

10258

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-10-7-87.....

Registry No. H-10258.....

LOCALITY

State Alaska.....

General Locality Icy Strait.....

Sublocality Excursion Inlet.....

1987-88

CHIEF OF PARTY
CAPT G.R. Schaefer.....

LIBRARY & ARCHIVES

DATE April 21, 1989.....

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

10258

"GP"

CHT

17316
17302
17300

CARTAS
SIGN OFF
ON FORM IN
BACK

HYDROGRAPHIC TITLE SHEET

H-10258

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 10-7-87

State AlaskaGeneral locality Icy StraitLocality Excursion InletScale 1:10,000

11/04/87(DN308) to 11/08/87(DN312)

04/12/88(DN103) to 05/04/88(DN125)

Instructions dated July 29, 1986
March 8, 1988Date of survey July 29, 1986
Project No. OPR-0186-FA-87
OPR-0186-FA-88Vessel FAIRWEATHER S220 (2020), (2024), (2025), (2026), (2027), (2028), (2029), (2030)Chief of party CAPTAIN Glen R. SchaeferSurveyed by LCDR Kenny, LCDR Mason, LT Ruiz, LTJG Lynch, ENS Bernard, ENS Nodine,
ENS Lemon, ENS Birk-Risheim, ENS Neander, ENS Niichel, and CST KrickSoundings taken by echo sounder, ~~and lead, etc.~~ Raytheon DSF 6000Graphic record scaled by FAIRWEATHER PersonnelGraphic record checked by FAIRWEATHER PersonnelVerification by: J.N. Shofner, L. Deodato Automated plot by PMC Xynetics Plotter
~~Processed by~~Evaluation by: C.R. Davies
~~Reviewed by~~Soundings in fathoms ~~feet~~ at MLLW ~~MLLW~~ and tenths of FathomsREMARKS: 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 MSM 5/12/873-26-87

MONTHLY PROGRESS SKETCH

OPR-0186-FA-88

ICY STRAIT, ALASKA

NOAA SHIP FAIRWEATHER S-220

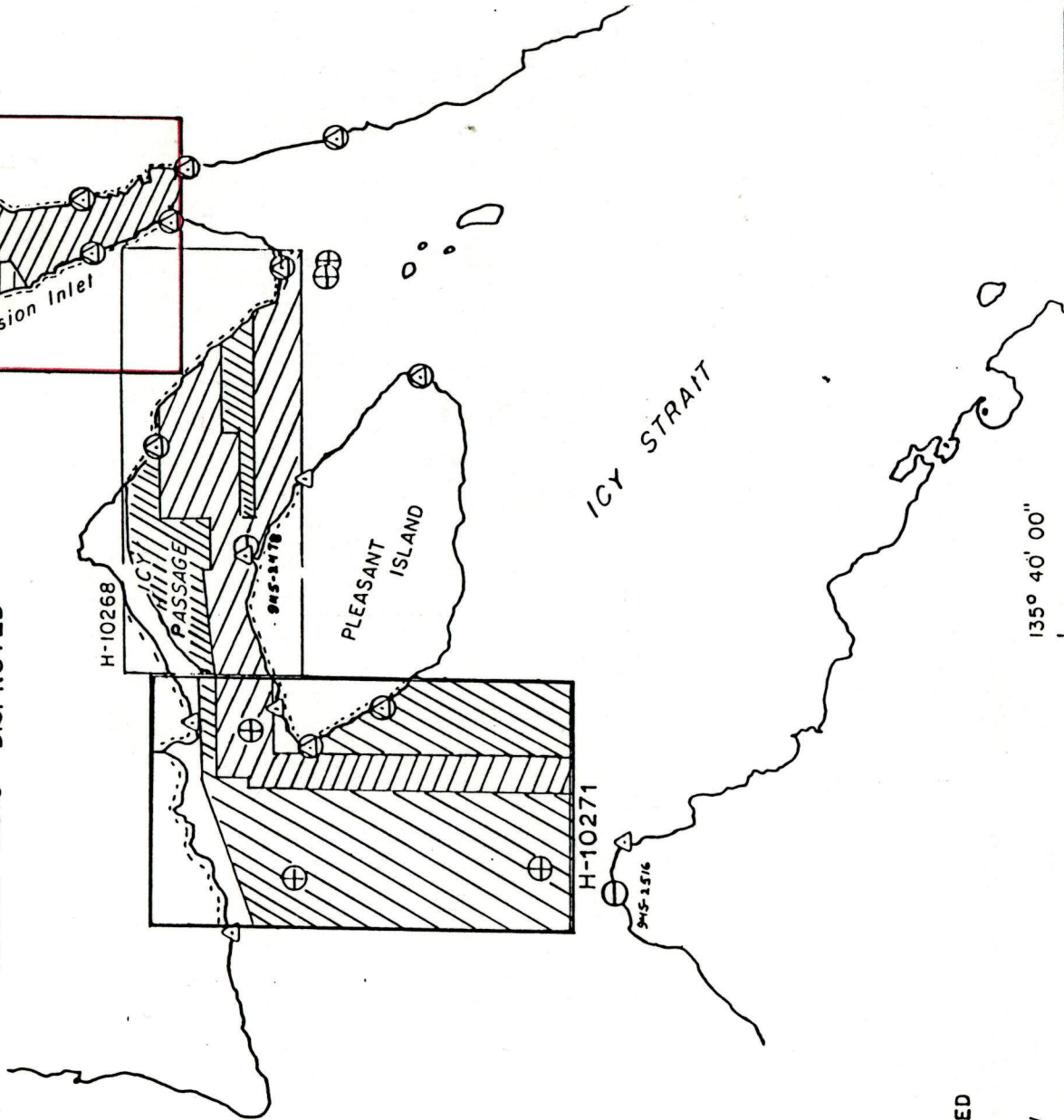
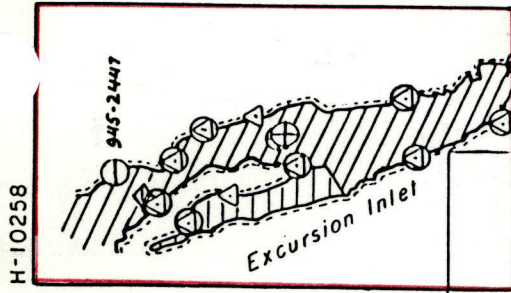
CAPT. GLEN R. SCHAEFER, CMDG

SCALE FROM NOS CHART 17300

APRIL TO MAY 1988

A.W.O.I.S. 51074 -- VERIFIED
 Rock exposed 3 feet 58° 27' 00.6" N
 135° 28' 27.0" W

A.W.O.I.S. 51075 -- DISPROVED



	APRIL	MAY
SQ NM SOUNDING LINE	15	24
LMN 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

Descriptive Report
to Accompany Hydrographic Survey H-10258
Field No. FA-10-7-87, Scale 1:10,000
NOAA Ship FAIRWEATHER S-220
Captain Glen R. Schaefer, Commanding

A. PROJECT ✓

Hydrographic survey H-10258 was conducted in accordance with Project Instructions OPR-0186-FA-87 dated July 29, 1986; Change No. 2 dated December 24, 1986; Change No. 3 dated February 2, 1987; Change No. 6 dated April 29, 1987; Change No. 7 dated July 28, 1987; Change No. 8 dated October 5, 1987; Project Instructions OPR-0186-FA-88 dated March 8, 1988; Change No. 1 dated March 14, 1988; Change No. 2 dated April 22, 1988; and Change No. 3 dated May 3, 1988; PMC OPORDER; the Hydrographic Manual (fourth edition) through Change No. 3; and the Hydrographic Survey Guidelines.

This is a basic survey for the purpose of providing contemporary hydrographic data for the existing charts, and for the planned larger scale charts to be published in the future.

This sheet is designated as "J" in the project instructions.

B. AREA SURVEYED ✓

This survey covers all of Excursion Inlet, Icy Strait, Alaska, north of latitude 58/24/20.

The field work accomplished in the fall of 1987 for this survey commenced on November 4 (DN 308) and ended on November 8 (DN 312). That accomplished in the spring of 1988 commenced on April 12 (DN 103) and ended on May 4 (DN 125).

C. SOUNDING VESSELS ✓

Hydrographic data for this survey were acquired using four vessel types. Jensen survey launches FA-4, FA-5, and FA-6 were designated vessel numbers 2024, 2025, and 2026, respectively. Shoreline verification was completed using 17-foot MonArks and one 17-foot Boston Whaler, FA-7, FA-8, FA-9, and FA-10, which were designated as vessel numbers 2027, 2028, 2029, and 2030, respectively. NOAA Ship FAIRWEATHER (vessel number 2020) was used for all sound velocity casts.

Cultural features in the vicinity of the cannery and the community of Excursion Inlet were positioned by a

range-azimuth method involving a person holding EDM prisms in a skiff, or walking from point to point; see Section H, Shoreline.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS ✓

Three of FAIRWEATHER's 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. Four skiffs (vessel numbers 2027, 2028, 2029, and 2030) equipped with sounding poles were used for shoreline verification.

Table I
Sounding Equipment
RAYTHEON DSF-6000N SERIAL NUMBERS

<u>Year</u>	<u>Date</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
1987	308-312	N/A	N/A	A121N
1988	103-125	A113N	A104N	A121N

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

No mechanical problems that degraded data quality were encountered with the DSF-6000N echo sounders during this investigation. Bar checks at the 3-fathom depth 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 was 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 80 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 by using a tape measure, or a pneumatic depth gauge manufactured by 3-D Instrument, Inc., (s/n 8302079N). 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 May 22, 1987 (DN 142) in Womens Bay, Kodiak, Alaska, and 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. There were no applicable settlement and squat corrections for any launch at speeds run during this survey. Refer to the Corrections to Echo Soundings Data package for details concerning settlement and squat determinations.

Two accurate determinations of launch transducer depths were 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 leveled by personnel on the pier using a Zeiss Ni2 level. The first static transducer draft measurement (1987 field season) was made on March 27, 1987. A correction of 0.3 fathoms was recorded for all launches. The second measurement (1988 field season) was made in Excursion Inlet, Alaska, on April 20, 1988. A correction of 0.3 fathoms was determined for all launches. All launch soundings on the final field sheet were plotted using this TRA value.

Velocity correctors were determined from four 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 VELTAB was used to compute table data from cast data. The results of SV/D casts 20 & 22 and 1 & 2 were similar enough to average and combine into two tables (Velocity Table 1 and Velocity Table 2). Table III shows the velocity tables determined from cast data. Velocity corrections using a preliminary velocity table (~~see Appendix IV~~) were applied to all echo-sounder depths plotted on the final field sheet.

Velocity table #1 was used for smooth plotting the 1987 work.
Velocity table #2 was used for smooth plotting the 1988 work.

Table II
Velocity Casts

<u>Cast No.</u>	<u>Date (DN)</u>	<u>Latitude</u>	<u>Longitude</u>
20 (1987)	297	58/27.6 N	135/28.1 W
22 (1987)	314	58/27.6 N	135/28.1 W
1 (1988)	104	58/27.8 N	135/28.3 W
2 (1988)	118	58/27.8 N	135/28.3 W

Table III
Velocity Tables

<u>Table No.</u>	<u>Based on Casts</u>	<u>Dates</u>
1	20, 22	DN 309 to 312
2	1, 2	DN 103 to 119

SV/D cast numbers 20 and 22 were performed using a Plessy Model 9040 Environmental Profiling System (EPS), having s/n 5653. The calibration for this instrument was revised at the Northwest Regional Calibration Center (NRCC) on February 16, 1988. Correctors were applied to casts 20 and 22 using the VELTAB program. The correctors were applied to the final field sheet.

Casts 1 and 2 were performed using the same Plessy Model 9040 EPS (s/n 5653). Correctors for these casts are based on NRCC April 4, 1988, calibrations.

TC/TI tapes were made in accordance with PMC OORDER, Section 3.5.1. Printouts of TC/TI tapes are included in the appendix of this report.

Predicted tide correctors were applied to the soundings plotted on the final field sheets for this survey. The tide correctors used for the fall of 1987 were from the Tide Tables 1987, West Coast of North and South America including the Hawaiian Islands, and those used for the spring of 1988 were from the same publication for 1988. 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 ✓

The final field sheets were plotted aboard FAIRWEATHER using a PDP/8e computer and Complot plotter. This survey consists of one final field sheet, and one underlay, each plotted on mylar. The dimensions, scale, and skew of both sheets are as follows:

<u>SHEET</u>	<u>SCALE</u>	<u>SKEW</u>	<u>DIMENSIONS</u>
FA-10-7-87 and underlay	1:10,000	290°	20in x 56in

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

F. CONTROL STATIONS ✓

All existing horizontal control stations used in this survey were recovered by FAIRWEATHER personnel. One permanently marked, recoverable point (TC-21), and three nonrecoverable points (TP-1, TP-2, and TIDE RM1) were established by traverse methods. Also, a new position was determined by traverse methods, for QUARTZ, a previously existing station subject to movement. All geodetic positions are based on the North American Datum of 1927.

All stations meet or exceed Third-order, Class I specifications, with the exception of TC-21, TP-1, and TP-2. TC-21 and TP-1 were established in conjunction with each other by the "A-Point" method; and TP-2 was established from TC-21 without a check due to the lack of existing geodetic control stations in the area at which a tie could be made, and the relatively few number of soundings based on it.

Stations used in support of this survey are listed in Appendix V, List of Stations. For additional information, refer to the Horizontal Control Reports for OPR-0186-FA-87, Southeast Entrance to Icy Passage, and OPR-0186-FA-87/88, Excursion Inlet.

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 and range/azimuth for all positioning. Table IV contains a list of console and R/T units for each sounding vessel. The ship FAIRWEATHER, vessel number 2020 was not used for hydrographic positioning on survey H-10258. Vessel number 2023's hydrographic

Sentence incomplete

however, the vessel was not used on survey H-10258. Mini-Ranger base-line calibrations (BLC's) were conducted in accordance with PMC OORDER, Section 3.3.1.1.

Table IV

Mini-Ranger Equipment by Vessel

<u>Vessel Number</u>	<u>Console/RT Number</u>
2023	703/B1108
2024	506042/E2716
2025	716/C1875
2026	B0323/B1398

Beginning BLC's were performed for data acquired during the month of November on DN's 257 to 260, 1987, along a distance of 990.2 meters between two recoverable marks (Naval Reserve Pier to PMC Pier A) across Lake Union in Seattle, Washington. Ending BLC's were performed on DNS 321 and 322 at the same location.

Beginning BLC's were performed for data acquired during the month of April on DN's 70 to 74, 1988, along a distance of 990.5 meters between two recoverable marks (Naval Reserve Pier to PMC Pier A) across Lake Union in Seattle, Washington. (The 0.3 meter difference between the two BLC distances is due to the use of a different point on PMC Pier A for the beginning BLC's in 1988 due to the other point being inaccessible.) Ending BLC's for survey H-10258 were performed in Juneau, Alaska, DN's 139 to 141. All combinations of codes and consoles were calibrated before commencing and after completing survey H-10258.

Differences between beginning and ending BLC's were 4 meters or less for all codes, except code 8 (console number 716). 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 OORDER. For all remaining codes the beginning correctors should be used as the final correctors. Final base-line correctors and minimum signal strengths for work completed in 1987, can be found in the Electronic Control Data package submitted for project OPR-0186-FA-87: Icy Strait and Lynn Canal, October to November 1987. Those for work completed in 1988 can be found in the Electronic Control Data package. Code 8 and console 716 was used for positions 4094-4097, DAY 107. These positions are bottom samples and a beginning baseline corrector of -3meter was used during smooth plotting.

submitted for project OPR-0186-FA-88: Icy Passage, West Entrance to Icy Passage, and Excursion Inlet, April to May 1988.

Hydrographic positioning equipment was critically system checked at least once per leg. 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 OORDER, 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, and 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.

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

H. SHORELINE See EVAL Report, section 2

Shoreline details for this survey are from a 1:10,000-scale mylar enlargement of TP-01309 (1:20,000-scale, Class III, registered shoreline map). All verified features from the shoreline map are in black ink on the final field sheet with changes recorded in red ink. New features are displayed in black ink. All features shown on the shoreline map were verified during the course of this survey.

Cultural features in the vicinity of the cannery and the community of Excursion Inlet (latitude 58/24/33 to latitude 58/25/25) were located by a person in a skiff, or on foot holding a set of EDM prisms and getting a theodolite angle and distance from a horizontal control station (in effect, a range/azimuth position). These features are shown on a 1:1,000-scale worksheet (position numbers 8000 through 8101) which accompanies the final field sheet. Due to scale limitations of the final field sheet, only significant items were transferred to it from the 1:1,000-scale worksheet.

I. CROSSLINES ✓

Crosslines were run at 90 degrees with respect to the main-scheme lines and they account for 12.1 % of the total coverage.

In areas with depths less than 20 fathoms, crossline agreement is generally within 0.4 fathoms. In those areas where the difference exceeded 0.4 fathom as given in Section 4.6.1 of the Hydrographic Manual, it can be attributed to irregular and rapidly changing bottom contours. There is no systematic problem that would account for differences in these areas.

In areas where depths exceed 20 fathoms, crossline agreement is excellent. Main scheme and crosslines never vary by more than the 3% given in Section 4.6.1 of the Hydrographic Manual.

In some cases, the vessel used for main scheme did not run the crosslines associated with that main scheme. Agreement between main scheme and crosslines is still good, as stated above.

J. JUNCTIONS ✓ *See Final Report, Section 5*

Survey H-10258 junctions to the south with contemporary survey H-10257 (1987), scale 1:10,000. At the junction the soundings agree within 2 fathoms, except in areas with steep and rapidly changing bottom contours.

K. COMPARISON WITH PRIOR SURVEYS *See Final Report, Section 6*

As per project instructions, comparison between survey H-10258 and the following prior surveys were made:

1. Survey H-6856 (1943), Scale 1:5,000

Agreement between soundings from surveys H-10258 and H-6856 is within 2 fathoms south of latitude 58/28/49. However, north of latitude 58/28/49, and inside the 60-fathom curve northward to the north limit of survey H-6856, survey H-10258 is consistently deeper than survey H-6856 by 4 to 25 fathoms. There are also major differences in the HWL east of longitude 135/29/07, over to the area east of the stream at latitude 58/29/00, longitude 135/28/30. One possible explanation is as follows: Slope failure, i.e., mass movement in the form of an underwater slump caused by over-steepening of the shelf face could account for the absence of prior charted depths. A second possibility, although less likely, would include normal isostatic rebound coupled with normal rates of uplift. This particular area of southeast Alaska is very susceptible to these activities, with the relatively recent geologic retreat of large amounts of glacial ice.

According to the Chart Markup, there are no soundings from survey H-6856 on charts 17302 or 17316.

2. Survey H-6855 (1943), scale 1:5,000

Agreement between soundings from survey H-6855 and the present survey is within 2 fathoms, except in areas with steep and rapidly changing bottom contours.

The following nonsounding feature indicated on survey H-6855 was investigated:

Survey H-6855 indicates a rock awash at MHW in the vicinity of latitude 58/25/31, longitude 135/26/50 (see position number 4110). This rock was not found after a visual search of the area. Water visibility was to 10 feet, and no kelp or eddies were present. The item appears to be a rock outcropping from a sheer rock wall. *CONCUR*

3. Survey H-3672 (1914), scale 1:20,000

Comparison with survey H-3672 was difficult; overlaying the 1914 survey with the present survey by correlating latitudes and longitudes was not practical due to the horizontal datum change. Therefore, the two surveys were compared by matching shorelines.

Agreement between soundings is generally within 3 fathoms. A sounding from survey H-10258 can always be found within 250 meters of a sounding of equal depth on survey H-3672 (two exceptions noted below). In areas near shore, greater differences can be attributed to the steep and rapidly changing bottom contours. Due to the different survey methods used during the 1914 survey, this comparison is considered good. The following soundings were found to not be in agreement with survey H-3672:

a. At latitude 58/29/58, longitude 135/29/47, survey H-3672 indicates a depth of 8 fathoms. Hydrography accomplished over the area (22-meter line spacing) found depths ranging from 20 to 22 fathoms. Since the present survey accomplished 100 percent echo-sounder coverage of the area, it is recommended the present survey depths supersede those from *CONCUR* survey H-3672.

b. At latitude 58/29/35, longitude 135/29/39, survey H-3672 indicates a depth of 44 fathoms. Hydrography accomplished over the area (90-meter line spacing) found depths ranging from 32 to 36 fathoms. Since the present survey accomplished 100 percent echo-sounder coverage of the area, it is recommended the present survey depths supersede those from *CONCUR* survey H-3672.

Also, the present survey found depths shoaler than survey H-3672 in the following area: In the vicinity of latitude 58/29/00, longitude 135/29/15, survey H-3672 indicates depths of 66 fathoms; survey H-10258 found a greatest depth of 63 fathoms (90-meter line spacing). Since the present survey accomplished 100 percent echo-sounder coverage of the area, it is recommended the present survey depths supersede those of survey H-3672. *Concur*

All nonsounding features indicated on survey H-3672 within the present survey area were located.

The following AWOIS item was investigated:

51074 - Rock awash at latitude 58/27/00.0, longitude 135/28/30.0

Source: Survey H-3672 (1914), scale 1:20,000

A rock uncovering 3 feet was found at latitude 58/27/00.54, longitude 135/28/26.9 (position no. 6942). Hydrography (45-meter line spacing) was accomplished for 200 meters in all directions around the rock. The rock awash symbol shown on the chart at latitude 58/27/00.0, longitude 135/28/30.0, should be revised to latitude 58/27/00.54, longitude 135/28/26.9. *Concur*
7106

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

Comparisons were made between survey H-10258 and Chart 17302 (October 3, 1981, 14th edition, scale 1:80,000), and Chart 17316 (August 29, 1987, 15th edition, scale 1:80,000). All soundings on the charts are from prior surveys H-3672 and H-6855. Comparison between soundings from the prior surveys and the present survey was discussed in Section K, Comparison of Prior Surveys, and will not be repeated here.

Four 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), Seventeenth Coast Guard District dated June 24, 1988. A copy of that letter is included in Appendix IX, Dangers to Navigation.

Divers determined the least depth for the rocks by pneumatic gauge or by tape measure. Dive positions are noted on the Cartographic Code Listing.

The following nonsounding features were found to not be in agreement with the chart:

1. Pier indicated on the chart in the vicinity of latitude 58/24/18, longitude 135/25/54, was not found. A

diver circle-search of 34 minutes, and having a radius of 100 feet, was performed around latitude 58/24/17.4, longitude 135/25/52.8 (see position number 9003). Water visibility was 10 to 20 feet over a level, sandy bottom. Kelp 2 to 3 feet high was also present in the area. It is recommended that this symbol be removed from the chart. *COMLINT*

2. Rock awash indicated on the chart in the vicinity of latitude 58/28/02, longitude 135/28/43, is actually the high point of a reef uncovering 18 feet at latitude 58/28/04.8, longitude 135/28/43.5 (see reference number 708, and position numbers 6943 through 6945). It is recommended the "rock awash" symbol be revised to the position given above with ledge limits around it as indicated per the final field sheet. A ledge (not shown on the chart) was found however, ^{smooth} in the vicinity of latitude 58/28/01, longitude 135/28/41, which is very near the position of the charted "rock awash" symbol described above (see position numbers 2528 and 2529). (The new rock position was included in the uncharted dangers to navigation information forwarded to the Coast Guard and DMAHTC for dissemination in Notice to Mariners, see Appendix IX. The old rock position was not forwarded to them for deletion pending review by the marine center.) *The old rock position should be revised to the position above. Position 2529, rock uncovers 4 ft at MLW at latitude 58°28'01.76"N, longitude 135°28'41.38"W.*

The one nonsounding feature shown on the chart that is not from a prior survey was located. The chart indicates a ledge in the vicinity of latitude 58/27/57, longitude 135/28/37. Shoreline verification located this ledge as per the final field sheet with a high point uncovering 15 feet at latitude 58/27/56.5, longitude 135/28/36.9, (see reference number 707, and position numbers 6946 through 6948). *chart ledge at above position*

M. ADEQUACY *see Exam Report, section 6, 7, 9*

This survey is complete and fully adequate to supersede the prior survey in their common areas. No additional field work is necessary.

N. AIDS TO NAVIGATION ✓

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

O. STATISTICS ✓

<u>Vessel</u>	<u>2020</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>Total</u>
Positions	-	573	163	1210	27	45	17	10	2045 1912
Nautical Miles	-	38.7	7.2	103.9	-	-	-	-	149.8
Square Miles	-	-	-	-	-	-	-	-	10.2
Bottom Samples	-	-	38	-	-	-	-	-	38
Velocity Casts	4	-	-	-	-	-	-	-	4
Tide Stations	1	-	-	-	-	-	-	-	1
Production Days (Hydrography Only)	-	-	-	-	-	-	-	-	20

Note: Vessel number 2023 did not accomplish any work on this sheet.
No magnetic or current stations were established during this survey.

P. MISCELLANEOUS ✓

Bottom samples were collected and forwarded to the Smithsonian Institution, Washington D.C..

No anomalous tidal conditions or potentially dangerous currents were observed.

Q. RECOMMENDATIONS ✓

The person in charge of the cannery in the community of Excursion Inlet has indicated to FAIRWEATHER personnel the need for a large scale chart inset (scale 1:20,000) of Excursion Inlet north of latitude 58/24/00, for maneuvering by fishing boats around the cannery pier, and for anchoring in the northern areas of the inlet.

R. AUTOMATED DATA PROCESSING ✓

The following programs were used for data acquisition or processing.

<u>Number</u>	<u>Program Name</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 Non-Real Time Plot	07/25/86
RK 226	Range-Azimuth Non-Real Time Plot	07/25/86
RK 300	Utility Computations	10/21/80
RK 330	Reformat and Data Checker	05/04/76
RA 362	330/602 Combined	08/20/84
AM 500	Predicted Tide Generator	11/10/72
RK 407	Geodetic Inverse/Direct Computation	09/25/78
AM 602	Elinore	12/08/82
VELTAB		02/01/85

S. REFERRAL TO REPORTS ✓

The following reports will be submitted separately:

<u>Report</u>	<u>Date</u>
Horizontal Control Report	June 1988
Coast Pilot Report	June 1988
Electronic Control Data Package	June 1988
Corrections to Echo Soundings Data Package	June 1988

Field Tide Note
Excursion Inlet, Icy Strait, Alaska
Station Number 945-2447
April to May, 1988

Field tide reduction of sounding data for survey H-10258 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.

Calculated correctors were based on zone correctors specified in project instructions and shown below.

<u>Survey</u>	<u>Time Correction</u>		<u>Height Correction</u>
	<u>High Water</u>	<u>Low Water</u>	<u>Range Ratio</u>
H-10258	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 Gage, Model 15 (gage s/n 63A2920, chart drive s/n 511055), range 0 to 30 feet, was installed in support of survey H-10258. Location and dates of operation are as follows:

<u>Station Name</u>	<u>Location</u>	<u>Dates of Operation</u>
Excursion Inlet, Icy Strait, Alaska	58/29/51N 135/29/12W	April 11 to May 14

Excursion Inlet

The tide gage, staff, orifice, and orifice tubing were installed on the eastern shore at the northern end of Excursion Inlet, Alaska, on April 11. A three-hour observation on April 11 confirmed consistent gage-to-staff differences. The gage, staff, orifice, and orifice tubing were removed on May 14.

A slight oscillation of the tide curve was noted that became prominent during periods of high winds and low tides. This seiche-like oscillation appears to be due to local conditions at the northern end of Excursion Inlet.

The gage ran well throughout the project. The zero mark on the tide staff corresponded to 9.2 feet on the gage.

Levels

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

A discrepancy occurred between opening and closing levels. On April 11, opening levels showed bench mark 2447A to be 4.2620 meters above the zero of the tide staff. Closing levels on May 14 showed an elevation of 4.1604 meters. Levels run to the mark again on May 17 showed an elevation of 4.2720 meters.

The variation in elevation of bench mark 2447A over five leveling runs (shown below) indicates that the mark is unstable; it is recommended that mark 2447A no longer be used in support of this tide station, and that elevations from this mark be disregarded.

<u>Date</u>	<u>Elevation</u>
20 Oct 87	3.611 meters
9/10 Nov 87	4.275 meters
11 Apr 88	4.2620 meters
14 May 88	4.1604 meters
17 May 88	4.2720 meters

Zoning Recommendations

None

Approval

Submitted by:

DeWagner J. Madrilic
For Michael Lemon
Ensign, NOAA

Reviewed by:

CD and Mason
C. Douglas Mason
Lieutenant Commander, NOAA
Field Operations Officer

Date:

7 JUNE '88

SIGNAL LISTING
 OPR-0186-FA
 FA-10-7-87
 H-10258

GENE, 1949 PAGE 023 N58135244
 306 0 58 27 02886 135 28 38038 250 0004 000000

SLIDE, 1949 PAGE 055 N58135244
 308 0 58 25 32723 135 28 27828 250 0009 000000

STEEP 1914 1050 581352
 312 0 58 24 20131 135 27 21330 250 0003 000000

ROAD, 1949 PAGE 048 N58135244
 314 0 58 24 09289 135 25 50415 250 0008 000000

TIDE RM1, 1988 (Field position) FAIRWEATHER FIELD POSITION
 317 0 58 25 45770 135 27 02249 250 0009 000000

TC-21, 1987 (Field position) FAIRWEATHER FIELD POSITION
 320 0 58 28 43273 135 30 34267 250 0008 000000

BEACH, 1949 PAGE 005 N58135244
 322 0 58 27 49570 135 27 33980 250 0009 000000

LAG, 1949 PAGE 036 N58135311
 324 0 58 29 19427 135 30 08355 250 0005 000000

QUARTZ, 1988 (Field position) FAIRWEATHER FIELD POSITION
 326 0 58 28 32087 135 27 54856 139 0007 000000

STREAM, 1949 PAGE 057 N58135244
 330 0 58 29 03087 135 28 45944 250 0006 000000

TF-2, 1988, (Field position) FAIRWEATHER FIELD POSITION
 340 0 58 28 16673 135 29 36538 254 0007 000000

RTTUZYUW RUHPTEB0101 1760205-UUUU-RUHSPUU.

ZNR UUUUU

R 240205Z JUN 88

FM NOAAS FAIRWEATHER

TO CCGDSEVENTEEN JUNEAU AK

INFO NOAAMOP SEATTLE WA

DMAHTC WASHINGTON DC//NVS//

ACCT CM-VCAA

BT

UNCLAS

SUBJ: DANGERS TO NAVIGATION

A. FOUR UNCHARTED DANGERS TO NAVIGATION WERE FOUND DURING SURVEY OPERATIONS (SURVEY H-10258) IN EXCURSION INLET, ICY STRAIT, ALASKA.

B. CHART 17316, 15TH ED., 8/29/87, NAD 27; ALASKA, SOUTHEAST COAST, LYNN CANAL, ICY STRAIT TO POINT SHERMAN

ADD ROCK COVERED 1.0 FMS MLLW 58/24/53N 135/26/29W

ROCK COVERED 2.4 FMS MLLW 58/26/40N 135/27/24W

ROCK COVERED 4.2 FMS MLLW 58/27/07N 135/28/32W

ROCK BARES 4 FT MHW 58/28/05N 135/28/44W

C. DANGERS REFERENCED TO PREDICTED TIDES AND NAD 27.

D. CONFIRMATION LETTER TO BE MAILED NEXT INPORT.

BT

#0101

NNNN



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

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

June 24, 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 Excursion Inlet, Icy Strait, Alaska (survey H-10258). The information below is submitted for inclusion in Local Notice to Mariners (reference my radio message R240205Z JUN 88). The enclosed copy of a chartlet is for your general information.

Chart 17316, 15th Ed., 8/29/87, NAD 27
ALASKA, SOUTHEAST COAST, LYNN CANAL, ICY STRAIT TO POINT SHERMAN

Add	Rock covered 1.0 fathoms	58°24'53"N	135°26'29"W
	Rock covered 2.4 fathoms	58°26'40"N	135°27'24"W
	Rock covered 4.2 fathoms	58°27'07"N	135°28'32"W
	Rock bares 4 feet	58°28'05"N	135°28'44"W

Depths in fathoms are from the sounding datum of mean lower low water (MLLW) based on predicted tides. The elevation is in feet above mean high water (MHW). Positions are on the North American Datum of 1927 (NAD 27).

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

bcc: MOP21
N/CG222
DMAHTC, Code NVS, Washington D.C. 20315



135° 30'

25'

20'

58° 30'

COLREGS, 80.1705 (see note A)

International Regulations for Preventing Collisions at Sea, 1972.

The entire area of this chart falls seaward of the COLREGS Demarcation

CHART 17316
15th Ed., Aug. 29, 1987 NAD 27
Scale 1:80,000

CAUTION

Shoalings amounting to as much as 6 feet have been disclosed in several critical shoal areas from Cross Sound to Excursion Inlet. It is probable that the Alaska Earthquake of July 10, 1958 created these shoalings and others not yet discovered. Mariners are urged to use caution when navigating over or near critical depths.

ROCK BARES
4 FT.

WIRE DRAGGED AREAS

The area tinted green was swept in 1917-18 by undetected dangers to navigation. All data shown on this chart.

ROCK COVERED
4.2 Fm

NOTE B
CAUTION

It has been reported that the reef near Entrance Harbor extends farther south and east than present. Should use extreme caution when navigating in the

ROCK COVERED
2.4 Fm.

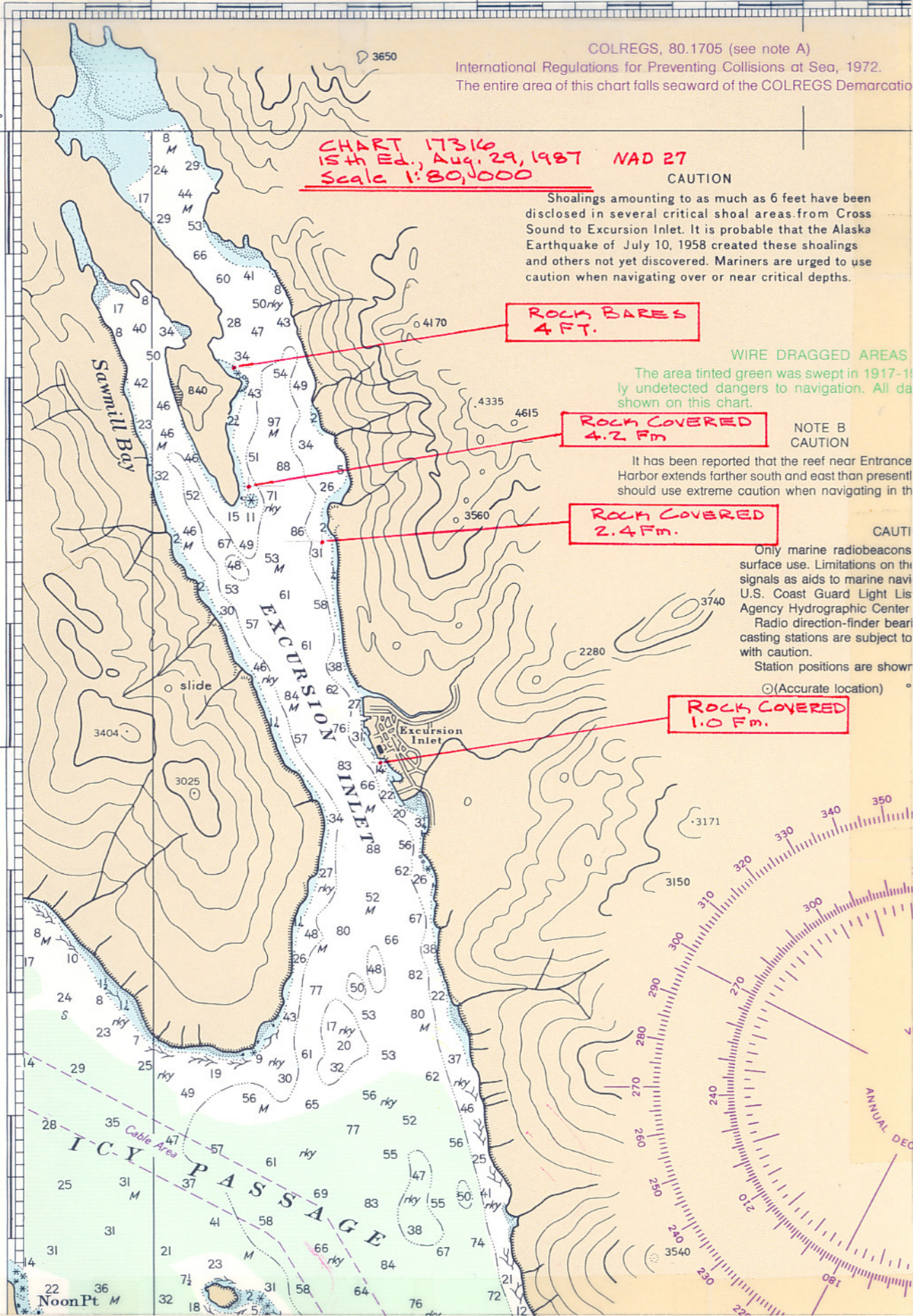
CAUTION

Only marine radiobeacons surface use. Limitations on the signals as aids to marine navigation. U.S. Coast Guard Light List Agency Hydrographic Center. Radio direction-finder bearing casting stations are subject to change with caution.

Station positions are shown

⊙ (Accurate location)

ROCK COVERED
1.0 Fm.



25'

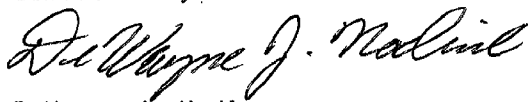
NoonPt

ANNUAL DEC

APPROVAL SHEET

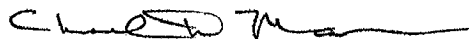
The final field sheet and the accompanying records have been reviewed for accuracy, completeness, compliance with project instructions, and adherence to required standards and procedures. The Commanding Officer inspected selected portions of the data. This survey is complete and requires no additional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

Submitted by:



DeWayne J. Nodine
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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: August 30, 1988

MARINE CENTER: Pacific

OPR: 0186

HYDROGRAPHIC SHEET: H-10258

LOCALITY: Excursion Inlet, Icy Strait, Alaska

TIME PERIOD: November 4, 1987 - May 4, 1988

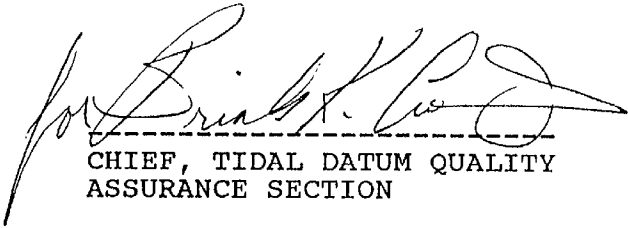
TIDE STATION(S) USED: 945-2447 Excursion Inlet, AK

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 1987 Work = 0.21 ft.
1988 Work = - 0.12 ft.

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE:
1987 Work = 13.6 ft.
1988 Work = 13.8 ft.

REMARKS: RECOMMENDED ZONING

1. Zone Direct



CHIEF, TIDAL DATUM QUALITY
ASSURANCE SECTION

GEOGRAPHIC NAMES

H-10258

Name on Survey	ON CHART NO. 17316										
	ON PREVIOUS SURVEY NO.										
	ON U.S. QUADRANGLE MAPS JUNE 20 1985										
	FROM LOCAL INFORMATION										
	ON LOCAL MAPS										
	P.O. GUIDE OR MAP										
	RAND McNALLY ATLAS										
	U.S. LIGHT LIST										

	A	B	C	D	E	F	G	H	K	
ALASKA (TITLE)	X		X							1
EXCURSION INLET (WATER FEATURE)	X		X							2
EXCURSION INLET (CULTURAL FEATURE)	X		X							3
SAWMILL BAY	X		X							4
										5
										6
										7
										8
										9
										10
										11
										12
										13
										14
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										21
										22
										23
										24
										25

Approved:

Charles P. Harrington
Chief Geographer - NJCG2x5

AUG 1 1988

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		4
DESCRIP-TION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR-GRAMS	PRINTOUTS	ABSTRACTS/SOURCE DOCUMENTS
ACCORDION FILES	2				
ENVELOPES					
VOLUMES	3				
CAHIERS					
BOXES					
SHORELINE DATA					
SHORELINE MAPS (List):					
PHOTOBATHYMETRIC MAPS (List):					
NOTES TO THE HYDROGRAPHER (List):					
SPECIAL REPORTS (List):					
NAUTICAL CHARTS (List): Chart enlargement 17316					

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			1912
POSITIONS REVISED			
SOUNDINGS REVISED			
CONTROL STATIONS REVISED			
	TIME-HOURS		
	VERIFICATION	EVALUATION	TOTALS
PRE-PROCESSING EXAMINATION	17		17
VERIFICATION OF CONTROL			
VERIFICATION OF POSITIONS	145		145
VERIFICATION OF SOUNDINGS	86		86
VERIFICATION OF JUNCTIONS			
APPLICATION OF PHOTOBATHYMETRY			
SHORELINE APPLICATION VERIFICATION			
COMPILATION OF SMOOTH SHEET	96		96
COMPARISON WITH PRIOR SURVEYS AND CHARTS		19	19
EVALUATION OF SIDE SCAN SONAR RECORDS			
EVALUATION OF WIRE DRAGS AND SWEEPS			
EVALUATION REPORT		29	29
GEOGRAPHIC NAMES			
OTHER: Digitization			
USE OTHER SIDE OF FORM FOR REMARKS	TOTALS	344	48

Pre-processing Examination by	J. Miller, S. Otsubo	Beginning Date	88-07-11	Ending Date	88-08-02
Verification of Field Data by	J. Shofner, L. Deodato	Time (Hours)	327	Ending Date	89-02-22
Verification Check by	S. Otsubo, B. Olmstead	Time (Hours)	77	Ending Date	89-02-15
Evaluation and Analysis by	C.R. Davies	Time (Hours)	48	Ending Date	89-02-24
Inspection by	D. Hill	Time (Hours)	2	Ending Date	3/21/89

PACIFIC MARINE CENTER
Evaluation Report
H-10258

1. INTRODUCTION

Survey H-10258 is a basic hydrographic survey accomplished by the NOAA Ship FAIRWEATHER under the following Project Instructions.

OPR-0186-MI-86, dated July 29, 1986
CHANGE NO. 2, dated December 24, 1986
CHANGE NO. 3, dated February 2, 1987
CHANGE NO. 6, dated April 29, 1987
CHANGE NO. 7, dated July 28, 1987
CHANGE NO. 8, dated October 5, 1987

OPR-0186-FA, 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 of Excursion Inlet and Sawmill Bay. The surveyed area extends north from latitude 58°24'18"N to the head of the inlet. The shoreline along the inlet is characterized by ledges, reefs and isolated off-lying rocks with stretches of gravel, stone and boulder beaches. There is also an abandoned cannery and the small community of Excursion Inlet. The bottom consists of mud, sand and shells. Depths range from 0 to 99 fathoms.

Predicted tides for Juneau, Alaska were used for the reduction of soundings during field processing. Approved hourly heights zoned from Excursion Inlet, Alaska, gage 945-2447, 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, velocity and electronic correctors are adequate. An accompanying computer printout contains the parameters and the correctors.

A digital file, generated for this survey, includes categories of information required to comply with 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 1987 and 1988 Horizontal and Electronic Control Reports for OPR-0186-FA 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 27. These values were used during office processing for the computation of positions. The smooth sheet and accompanying overlays are annotated with NAD 83 adjustment ticks based on values determined by N/CG121. Geographic positions based on NAD 83 may be plotted on the smooth sheet utilizing the NAD 27 projection by applying the following corrections.

Latitude: 1.204 seconds (37.3 meters)
Longitude: -6.518 seconds (-105.7 meters)

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

There are 7 weak fixes (angles of intersection less than 30 degrees or more than 150 degrees) noted in this survey. However, there are no significant plotting differences between the soundings located by these fixes and those in adjacent areas. Also, none of these fixes are used to position dangers to navigation. These fixes are considered acceptable.

The following registered shoreline map applies to this survey.

	<u>Photo Date</u>	<u>Class</u>
TP-01309	June, July 1985	III

Shoreline changes were observed on the eastern shoreline of Excursion Inlet and are drawn in dashed red. All of these changes were pier ruins observed in the field and are supported with positional information, which are adequate to supersede the common photogrammetrically delineated shoreline.

3. HYDROGRAPHY

With the exceptions noted in this report, hydrography is adequate to:

- a. delineate the bottom configuration, determine least depths, and draw the standard depth curves;
- b. reveal there are no significant discrepancies or anomalies requiring further investigation; and

c. show the survey was properly controlled and soundings are correctly plotted.

4. CONDITION OF SURVEY

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

The investigations of shoreline features, i.e. piers, piles and wharfs on prior surveys H-6855 and H-6856, were inadequate for disapproval. Adequate investigation of all prior features is required for supersession.

5. JUNCTIONS

Survey H-10258 junctions with the following survey.

<u>Survey</u>	<u>Year</u>	<u>Scale</u>	<u>Area</u>
H-10257	1987	10,000	South

The junction with survey H-10257 has not been formally completed since that survey was previously processed and forwarded for charting. The junction comparison was made using a copy. Soundings are in good agreement. Some soundings have been transferred to H-10258 to better portray the bottom in the common area. Portions of the depth curves on survey H-10257 should be adjusted to conform with those on survey H-10258.

6. COMPARISON WITH PRIOR SURVEYS

H-3672(1914) 1:20,000

Survey H-3672 covers the entire area of the present survey. Taking into consideration the differences in the scales of the surveys and the methods of surveying, comparison with this prior survey is satisfactory. Some differences between the two surveys were noted, however, and are discussed in section K of the hydrographer's report.

AWOIS Item 51074 originates with prior survey H-3672. The disposition of the item is adequately discussed by the hydrographer in section K.

H-6855(1943) 1:5,000
H-6856(1943) 1:5,000

Surveys H-6855 and H-6856 cover two areas centered at latitude 58°25'00"N, longitude 135°26'45"W, and latitude 58°29'00"N, longitude 135°28'45"W.

Several shoreline features, i. e., piers and obstructions, shown on these prior surveys were not found nor disproven during this survey. Although some of these features are not charted, there is no miscellaneous authoritative source which disproves the ruins and submerged features. Therefore, the following ruins and obstructions have been carried forward to H-10258 from surveys H-6855 and H-6856.

<u>Feature</u>	<u>Survey</u>	<u>Latitude N</u>	<u>Longitude W</u>
pier ruins	H-6856	58°29'11"	135°29'10"
pier ruins	H-6856	58°29'08"	135°29'06"
obstr.(anchors)	H-6856	58°29'04"	135°28'59"
subm piles	H-6856	58°29'03"	135°28'56"
pier ruins	H-6856	58°29'02"	135°28'53"
subm pile	H-6856	58°29'00"	135°28'50"
pier ruins	H-6856	58°29'00"	135°28'48"
subm piles	H-6856	58°28'58"	135°28'51"
subm pile	H-6856	58°28'58"	135°28'48"
subm dol	H-6856	58°28'57"	135°28'48"
pier ruins	H-6856	58°28'57"	135°28'45"
subm dol	H-6856	58°28'54"	135°28'41"
pier ruins	H-6855	58°25'20"	135°26'45"
pier ruins	H-6855	58°25'02"	135°26'40"
pier ruins	H-6855	58°24'56"	135°26'35"
pier ruins	H-6855	58°24'37"	135°26'16"

See section K of the hydrographer's report for additional discussion on the comparison with soundings.

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.

With the transfer of the features noted above, survey H-10258 is adequate to supersede the prior surveys within the common area.

7. COMPARISON WITH CHART

Chart 17302, 14th Edition, dated October 3, 1981;
scale 1:80,000
Chart 17316, 15th Edition, dated August 29, 1987;
scale 1:80,000

a. Hydrography

Charted hydrography originates with surveys H-3672, H-6855 and H-6856 and miscellaneous sources.

There is no indication on chart 17316 of the culturally developed area centered at latitude 58°29'00"N, longitude 135°48'45"W shown on survey H-6856. The features shown on

survey H-6856 have not been disproven and have been brought forward to the smooth sheet as ruins or submerged features. The charting history of chart 17316 should be carefully reviewed for disproval documentation prior to the charting of these features.

The ruins charted at latitude 58°25'00"N, longitude 135°26'40"W have not been disproven. They should remain as charted.

The two small piers charted at latitude 58°24'33"N, longitude 135°26'08"W and latitude 58°24'44"N, longitude 135°26'21"W have not been disproven. They should be shown as ruins at the presently charted positions.

Except for the ruins and the two small piers noted above, survey H-10258 is adequate to supersede charted hydrography within the common area.

b. AWOIS

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

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 located within the area of this survey.

e. Geographic Names

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

f. Dangers to Navigation

The hydrographer reported four rocks to the USCG, DMAHTC and N/CG222. Copies of the messages/reports are attached. No additional dangers were found during office processing.

8. COMPLIANCE WITH INSTRUCTIONS

Survey H-10258 adequately complies with the Project Instructions.

9. ADDITIONAL FIELD WORK

This is a adequate hydrographic survey. Additional field work is recommended on a low priority basis to verify or disprove the features mentioned in sections 6 and 7 of this report.


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-10258. This survey meets or exceeds Charting and Geodetic Services' standards for products in support of nautical charting.

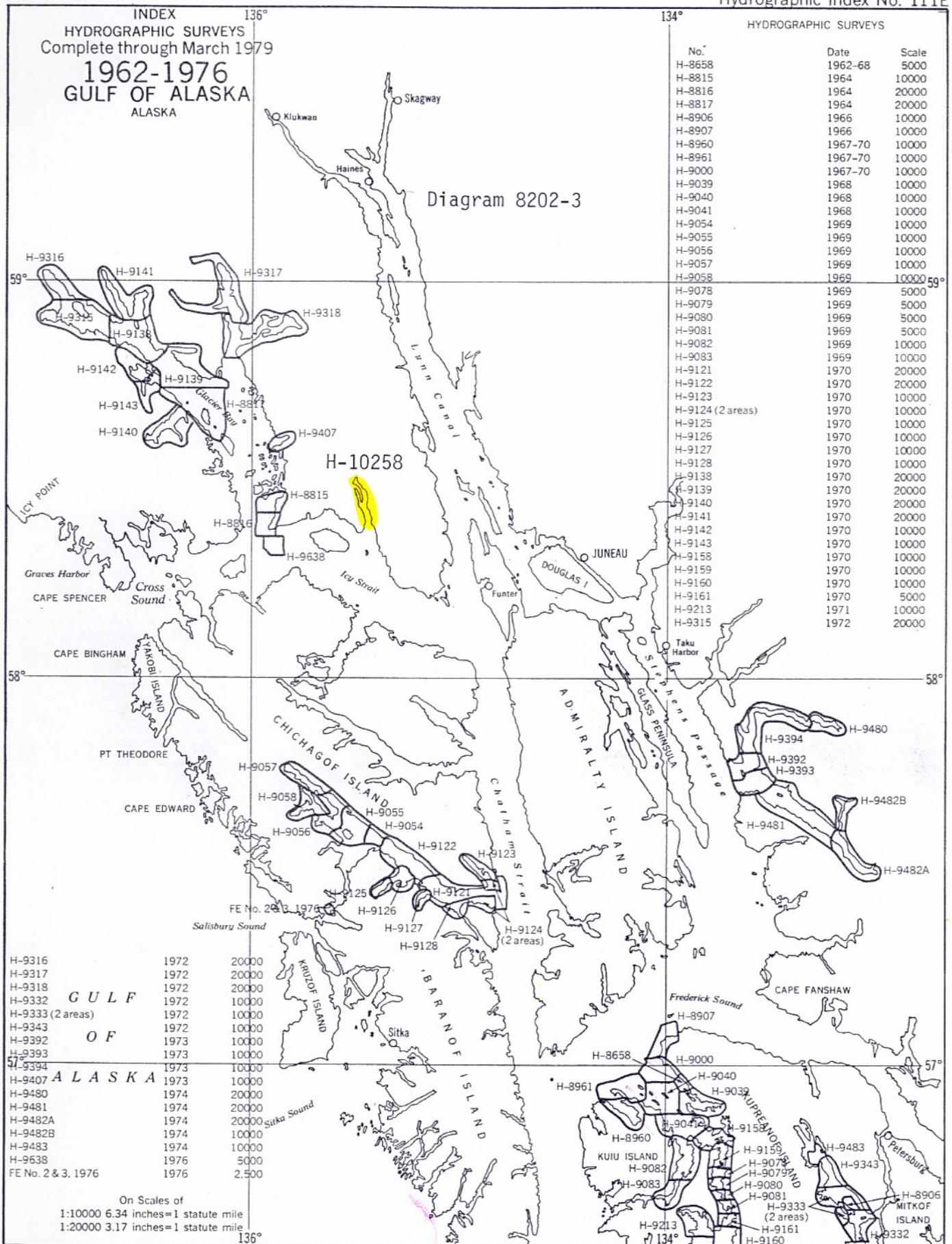
 3/22/89
Chief, Nautical Chart Branch (Date)

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


Director, Pacific Marine Center (Date)

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

Hydrographic Index No. 111E



(see also No. 110)

A-5324

MARINE CHART BRANCH
RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10258

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.

1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
17316	9/7/89	Domingo	Full Part Before After Marine Center Approval Signed Via <i>full application.</i> Drawing No. <i>of soundings from SS</i>
17302	10/11/89	Domingo	Full Part Before After Marine Center Approval Signed Via <i>full application</i> Drawing No. <i>of soundings from SS thru 17316</i>
17300	10/31/89	ALMACEN	Full Part Before After Marine Center Approval Signed Via <i>full application of</i> Drawing No. <i>sndgs. from SS thru 17302 & 17316.</i>
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
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			Full Part Before After Marine Center Approval Signed Via Drawing No.

SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED.