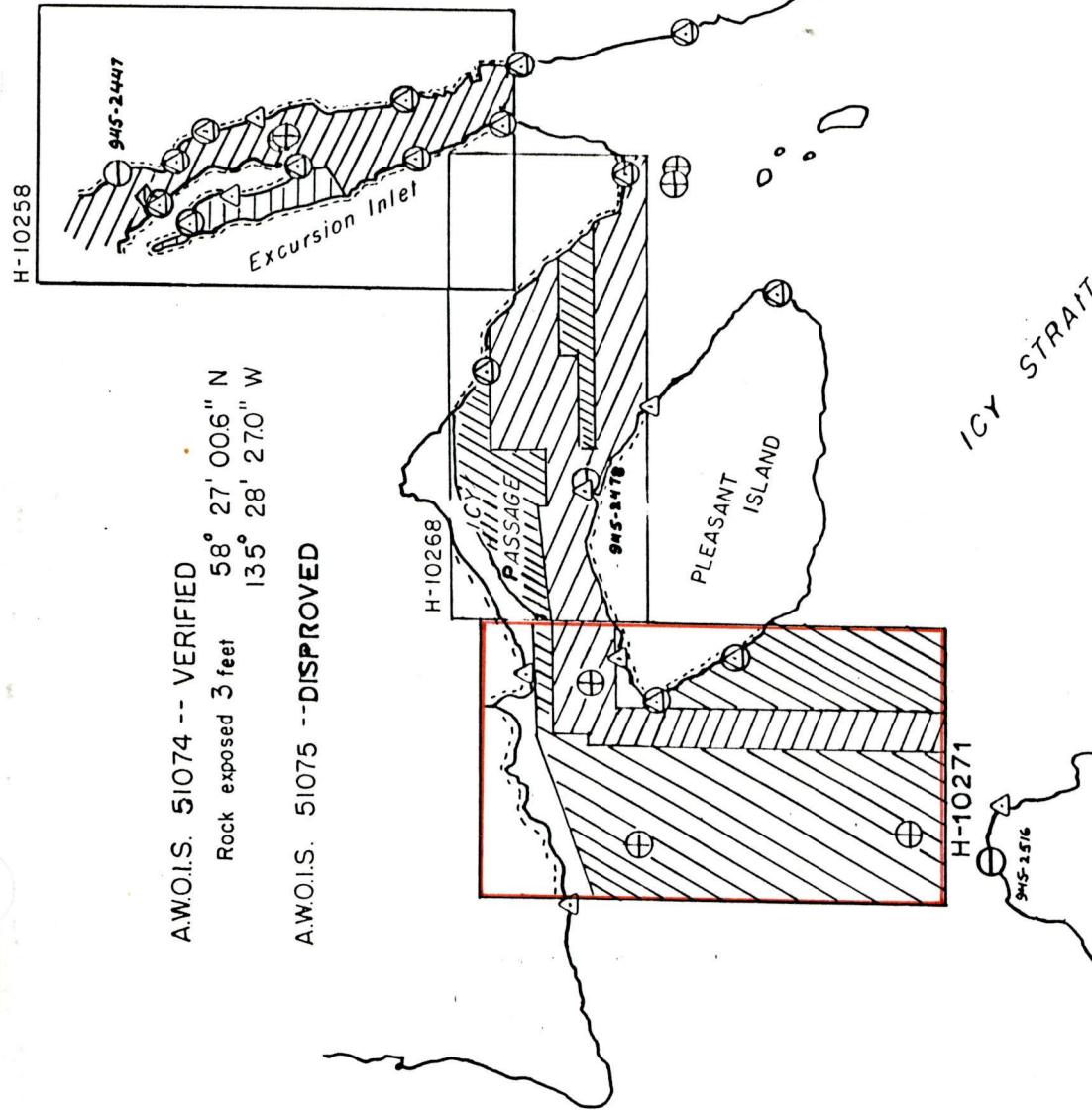
⊙ STA. RECOVERED

⊙ PHOTO STA. RECOVERED

58° 20' 00" N

136° 00' 00" W

135° 40' 00"



Descriptive Report
To Accompany Hydrographic Survey H-10271
Field Number FA-10-2-88, Scale 1:10,000
NOAA Ship FAIRWEATHER S220
Captain Glen R. Schaefer
1988

A. PROJECT ✓

Survey H-10271 is a basic hydrographic survey conducted in accordance with Project Instructions OPR-0186-FA-88, dated March 8, 1988; Change Number 1, dated March 11, 1988; Change Number 2, dated April 22, 1988; Change Number 3, dated May 3, 1988; the Hydrographic Manual (fourth edition) through Change Number 3; the PMC OORDER, and the Hydrographic Survey Guidelines.

The purpose of this survey is to provide contemporary hydrographic survey data for existing nautical charts, and for the planned larger scale charts to be published in the future.

This survey is designated sheet "G" in the Project Instructions.

B. AREA SURVEYED ✓

This survey was conducted in the general vicinity of the western entrance to Icy Passage, Icy Strait, Alaska. The survey covers the area between longitudes $135^{\circ}49'17''\text{W}$ and $135^{\circ}41'36''\text{W}$ and north of latitude $58^{\circ}17'55''\text{N}$.

The field work for this survey commenced on April 29, 1988, (DN 120) and was completed on May 17, 1988 (DN 138).

C. SOUNDING VESSELS ✓

Hydrographic data for this survey were acquired using three vessel types. Jensen survey launches FA-3, FA-4, FA-5, and FA-6 were designated vessel numbers 2023, 2024, 2025, and 2026, respectively. Shoreline verification was completed using 17-foot MonArks, FA-8, and FA-9, which were designated as vessel numbers 2028, and 2029, respectively. The ship FAIRWEATHER (vessel number 2020) was used for all sound velocity casts and to collect bottom samples in depths greater than 55 fathoms. The remainder of the bottom samples were collected by FA-5.

One unusual sounding vessel configuration was used for this survey. FAIRWEATHER personnel hand held an EDM prism on the bow of vessels number 2028 and 2029. Positions were determined for rocks and ledges (position numbers 8000-8082) during shoreline verification on DNS 135 through 137 using an EDM and theodolite (in effect a range/azimuth position). Sounding poles were used to determine depths on submerged objects.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS ✓

FAIRWEATHER's four survey launches, equipped with dual-beam Raytheon DSF-6000N echo sounders, were used to obtain soundings for this survey. See Table I for a list of equipment by vessel and day number. Two skiffs (vessel numbers 2028 and 2029) equipped with sounding poles or lead lines were used for shoreline verification.

Table I
Sounding Equipment
RAYTHEON DSF-6000N SERIAL NUMBERS BY VESSEL

<u>Day</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
120-133	B049N	A113N	A104N	A121N
134-138	B048N	A113N	A104N	A121N

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

No mechanical problems that degraded data quality were encountered with the echo sounders during this investigation. Bar checks at 3 fathoms were done daily to ensure that the Raytheon DSF-6000N echo sounders were operating properly. Sounding corrections determined for this survey apply to both the high- and low-frequency sounding data.

The high-frequency beam data were digitized except in a limited number of cases. The low-frequency beam data were used when the high-frequency trace was lost due to the steepness of the bottom or suspended particles in the water column. Also, if side echoes were obtained over peaks and reduced line spacing was not needed because of depth (e.g., in 70 fathoms of water), the low-frequency side-echo depth was recorded. This is noted on the raw computer printout with the annotation "low-frequency trace" or "LFT."

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

All of FAIRWEATHER's survey launches were tested for settlement and squat on April 20, 1988, (DN 111) in Excursion Inlet, Alaska. The test results were used to plot settlement and squat curves for each launch. Measurements were conducted in accordance with Section 4.9.4.2 of the Hydrographic Manual. Settlement and squat corrections were determined to be zero for all launches at speeds run while surveying in fathoms. Refer to the Corrections to Echo Soundings Data package for details concerning settlement and squat determinations.

An accurate determination of launch transducer depths was obtained through physical measurement. An oversized carpenter's square was constructed of angle iron, with foot and tenth markings noted on the rise. Divers held the foot of the carpenter's square flush against the transducer while the rise was plumbed by personnel on the pier using a circular bubble level. On April 20, 1988, a static transducer draft of 0.3 fathoms was recorded for all launches. All launch soundings on the final field sheet were plotted using this TRA value.

Velocity correctors were determined from five SV/D casts in accordance with section 4.9.5.2 of the Hydrographic Manual. Table II shows the dates and locations of the casts. Program modified VELTAB was used to compute corrector tables from cast data. Graphic extrapolation was necessary to extend correctors to the maximum sounding depth*. The results from the five SV/D casts were similar enough to average and combine into two tables (Velocity Table I and II, Appendix IV). Velocity corrections using Velocity Table I (see Appendix IV) were applied to all echo-sounder depths plotted on the final field sheets. *Table I & II both used during office processing.*

** See Eval. Report, Sect. I*

Table II
Velocity Casts

<u>Cast No.</u>	<u>Day</u>	<u>Latitude</u>	<u>Longitude</u>
3	118	58°21.8'N	135°29.1'W
4	118	58°22.9'N	135°43.6'W
5	134	58°21.8'N	135°29.3'W
6	134	58°18.6'N	135°47.5'W
7	134	58°21.1'N	135°47.5'W

The SV/D casts were performed using a Plessy Model 9040 Environmental Profiling System (s/n 5653). This instrument was calibrated at Northwest Regional Calibration Center on April 4, 1988. Surface temperatures were taken during the SV/D casts as a check on the Plessy Systems.

TC/TI tapes were made in accordance with PMC OPORDER, Section 3.5.1. Printouts of TC/TI tapes are included in Appendix IV, Sounding Correction Abstract.

Predicted tide correctors were applied to the soundings plotted on the final field sheets for this survey. The tide correctors used were from the Tide Tables 1988, West Coast of North and South America. Tide correctors use Juneau, Alaska, as the reference station using a height correction range ratio of "x0.90" and no time correction. For further information, refer to Appendix II, Field Tide Note.

E. HYDROGRAPHIC SHEETS ✓

Final field sheets were plotted aboard the FAIRWEATHER using a DEC PDP-8/E computer and Houston Instruments COMLOT DP-3 plotter. The survey consists of two final field sheets (one each, east and west). The dimensions, scale, and skew of the sheets are as follows:

<u>SHEET</u>	<u>SCALE</u>	<u>SKEW</u>	<u>DIMENSIONS</u>
FA-10-2-88	1:10,000	090	20.0in. x 54.0in.

All hydrographic data for the survey will be forwarded to the Pacific Marine Center, Seattle, Washington, for verification and smooth plotting.

F. CONTROL STATIONS ✓

All horizontal control stations for this survey were recovered and/or established by FAIRWEATHER personnel. All geodetic positions are based on the North American Datum of 1983 (NAD 83) and meet or exceed Third-order, Class I specifications. Conventional traverse and intersection methods were used throughout this survey. No anomalies in control, adjustment, or closures were encountered. A list of all control stations in the vicinity of this survey can be found in Table III, Control Stations Listing. For additional information, refer to the Horizontal Control Report, OPR-0186-FA-88.

Form 76-40 Nonfloating Aids or Landmarks for Charts, (Appendix X) is not complete with respect to the boxes for "D.M. Meters" and "D.P. Meters" under the section for "position" because Polyconic Projection Tables for NAD 83 were unavailable to the FAIRWEATHER at the time of this report.

G. HYDROGRAPHIC POSITION CONTROL✓

Hydrographic position control was accomplished using the Motorola Mini-Ranger III system except as noted under Section C, Sounding Vessels. The control configuration consisted of range/range for all positioning. Table IV contains a list of console and R/T units for each sounding vessel. On DNs 122 and 135 vessels number 2023 and 2026 were used in the davits to locate the FAIRWEATHER for bottom samples. Mini-Ranger base-line calibrations (BLCs) were conducted in accordance with PMC OORDER, Section 3.3.1.1.

Beginning BLCs were performed on DNs 70 to 74 along a distance of 990.5 meters between two recoverable marks (Naval Reserve Pier to PMC Pier A) across Lake Union in Seattle, Washington. Ending BLCs were performed on DNs 139 to 141 in Juneau, Alaska, along a distance of 1259.9 meters between two recoverable marks (USCG Pier to Taku Union 76 Oil Terminal Point) across Gastineau Channel. All combinations of codes and consoles were calibrated before commencing and after completing survey H-10271.

Differences between beginning and ending BLCs were 4 meters or less for all codes, except code 8 (console number 716) *Code 8 Console 716 was not used for this survey*. Since the ending BLC corrector for code 8 (console number 716) differed by more than 4 meters from the beginning BLC corrector, this code (for console number 716) should be adjusted by the marine center during smooth processing in accordance with Section 3.3.1.3, Application of Correctors, of the PMC OORDER. For all remaining codes the beginning correctors should be used as the final correctors. Final base-line correctors and minimum signal strengths can be found in the Electronic Control Data package submitted for OPR-0186-FA-88.

Table IV
Mini-Ranger Equipment by Vessel

<u>Vessel Number</u>	<u>Day</u>	<u>Console/RT Number</u>
2020	122	B0323/B1398
	135	703/B1108
2023	120-138	703/B1108
2024	120-138	506042/E2716
2025	120-138	716/C1875 (was not used these days)
2026	120-138	B0323/B1398

Hydrographic positioning equipment was critically system checked at least once per week. Non critical system checks were conducted once per day unless equipment malfunction prohibited it. All hydrographic positioning equipment was found to be accurate within the limits set forth by PMC OPORDER, Section 3.1.1.2. Critical system checks were accomplished using the theodolite cut method or by EDM. Theodolites onboard the FAIRWEATHER are as follows: Wild T-1 theodolites with serial numbers 13008, 12932; Wild T-2 theodolites with serial numbers 26336, 85652, 257219, 276503; and Lietz TM1A theodolite with serial number 2151. The EDM used was a Hewlett-Packard HP 3808A with serial number 1723A00172.

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

H. SHORELINE *See EVAE Report, section 2*

The shoreline for this survey was taken from 1:10,000-scale mylar enlargements of two 1:20,000-scale, Class III, registered shoreline maps. Shoreline map TP-01317 was used for shoreline north of latitude 58°21'00"N and east to longitude 135°45'00"W; Shoreline map TP-01318 was used for shoreline north of latitude 58°17'00"N. Verified features from shoreline maps are shown in black on the final field sheet.

The photography for the shoreline maps in this area was flown at a high stage of tide. No ledges or reefs are shown on the maps. New features have been added to the shoreline throughout the survey. Also, many new rocks not appearing on the shoreline map were found. However, many of the shoreline map rocks were found to be foul areas or ledges. (Rock symbols have been retained on ledges only if there are prominent high points at these positions.) New features (e.g., new rocks, foul limits, and ledge limits) are shown in black ink. These changes are too numerous to discuss separately in the descriptive report and are clearly shown on the final field sheet with supporting positional information.

There were no conflicts between hydrography and the mean high water (MHW) line.

Hydrography was run inside the foul limits in some areas. These lines were run at higher tides when the nature of the foul area was not visible. Foul limits should be kept as shown on the final field sheets. *Revised on smooth sheet, chart according to Smooth sheet*

Due to time constraints, the MHW line, several rocks, and small islets west of Gustavus pier were not verified. These features are located well above the 0-fathom curve across extensive mud flats. The positions relative to the navigable area would have little value to the mariner. Verbal authorization not to verify these items in lieu of time *See EOTR Report, Section 2* limitations was granted from the Nautical Charting Branch. Features not verified are shown in blue ink on the final field sheet. Information regarding these items is noted below.

In the vicinity of latitude 58°23'45"N, longitude 135°46'15"W and latitude 58°23'51"N, longitude 135°45'12"W, the shoreline map indicates 15 rocks awash. Hydrography south of this area revealed the 0-fathom curve along approximate latitude 58°23'20"N, 0.3 to 0.5 nautical miles from the shoreline map rocks. Recommend the rocks be charted as shown on the ~~final field~~ ^{Smooth} sheet. *Concur*

In the vicinity of latitude 58°23'34"N, longitude 135°47'27"W the shoreline map indicates an islet. Hydrography accomplished to the south revealed the 0-fathom curve approximately 0.4 nautical miles from this islet. To the west, the shoreline map shows three other islets, approximately the same distance from the 0-fathom curve. Recommend the islets be charted as shown on the ~~final field~~ ^{Smooth} sheet. *TP-0037*

I. CROSSLINES ✓

Crosslines were run at 90 degrees to main-scheme lines. Crossline mileage is 18.7% of main-scheme mileage. Soundings agree to within 1 fathom except in areas of steep relief. No systematic problem is evident that would account for these differences.

In some cases, the vessel used for a main-scheme line did not run the corresponding crossline. Common soundings at these crossings agree to within 1 fathom except in areas of steep relief. No systematic problem is evident that would account for these differences.

J. JUNCTIONS ✓

Survey H-10271 junctions to the east with contemporary survey H-10268 (1988), scale 1:10,000. At the junction the soundings agree within 1 fathom.

K. COMPARISON WITH PRIOR SURVEYS

See Eval Report, section 6

Comparisons between survey H-102⁷¹~~57~~ and the following prior surveys were made:

1. Survey H-2562 (1901), Scale 1:40,000

Comparison with survey H-2562 was difficult; overlaying the 1901 survey with the present survey by correlating latitudes and longitudes of the different datums was not practical. Therefore, the two surveys were compared by matching shoreline.

The legibility of soundings on prior survey H-2562 varied. In some instances soundings were interpreted clearly, while others were illegible. This was most likely due to the enlargement and age of prior survey H-2562.

Sounding-by-sounding comparison between prior survey H-2562 and the present survey indicated that the present survey soundings are consistently 1 to 4 fathoms shoaler than the prior survey soundings. The majority of soundings on survey H-2562 fall within 200 meters of comparable soundings on the present survey. Taking into account the different survey methods used in the early 1900's and the possibility of change in bottom topography in 87 years, this comparison is considered good. Recommend the present survey depths supersede depths of survey H-2562.

CONCLV

2. Survey H-2618 (1902), Scale 1:40,000

Comparison with survey H-2618 was difficult; overlaying the 1902 survey with the present survey by correlating latitudes and longitudes of the different datums was difficult. Therefore, the two surveys were compared by matching shoreline.

The legibility of soundings on prior survey H-2618 varied. In some instances soundings were interpreted clearly, while others were illegible. This is most likely due to the enlargement and age of prior survey H-2618.

Sounding-by-sounding comparison shows that soundings on survey H-2618 agree with the present survey within 4 fathoms (two exceptions noted below). Due to the different survey methods used during the 1902 survey, this comparison is considered good. Recommend the present survey depths supersede depths of survey H-2618. *CONCUR*

In the vicinity of latitude 58°23'02"N, longitude 135°48'00"W and extending along the shoreline to the east and west, survey H-2618 indicates depths of 4 fathoms. Contemporary hydrography over this area (90-meter and 45-meter line spacing) revealed depths ranging from 0 to 1 fathoms. Apparently this is caused by sediment deposit and glacial-rebound in this area. *CONCUR*

At latitude 58°22'09"N, longitude 135°44'04"W, prior survey H-2618 indicates depths of 12 fathoms. Hydrography accomplished over this area (45-meter line spacing) revealed depths of 1 to 3 fathoms. Recommend present survey depths be charted. *CONCUR*

3. Survey H-3671 (1914), Scale 1:40,000

Comparison between survey H-10271 and prior survey H-3671 indicates that the present survey soundings are consistently 1 to 3 fathoms shoaler than the prior survey soundings. The majority of soundings on survey H-3671 fall within 100 meters of comparable soundings on the present survey. Due to the different survey methods used during the 1914 survey, this comparison is considered good. The following discrepancies were noted.

In the vicinity of latitude 58°23'25"N, longitude 135°45'18"W, prior survey H-3671 indicates depths ranging from 4 to 5 fathoms. Contemporary hydrography over this area (90-meter line spacing) indicates that this area is now above the 0-fathom curve. The Salmon River to the north appears to be depositing sediment in the area, along with the possibility of glacial-rebound in the area (see Section J, Shoreline).

At latitude 58°23'05"N, longitude 135°41'37"W prior survey H-3671 indicates a depth of 21 fathoms. Hydrography accomplished over this area (45-meter line spacing) revealed a least depth of 14 fathoms. Recommend present survey depths be charted.

CONCUR

At latitude 58°23'05"N, longitude 135°44'34"W, the prior survey displays a depth of 34 fathoms. Hydrography over this area (90-meter line spacing) indicates a least depth of 21 1/2 fathoms. Recommend present survey depth supersede the depth of survey H-3671.

CONCUR

In the vicinity of latitude 58°22'41"N, longitude 135°45'54"W, the prior survey indicates a depth of 30 fathoms. Hydrography over this area (90-meter line spacing) reveals a least depth of 17 fathoms. Recommend the present survey depths be charted.

CONCUR

At latitude 58°22'48"N, longitude 135°44'15"W, prior survey H-3671 displays a depth of 44 fathoms. Contemporary hydrography over this area (90-meter line spacing) revealed a least depth of 32 fathoms. Recommend present survey depths supersede depths of H-3671.

CONCUR

4. Survey H-6339 (1938), Scale 1:20,000

Sounding-by-sounding comparison between survey H-10271 and prior survey H-6339 is good. The majority of soundings on the present survey were found to be 0 to 2 fathoms shoaler than the soundings on survey H-6339.

A row of piles in the vicinity of latitude 58°23'00"N, longitude 135°48'57"W, were indicated on prior survey H-6339. A single pile was located (position number 5328) and a visual search of the bottom in five feet of water was conducted in the vicinity; no other piles or pile ruins were found. Recommended the row of piles be deleted and the single pile be charted.

CONCUR

5. Survey H-4310 (1923) WD

(63 ft.)

One sounding of 10.5 fathoms from prior-survey H-4310 was compared to present survey H-10271. Hydrography accomplished over this area (22-meter line spacing) revealed a least depth of 9.6 fathoms. Recommend the present survey depth be charted.

CONCUR

L. COMPARISON WITH THE CHART See EVAL Report, section 7

Comparisons were made between survey H-10271 and a 1:10,000-scale enlargement of Chart 17302 (October 3, 1981, 14th Edition, 1:80,000, NAD 27) updated by Local Notice to Mariners. Comparison with charted soundings and nonsounding features that were derived from prior surveys discussed in Section K, Comparison with Prior Surveys, will not be repeated here.

The one nonsounding feature shown on the chart that is not from a prior survey was located. The chart indicates a rock awash at latitude $58^{\circ}22'06''N$, longitude $135^{\circ}44'54''W$. Shoreline verification located a ledge as per final field sheet with a high point uncovering 10⁹ feet at latitude $58^{\circ}22'02''N$, longitude $135^{\circ}43'59''W$ (see position numbers 8018 through 8020). pos# 8018(-5.0), pos# 8019(-0.1), pos# 8020(-9.0)

Several uncharted dangers to navigation were noted during this survey. A list of these dangers including description, latitude and longitude, and position number may be found in the letter addressed to the Commander (OAN) of the Seventeenth Coast Guard District dated July 22, 1988. A copy of that letter is included in Appendix X, Dangers to Navigation. See EVAL Report, section 7

The Gustavus Pier extends to the south about 100 meters less than as charted (see Appendix X, Dangers to Navigation). The inshore end of the pier does not extend as far north as charted. Recommend that Gustavus Pier be charted as shown on the final field sheet, TP-00318.

There were no AWOIS items located within survey limits.

M. ADEQUACY See EVAL Report, section 9

This survey is fully adequate to supersede all prior surveys in common areas.

N. AIDS TO NAVIGATION See EVAL Report, section 7

Five aids to navigation and two landmarks were found within the limits of this survey: Gustavus Lighted Buoy 1 (Light List number 24185), three privately maintained daymarks, and a charted cable area. Information regarding GUSTAVUS AERO RADIOBEACON, SOUTHERLY OF FIVE TANKS, MICRO TR and TR may be found under Appendix VIII, Nonfloating Aids or Landmarks for Charts.

Gustavus Lighted Bouy 1 (LLNR 24185) was located by hydrography (position number 5113). The buoy was found off the charted position by approximately 300 meters to the south. Additional information may be found in the letter addressed to the Commander (OAN) of the Seventeenth Coast Guard District dated July 22, 1988. A copy of that letter is included in Appendix XI, Supplemental Information.

Three privately maintained daymarks were located by hydrography at latitude 58°23'25.5"N, longitude 135°44'23"W (position number 266), latitude 58°23'34"N, longitude 135°44'15"W (position number 267), latitude 58°23'44.5"N, longitude 135°44'13"W (position number 268). The daymarks are small red reflectors, bolted to piles, which mark a small craft channel used by skiffs to enter the Salmon River. *See ERM Report section 7*
Recommended these daymarks be charted as shown on the final field sheet.

A charted cable area oriented east and west through survey H-10271 was noted. The inshore terminus of the cable area at latitude 58°24'12"N, longitude 135°43'54"W was not verified and is not shown on the final field sheets. Recommended the cable area be charted as shown on Chart 17302 (October 3, 1981, 14th Edition, 1:80,000, NAD 27). *concur*

O. STATISTICS ✓

<u>Vessel</u>	<u>2020</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2028</u>	<u>2029</u>	<u>Total</u>
Positions	45	725	656	641	646	61	22	2796
Nautical Miles	-	78	82	40	109	-	-	309
Square nm	-	-	-	-	-	-	-	21
Bottom Samples	35	-	-	144	-	-	-	179
Velocity Casts	5	-	-	-	-	-	-	5
Tide Stations	2	-	-	-	-	-	-	2
Production Days (Hydro only)	-	-	-	-	-	-	-	16

No current or magnetic stations were established during this survey.

P. MISCELLANEOUS

As per Project Instructions, bottom samples were collected and forwarded to the Smithsonian Institution, Washington, D.C..

Tidal currents (1 to 2 knots, east and west set) were observed by divers in Icy Passage.

Q. RECOMMENDATIONS

As per Project Instructions OPR-0186-FA-88, all survey work was squared off such that it could be submitted as a complete survey. Due to time constraints, several areas were not developed along the western shore of Pleasant Island. These areas are listed below with supporting positional information.

*See ENAC Report,
section 9*

<u>Soundings</u>	<u>Latitude</u>	<u>Longitude</u>
2.01	58°22'16"N	135°44'09"W
2.02	58°22'11"N	135°44'12"W
1.23	58°22'07"N	135°44'14"W
0.8	58°20'43"N	135°42'29"W
2.2	58°20'41"N	135°42'29"W
8.15	58°20'24"N	135°42'04"W

R. AUTOMATED DATA PROCESSING ✓

The following programs were used for data acquisition or processing:

<u>Number</u>	<u>Program</u>	<u>Version Date</u>
RK 112	Range-Range Real Time Plot	04/23/84
RK 116	Range-Azimuth Real Time Plot	03/01/86
RK 201	Grid, Signal, and Lattice Plot	04/18/75
RK 221	Range-Range Off-line Plot	07/25/86
RK 226	Range-Azimuth Off-line Plot	07/25/86
RK 300	Utility Computations	10/21/80
RA 362	330 / 602 Combined	08/20/84
AM 500	Predicted Tide Generator	11/10/72
AM 602	Elinore	12/08/82
	VELTAB	02/01/85

S. REFERRAL TO REPORTS ✓

The following reports will be submitted separately:

Horizontal Control Report	July	1988
Electronic Control Data	July	1988
Corrections to Echo Soundings Data	July	1988
Coast Pilot Report	July	1988

Field Tide Note
North Side, Pleasant Island, Icy Strait, Alaska
Station Number 945-2478
April to May, 1988

Field tide reduction of sounding data for surveys H-10271 and H-10268 was based on predicted tides from Juneau, Alaska (945-2210), and corrected to the survey area. Tide correctors were interpolated by PDP/8e computer using AM 500.

The calculated correctors shown below were based on zone correctors specified by project instructions.

<u>Survey</u>	<u>Time Correction</u>		<u>Height Correction</u> <u>Range Ratio</u>
	<u>High Water</u>	<u>Low Water</u>	
H-10271	0	0	x 0.90
H-10268	0	0	x 0.90

All times of predicted and reported tides are expressed in Coordinated Universal Time. Predicted tides were acceptable for hydrography with no discrepancies in the raw data attributed to tidal errors.

A Bristol Gas-Purged Pressure Recording Tide Gauge, Model 15 (gauge s/n 64A11033, chart drive s/n 210105), range 0 to 30 feet, was installed in support of surveys H-10271 and H-10268. Location and dates of operation are as follows:

<u>Site</u>	<u>Location</u>	<u>Dates of Operation</u>
North Side, Pleasant Island, Icy Strait, Alaska	58/23/12N 135/37/42W	April 15 to May 18

North Side, Pleasant Island

The tide gauge, staff and orifice were installed at North side, Pleasant Island, Icy Strait, Alaska, on April 15. A three-hour observation on April 15/16 confirmed consistent gauge-to-staff differences. Data collection continued until May 18, when the gauge, staff, and orifice were removed.

The gauge ran well throughout the project. The zero mark on the tide staff corresponded to 5.8 feet on the gauge.

Levels

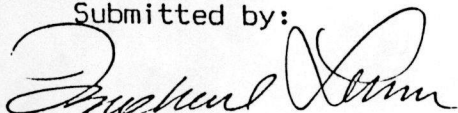
The comparison between opening and closing level runs indicates no significant staff movement.

Zoning Recommendations

None

Approval

Submitted by:

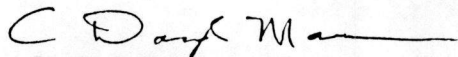


Michael Lemon
Ensign, NOAA

Reviewed by:

Date:

5/24/88



C. Douglas Mason
Lieutenant Commander, NOAA
Field Operations Officer

SIGNAL LISTING
 OPR-0186-FA
 FA-10-2-88
 H-10271

OOPS, 1987 (Field Position)	FAIRWEATHER 58135341
100 0 58 23 13034 135 49 27324	250 0005 000000
DITCH 2, 1988 (Field Position)	FAIRWEATHER 58135314
105 0 58 23 54641 135 42 32179	250 0004 000000
ICE 1922	0001 58135244
115 0 58 22 30552 135 29 02346	139 0008 000000
CAMP 1914	0009 58135243
120 0 58 21 14164 135 24 44196	139 0002 000000
KNOB 1923	1032 58135313
130 0 58 20 47818 135 42 26049	250 0004 000000
ANT 1923	1003 58135313
135 0 58 22 02097 135 44 01316	250 0005 000000
PT ADOLPHUS LT, 1988 (Field Position)	FAIRWEATHER 58135342
140 0 58 17 09652 135 46 58357	250 0017 000000
HIGH 1914	1029 58135311
170 0 58 24 26749 135 34 33856	250 0005 000000
ICY PASSAGE LIGHT 2, 1988 (Field Position)	FAIRWEATHER 58135314
215 0 58 23 10984 135 37 43239	250 0008 000000
LUNCH, 1988 (Field Position)	FAIRWEATHER 58135314
220 0 58 22 38999 135 42 38435	250 0005 000000
THIEF, 1988 (Field Position)	FAIRWEATHER 58135314
225 0 58 23 32810 135 43 40756	139 0005 000000

Replaces C&GS Form 567.

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

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

[illegible]

NOAA FORM 76-40 (8-74) Replaces C&GS Form 567.										U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION									
NONFLOATING AIDS OR LANDMARKS FOR CHARTS										ORIGINATING ACTIVITY									
REPORTING UNIT (Field Party, Ship or Office)		STATE		LOCALITY		DATE		ORIGINATING ACTIVITY		METHOD AND DATE OF LOCATION (See instructions on reverse side)		CHARTS AFFECTED							
NOAA Ship FAIRWEATHER		Alaska		Icy Strait		07-18-88		XX HYDROGRAPHIC PARTY GEODETIC PARTY PHOTO FIELD PARTY COMPILATION ACTIVITY FINAL REVIEWER QUALITY CONTROL & REVIEW GRP. COAST PILOT BRANCH		OFFICE		FIELD							
JOB NUMBER		SURVEY NUMBER		DATUM		POSITION		LONGITUDE		OFFICE		FIELD							
H-10271		H-10271		NAD 83		LATITUDE		LONGITUDE		OFFICE		FIELD							
DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses.)		LATITUDE		LONGITUDE		OFFICE		FIELD		OFFICE		FIELD							
CHARTING NAME		LATITUDE		LONGITUDE		OFFICE		FIELD		OFFICE		FIELD							
TO BE CHARTED		LATITUDE		LONGITUDE		OFFICE		FIELD		OFFICE		FIELD							
TO BE REVISED		LATITUDE		LONGITUDE		OFFICE		FIELD		OFFICE		FIELD							
TO BE DELETED		LATITUDE		LONGITUDE		OFFICE		FIELD		OFFICE		FIELD							
OPR-0186-FA-88		H-10271		NAD 83		POSITION		LONGITUDE		OFFICE		FIELD							
MICRO TR		58/25		9.0		135/42		21.0		OFFICE		FIELD							
TR		58/25		27.0		135/42		6.0		OFFICE		FIELD							
Positions scaled from Chart 17302 (October 3, 1981, 14th Edition, 1:80,000 NAD 27)										OFFICE		FIELD							
Landmarks MICRO TR and TR not visible from seaward due to height of treeline										OFFICE		FIELD							
Recommend deletion of Landmarks from Chart 17302										OFFICE		FIELD							
Ref 241(89)										OFFICE		FIELD							

RESPONSIBLE PERSONNEL		ORIGINATOR
TYPE OF ACTION	NAME	
OBJECTS INSPECTED FROM SEAWARD	CAPT Glen R. Schaefer	<input type="checkbox"/> PHOTO FIELD PARTY <input checked="" type="checkbox"/> HYDROGRAPHIC PARTY <input type="checkbox"/> GEODETIC PARTY <input type="checkbox"/> OTHER (Specify)
POSITIONS DETERMINED AND/OR VERIFIED	CAPT Glen R. Schaefer	FIELD ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES		<input type="checkbox"/> REVIEWER <input type="checkbox"/> QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'
(Consult Photogrammetric Instructions No. 64,

OFFICE	FIELD (Cont'd)
<p>I. OFFICE IDENTIFIED AND LOCATED OBJECTS Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object. EXAMPLE: 75E(C)6042 8-12-75</p>	<p>B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object. EXAMPLE: P-8-V 8-12-75 74L(C)2982</p>
<p>FIELD I. NEW POSITION DETERMINED OR VERIFIED Enter the applicable data by symbols as follows: F - Field L - Located V - Verified 1 - Triangulation 2 - Traverse 3 - Intersection 4 - Resection 5 - Field identified 6 - Theodolite 7 - Planetable 8 - Sextant</p> <p>A. Field positions* require entry of method of location and date of field work. EXAMPLE: F-2-6-L 8-12-75</p> <p>*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.</p>	<p>II. TRIANGULATION STATION RECOVERED When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery. EXAMPLE: Triang. Rec. 8-12-75</p> <p>III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH Enter 'V-Vis.' and date. EXAMPLE: V-Vis. 8-12-75</p> <p>**PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.</p>

700

NOJ 2210120
JH 5.4220
R

RTTUZYUW RUHPTBO136 2040425-UUUU--RUHSPUU.
ZNR UUUUU

R 220425Z JUL 88

FM NOAA FAIRWEATHER

INFO NOAA MOP SEATTLE WA

DMAHTC WASHINGTON DC//NVS//

ACCT CM-VCAA

UNCLAS

SUBJ: DANGERS TO NAVIGATION

1. FOUR UNCHARTED DANGERS TO NAVIGATION WERE FOUND DURING SURVEY OPERATIONS (SURVEY H-10271) IN ICY STRAIT, ALASKA.

2. CHART 17302, 14TH ED., OCT3/81, NAD 27; ALASKA, SOUTHEAST COAST, ICY STRAIT AND CROSS SOUND

ADD ROCK COVERED 1.8 FATHOMS	58/22/56N	135/41/39W
1.2-FATHOM SOUNDING	58/22/07N	135/44/14W
ROCK UNCOVERS 1 FOOT	58/21/25N	135/43/28W
ROCK UNCOVERS 7 FEET	58/20/23N	135/41/50W

3. THE AREA ALONG PLEASANT ISLAND INSHORE OF THE ABOVE FEATURES IS FOUL.

4. LISTED DANGERS ARE REFERENCED TO MEAN LOWER LOW WATER DATUM PREDICTED TIDES AND NAD 83. REPEAT NAD 83, WHICH DIFFERS FROM CHART DATUM.

5. THE GUSTAVUS PIER EXTENDS TO THE SOUTH ABOUT 100 METERS LESS THAN AS CHARTED.

6. CONFIRMATION LETTER TO BE MAILED NEXT INPORT.

BT

#0136

NNNN

SURVEY 271



71
U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE

NOAA Ship FAIRWEATHER
1801 Fairview Avenue East
Seattle, WA 98102-3767

July 22, 1988

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

Dear Sir:

Four uncharted dangers to navigation were found by NOAA Ship FAIRWEATHER surveying in Icy Passage, Icy Strait, Alaska (survey H-10271). The information below is submitted for inclusion in Local Notice to Mariners (reference my radio message R 220425Z JUL 88). The enclosed copy of a chartlet is for your general information.

Chart 17302, 14th Ed., Oct 3/81, NAD 27
ALASKA, SOUTHEAST COAST, ICY STRAIT AND CROSS SOUND

ADD	Rock submerged 1.8 fathoms	58°22'56"N	135°41'39"W
	1.2-fathom sounding	58°22'07"N	135°44'14"W
	Rock uncovers 1 foot	58°21'25"N	135°43'28"W
	Rock uncovers 7 feet	58°20'23"N	135°41'50"W

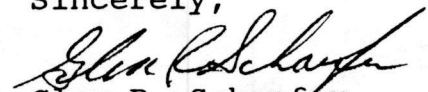
The area along Pleasant Island inshore of the above features is foul.

Depths in fathoms are from the sounding datum of mean lower low water (MLLW) based on predicted tides. Positions are on the North American Datum of 1983 (NAD 83). Note chart datum and positions given are different datums.

The Gustavus Pier extends to the south about 100 meters less than as charted.

Questions concerning this survey may be directed to Chief, Nautical Chart Branch, telephone 206 526-6835.

Sincerely,


Glen R. Schaefer
Captain, NOAA
Commanding Officer

Enclosure

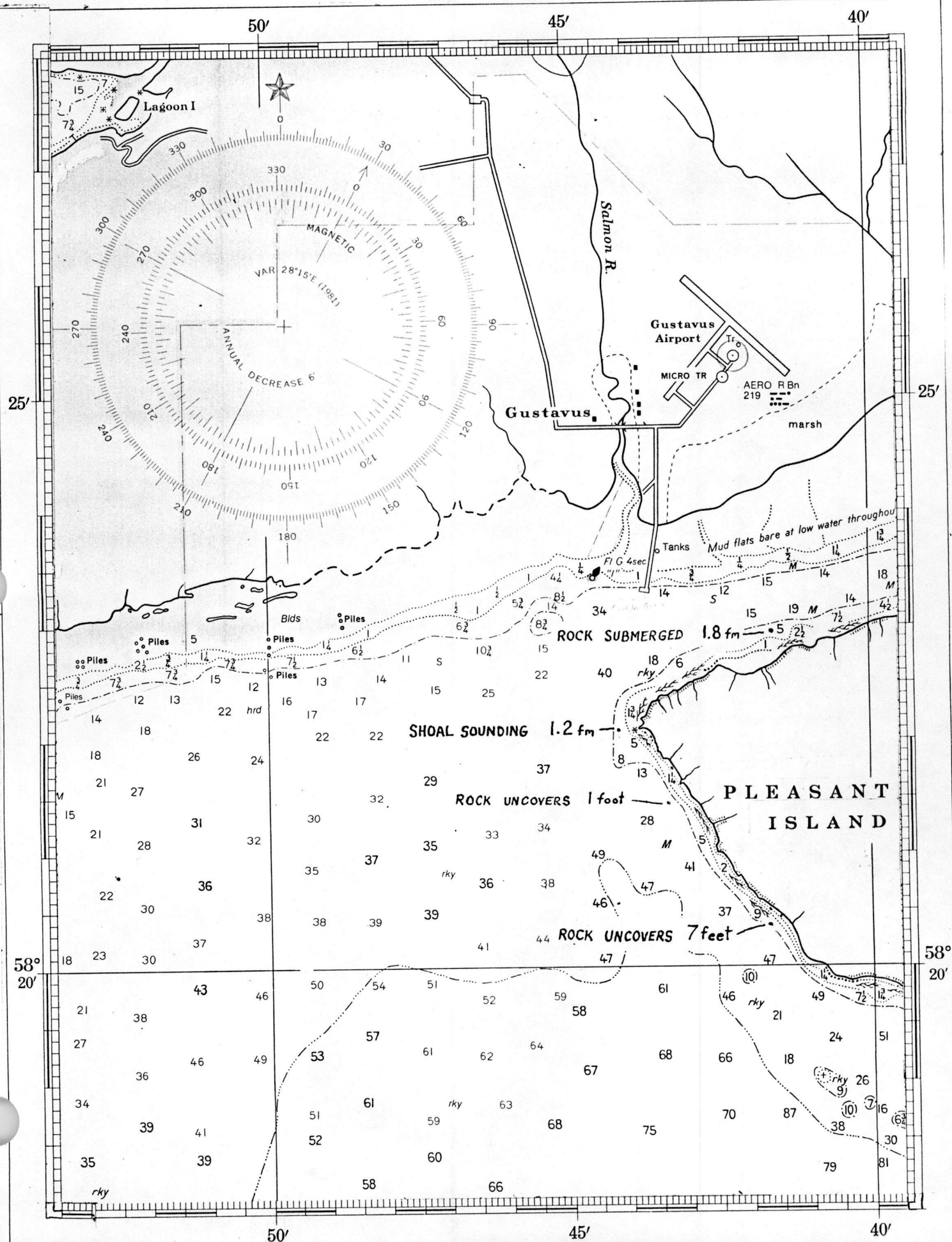


14th Ed., Oct. 3/81

17302

(Icy Strait and Cross Sound)

SOUNDINGS IN FATHOMS - SCALE 1:80,000





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

NOAA Ship FAIRWEATHER
1801 Fairview Avenue East
Seattle, WA 98102-3767

July 22, 1988

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

Dear Sir:

Gustavus Lighted Buoy 1 (LLNR 24185), was located during survey H-10271 on May 11, 1988, at latitude 58°23'15"N, longitude 135°44'49"W, NAD 83. This position differs from the Light List and charted position (reference radio message R 220830Z JUL 88).

Questions concerning this survey may be directed to Chief, Nautical Chart Branch, telephone 206 526-6835.

Sincerely,

Glen R. Schaefer
Captain, NOAA
Commanding Officer

Enclosure



TOD

NOJ	221012Z JUL
LLS	514220 R

RTTUZYUW RUHPTBO139 2040830-UUUU--RUHSPUU.
ZNR UUUUU

R 220830Z JUL 88

FM NOAAS FAIRWEATHER

TO CCGDSEVENTEEN JUNEAU AK

INFO NOAMOP SEATTLE WA

ACCT CM-VCAA

BT

UNCLAS

SUBJ: BUOY LLNR 24185

1. GUSTAVUS LIGHTED BUOY 1, LLNR 24185, WAS FOUND TO BE AT LAT 58/23/15N LONG 135/44/49W, NAD 83, ON 11 MAY 88.
2. REPEAT 58/23/15N AND 135/44/49W ON NAD 83.
3. POSITION DIFFERS FROM LIGHT LIST AND CHARTED POSITION.
4. CONFIRMATION LETTER TO FOLLOW.

BT

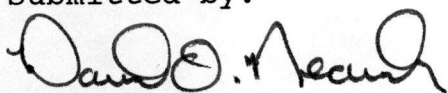
#0139

NNNN

Buoy

The final field sheets and accompanying records have been reviewed for accuracy, completeness, compliance with project instructions, and adherence to required standards and procedures. This survey is complete and requires no additional work. The data are forwarded for final review and processing.

Submitted by:



David O. Neander
Ensign, NOAA

Reviewed by:



Charles D. Mason
Lieutenant Commander, NOAA
Field Operations Officer

Approved by:



Glen R. Schaefer
Captain, NOAA
Commanding Officer



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

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

JAN 27 1989

N/MOP211C/CRD

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

Dear Sir:

During office review of hydrographic survey H-10271, Western Entrance to Icy Passage, Icy Strait, Alaska, one danger to navigation affecting chart 17302 (14th Edition, October 3, 1981; datum: NAD 1927) was found.

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 Marine Center at (206) 526-6835.

Sincerely,

Sigmund R. Petersen
Rear Admiral, NOAA
Director, Pacific Marine Center

Enclosures

cc:DMAH/TC
N/CG221



REPORT OF DANGERS TO NAVIGATION

Hydrographic Survey Registry Number: H-10271
Survey Title: State: Alaska
General Locality: Icy Strait
Sublocality: Western Entrance to Icy Passage
Project Number: OPR-0186-FA

NOAA Ship / Field Party: FAIRWEATHER

The following item was discovered during office processing:

Object Discovered: Rock

Covered 2.8 fathoms corrected to MLLW using observed tides.

CHART NUMBER	EDITION NO. DATE	REPORTED DEPTH	CHART HORIZ. DATUM	GEOGRAPHIC POSITION	
				LATITUDE	LONGITUDE
17302	14th 10/3/1981	2 3/4 fm	NAD 27	58/21/55.70N	135/44/00.41W

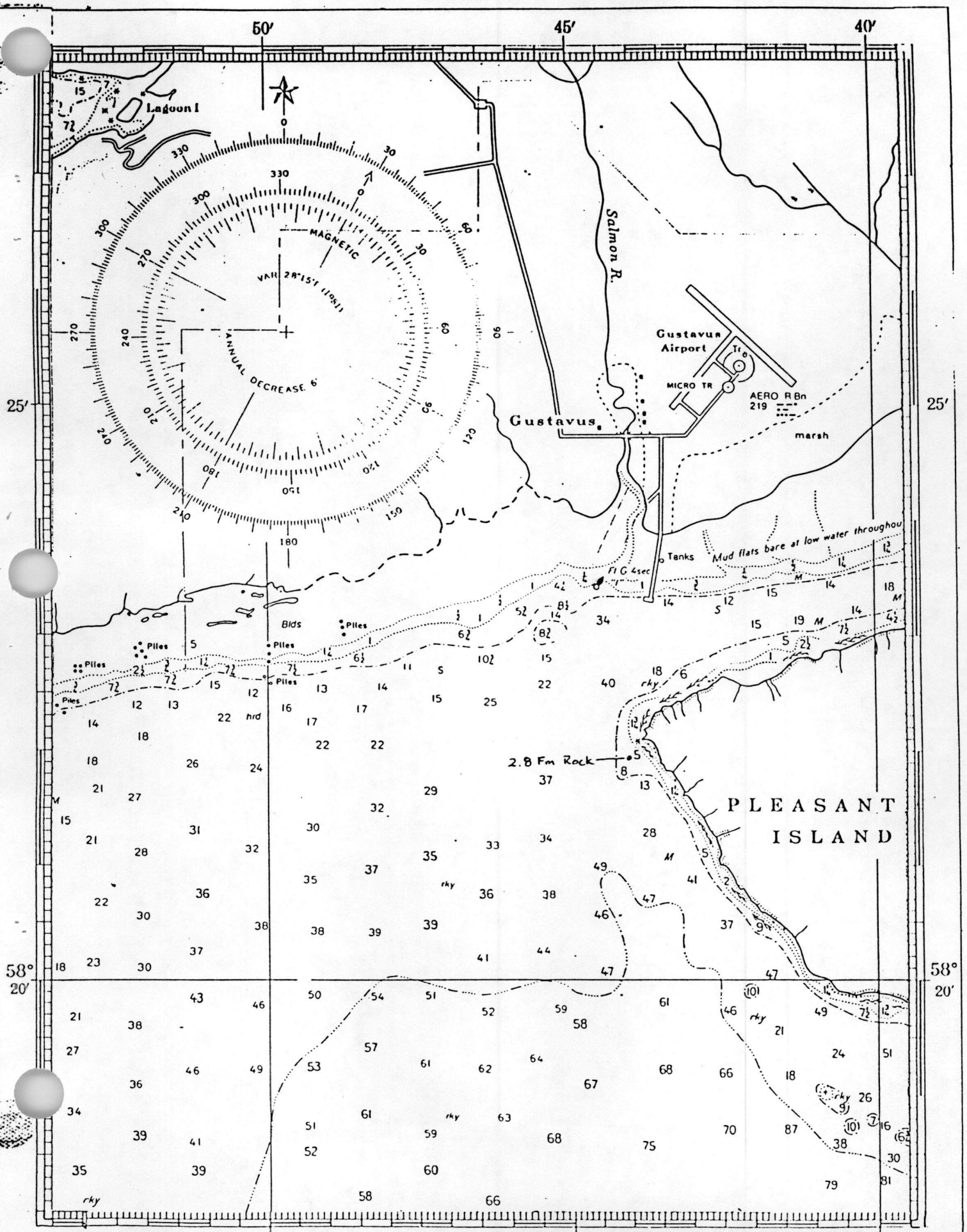
Questions concerning this report should be directed to the Pacific Marine Center at (206) 526-6835.

14th Ed., Oct. 3/81

17302

(Icy Strait and Cross Sound)

SOUNDINGS IN FATHOMS - SCALE 1:80,000



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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: August 30, 1988

MARINE CENTER: Pacific

OPR: 0186

HYDROGRAPHIC SHEET: H-10271

LOCALITY: West Entrance to Icy Passage, Alaska

TIME PERIOD: April 29 - May 17, 1988

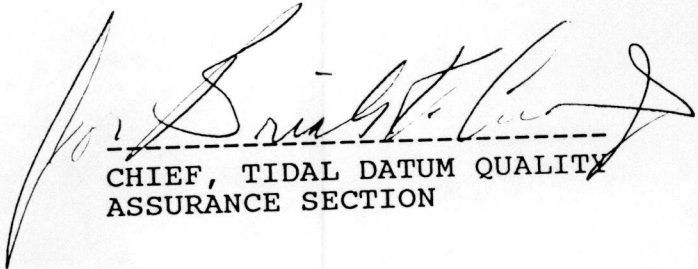
TIDE STATION(S) USED: 945-2478 Pleasant Island, AK
945-2516 Pt. Adolphus, AK

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 945-2478 = -1.45 ft.
945-2516 = 0.12 ft.

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE:
945-2478 = 13.4 ft.
945-2516 = 13.3 ft.

REMARKS: RECOMMENDED ZONING

1. North of latitude 58 21.0', zone direct on 945-2478.
2. South of latitude 58 21.0', zone direct on 945-2516.

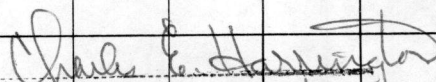

CHIEF, TIDAL DATUM QUALITY
ASSURANCE SECTION

GEOGRAPHIC NAMES

H-10271

Name on Survey	A	B	C	D	E	F	G	H	K	
ALASKA, ICY STRAIT WESTERN ENTRANCE TO ICY PASSAGE	ON CHART NO.	ON PREVIOUS SURVEY NO.	ON U.S. QUADRANGLE MAPS	FROM LOCAL INFORMATION	ON LOCAL MAPS	P.O. GUIDE OR MAP ATLAS	GRAND MCNALLY ATLAS	U.S. LIGHT LIST		
ALASKA (TITLE)										1
GUSTAVUS										2
ICY PASSAGE										3
ICY STRAIT										4
PLEASANT ISLAND										5
SALMON RIVER										6
										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25

Approved:


Chief Geographer - N/C92x5

SEP 21 1988

NOAA FORM 77-27(H) (9-83)				U.S. DEPARTMENT OF COMMERCE		REGISTRY NUMBER H-10271			
HYDROGRAPHIC SURVEY STATISTICS									
RECORDS ACCOMPANYING SURVEY: To be completed when survey is processed.									
RECORD DESCRIPTION			AMOUNT		RECORD DESCRIPTION			AMOUNT	
SMOOTH SHEET			1		SMOOTH OVERLAYS: POS., ARC, EXCESS			8	
DESCRIPTIVE REPORT			1		FIELD SHEETS AND OTHER OVERLAYS			3	
DESCRIPTION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR-GRAMS	PRINTOUTS	ABSTRACTS/SOURCE DOCUMENTS				
ACCORDION FILES	2								
ENVELOPES									
VOLUMES	5								
CAHIERS									
BOXES									
SHORELINE DATA									
SHORELINE MAPS (List):									
PHOTOBATHYMETRIC MAPS (List):									
NOTES TO THE HYDROGRAPHER (List):									
SPECIAL REPORTS (List):									
NAUTICAL CHARTS (List): chart enlargement 17302									
OFFICE PROCESSING ACTIVITIES <i>The following statistics will be submitted with the cartographer's report on the survey</i>									
PROCESSING ACTIVITY					AMOUNTS				
					VERIFICATION	EVALUATION	TOTALS		
POSITIONS ON SHEET							2491		
POSITIONS REVISED									
SOUNDINGS REVISED									
CONTROL STATIONS REVISED									
					TIME-HOURS				
					VERIFICATION	EVALUATION	TOTALS		
PRE-PROCESSING EXAMINATION					11		11		
VERIFICATION OF CONTROL									
VERIFICATION OF POSITIONS					86		86		
VERIFICATION OF SOUNDINGS					86		86		
VERIFICATION OF JUNCTIONS									
APPLICATION OF PHOTOBATHYMETRY									
SHORELINE APPLICATION VERIFICATION									
COMPILATION OF SMOOTH SHEET					62		62		
COMPARISON WITH PRIOR SURVEYS AND CHARTS					11	11	11		
EVALUATION OF SIDE SCAN SONAR RECORDS									
EVALUATION OF WIRE DRAGS AND SWEEPS									
EVALUATION REPORT						25			
GEOGRAPHIC NAMES									
OTHER: Digitization									
USE OTHER SIDE OF FORM FOR REMARKS					TOTALS		234	36	
Pre processing Examination by S. Otsubo					Beginning Date		Ending Date		
					08-18-88		08-25-88		
Verification of Field Data by L. Deodato					Time (Hours)		Ending Date		
					234		01-05-89		
Verification Check by S. Otsubo, B. Olmstead					Time (Hours)		Ending Date		
					37		01-04-89		
Evaluation and Analysis by C. R. Davies					Time (Hours)		Ending Date		
					36		01-24-89		
Inspection by D. Hill					Time (Hours)		Ending Date		
					4		2/7/89		

PACIFIC MARINE CENTER
Evaluation Report
H-10271

1. INTRODUCTION

Survey H-10271 is a basic hydrographic survey accomplished by the NOAA Ship FAIRWEATHER under the following Project Instructions.

OPR-0186-FA-88, dated March 8, 1988
CHANGE NO. 1, dated March 11, 1988
CHANGE NO. 2, dated April 22, 1988
CHANGE NO. 3, dated May 3, 1988

This survey occurred in Alaska and covers the area near the western end of Pleasant Island and the entrance to Icy Passage. The surveyed area extends from latitude 58°23'40"N south to latitude 58°17'50"N and from longitude 135°41'30"W west to longitude 135°49'25"W. The shoreline along Pleasant Island is characterized by ledges, reefs and isolated off-lying rocks with stretches of gravel, stone and boulder beaches. The shoreline along the mainland consists of mud flats with a few off-lying rocks. The bottom consists of mud, sand and shells. Depths range from 0 fathoms to 79 fathoms.

Predicted tides for Juneau, Alaska were used for the reduction of soundings during field processing. Approved hourly heights zoned from Pleasant Island and Pt. Adolphus, Alaska, gages 945-2478 and 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 electronic control correctors are adequate. The sound velocity correctors were extrapolated for a total of approximately 35 percent of the maximum depth of 79 fathoms. There is no indication that the quality of the sound velocity correctors exceeds the .25 percent maximum tolerance specified in section 4.9.5 of the Hydrographic Manual. An accompanying computer printout contains the parameters and the correctors.

A digital file, generated for this survey, includes categories of information required to comply with N/CG2 Hydrographic Survey Guideline No. 23, Completion of Digital Hydrographic Surveys, September 7, 1983. Certain descriptive information, however, may not be in the digital record due to the restrictions of the presently available cartographic codes. The user should refer to the smooth sheet for complete information.

2. CONTROL AND SHORELINE

Sections F and G of the hydrographer's report and the Horizontal and Electronic Control Reports for OPR-0186-FA-88 contain adequate discussions of horizontal control and hydrographic positioning.

Positions of horizontal control stations used during hydrography are 1987 and 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. 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 year of establishment of control stations shown on the smooth sheet originates with the hydrographer's signal list and is subject to change pending certification of the field data.

There is one weak fix noted in this survey. However, there are no significant plotting differences between the sounding located by this fix and those in adjacent areas. Also, the fix is not used to position a danger to navigation. This fix is considered acceptable.

The following shoreline maps apply to this survey.

	<u>Photo Date</u>	<u>Class</u>
TP-01317	June 1987	III
TP-01318	June 1987	III

The Operations Section (N/CG241) granted verbal authorization to forgo hydrography over the extensive mud flats located between longitude 135°41'30"W and longitude 135°49'30"W, because of time constraints. But no authorization was granted to forgo verification of the MHW line, islands and rocks in the same area. These features appear in blue on the final field sheet. They are shown in black on the smooth sheet because it is believed that the present photogrammetric shoreline compilation is adequate. This is based on a review of the field verified portions of the HWL which show no changes when compared to the shoreline maps. In addition, a discussion with an officer present during the survey resulted in the statement that field verification did occur but at a distance because of the extensive mud flats.

3. HYDROGRAPHY

With the exceptions noted in section Q of the hydrographer's report, hydrography is adequate to:

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

4. CONDITION OF SURVEY

The hydrographic records and reports received for processing are adequate and conform to the requirements of the Hydrographic Manual, 4th Edition, revised through Change No. 3; the Hydrographic Survey Guidelines; and the PMC OPORDER.

5. JUNCTIONS

Survey H-10271 junctions with contemporary survey H-10268 (1988) to the east. One sounding was transferred to H-10271 to better portray the bottom in the common area. The junction with survey H-10268 has been formally completed. There are no other contemporary surveys that junction with survey H-10271. A comparison with charted depths to the southeast, south and west reveals good agreement with the present survey.

6. COMPARISON WITH PRIOR SURVEYS

H-2562 (1901) 1:40,000
H-2618 (1902) 1:40,000
H-3671 (1914) 1:40,000

Surveys H-2562, H-2618 and H-3671 cover the entire area of the present survey. Since the early 1900's, this area has experienced earthquakes, possible isostatic rebound and natural accretion and erosional processes. These processes, and the different horizontal datums and the relative accuracy of the data acquisition techniques make a comparison difficult. However, the comparison shows isolated differences as great as 14 fathoms. The northern shoreline shows significant accretion seaward of the mean high waterline.

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.

The entrance to Icy Passage is shoaling near latitude 58°23'00"N, longitude 135°44'00"W. The 20-fathom curve has migrated westward by approximately 700 meters.

H-6339 (1938) 1:20,000

Survey H-6339 covers the northwest area of the present survey. Considering the differences in the scales of the surveys, geological processes and the methods of surveying, comparison with this prior survey is satisfactory. One discrepancy between the two surveys was noted, however, and is discussed in section K of the hydrographer's report.

Survey H-10271 is adequate to supersede the prior surveys within the common area.

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

Survey H-4310WD covers the entire area of the present survey. A 9.6-fathom depth discovered during the present survey at latitude $58^{\circ}19'52.57''\text{N}$, longitude $135^{\circ}42'10.18''\text{W}$, was located in a dragged area where a minimum depth of 63 feet (10.5 fathoms) was found. The 9.6-fathom depth is considered to be an accurate depth and adequate to supersede the dragged depth in this localized area.

A 7.2-fathom depth discovered during the present survey at latitude $58^{\circ}21'46.90''\text{N}$, longitude $135^{\circ}44'08.60''\text{W}$, was located in a dragged area where a minimum depth of 49 feet (8.2 fathoms) was found. The 7.2-fathom depth is considered to be an accurate depth and adequate to supersede the dragged depth in this localized area.

There are no AWOIS items originating from the prior surveys listed above applicable to the present survey.

7. COMPARISON WITH CHART

Chart 17302, 14th Edition, dated October 3, 1981; scale 1:80,000

a. Hydrography

All charted hydrography originates with the prior surveys and requires no further discussion. Survey H-10271 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 is one floating aid to navigation located within the survey area. It serves its intended purpose.

Three privately maintained daymarks were located and described by the hydrographer. These daymarks are used for small craft entering the Salmon River. See section N in the hydrographer's report for additional information. These aids are recommended for charting.

e. Geographic Names

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

f. Dangers to Navigation

The hydrographer reported three rocks and one shoal sounding to the USCG. One additional danger was discovered during office processing and was reported to the USCG and DMA. Copies of the messages/reports are attached.

8. COMPLIANCE WITH INSTRUCTIONS

Survey H-10271 adequately complies with the Project Instructions.

9. ADDITIONAL FIELD WORK

This is an adequate hydrographic survey. Additional field work to further develop the areas noted in section Q of the hydrographer's report is recommended on a low priority basis.

Charles R. Davies

C. R. Davies
Cartographer

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

Dennis Hill

Dennis Hill
Chief, Hydrographic Section

APPROVALS

I have reviewed the smooth sheet, accompanying data, and reports associated with hydrographic survey H-10271. This survey meets or exceeds Charting and Geodetic Services' standards for products in support of nautical charting.

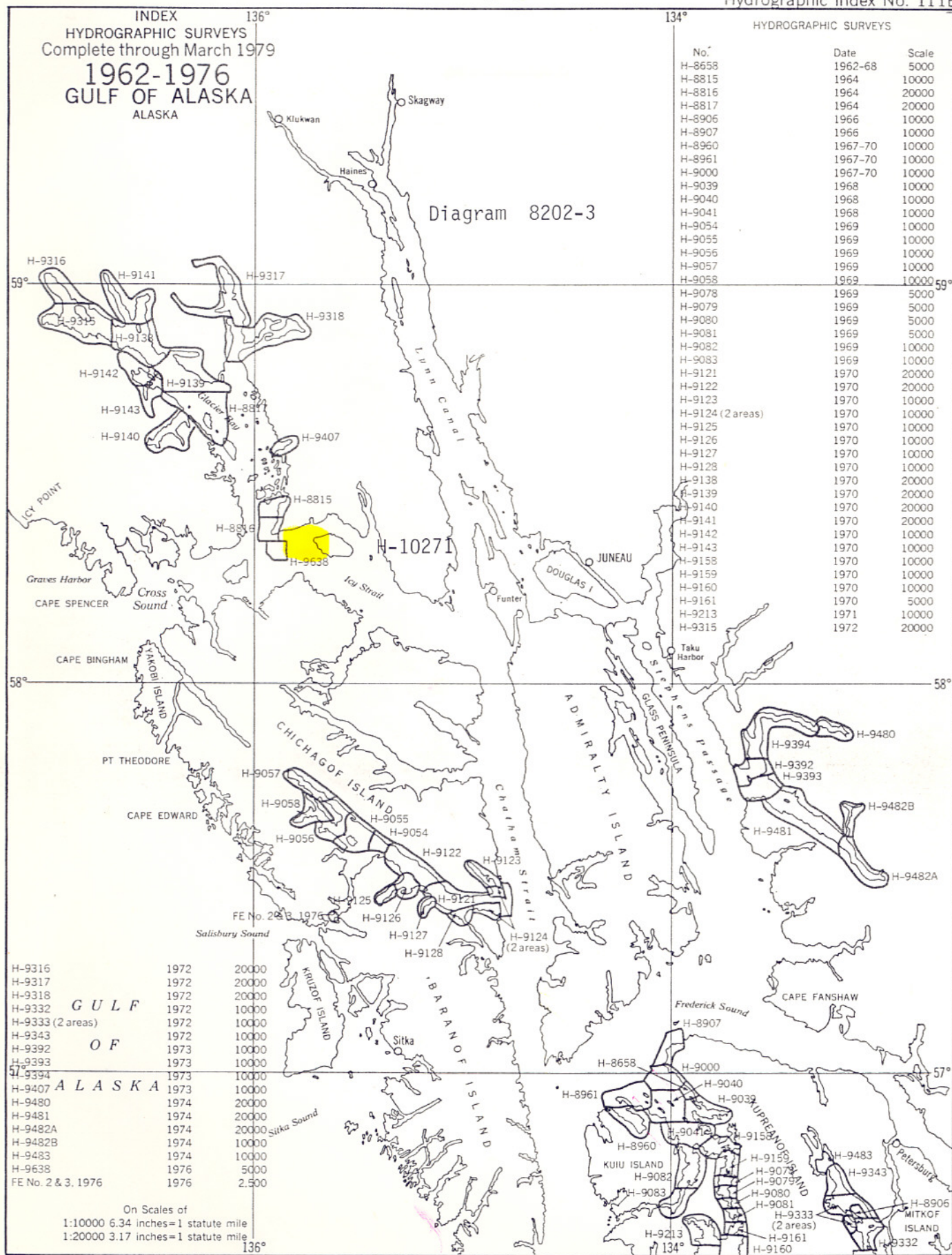
 2/8/89
Chief, Nautical Chart Branch (Date)

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

 2/8/89
Director, Pacific Marine Center (Date)

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

Hydrographic Index No. 111E



FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10271

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.

SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED.