10229

Diagram No. 8252-3

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-10-3-86

Registery No. ... H-10229

LOCALITY

State ... Alaska

General Locality ... Kelp Bay

Sublocality ... The Basin and South Arm

19 86

CHIEF OF PARTY
CAPT J.W. Carpenter

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DATE ... March 21, 1988

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10229

Area 5
Cht
17337 } TO SIGN OFF, SEE
17320 } "RECORD OF APPLICATION"

NOAA FORM 77-28 (11-72)

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

HYDROGRAPHIC TITLE SHEET

REGISTER NO. H-10229

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 10-3-86

State: Alaska

General locality: Kelp Bay

Locality: The Basin and South Arm

Scale: 1:10,000

Date of survey: DN 282 10-09-86 through DN 304 10/31/86

Instructions dated: January 17, 1986

Project No.: OPR-0183-FA-86

Vessel: FAIRWEATHER (2020), (2023), (2024), (2025), (2026), (2027), (2029)

Chief of party: Captain John W. Carpenter

Surveyed by: LT Kenny, LT Moen, ENS Crozer, ENS Abbott, ENS Cone, ENS Lynch, ENS Bernard, ENS Nodine, CST Krick

Soundings taken by echo sounder, hand lead, ~~pole~~: Raytheon DSF-6000N, tape and pneumatic gage

Graphic record scaled by: FAIRWEATHER Personnel

Graphic record checked by: FAIRWEATHER Personnel

Verification by ~~Protracted by~~: P.M. Niland

Automated plot by: PMC Xynetics Plotter

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

Soundings in fathoms ~~feet~~ at ~~MLW~~ MLLW

REMARKS: All times are UTC. Revisions and marginal notes completed during office processing. Separates are filed with the hydrographic data; as a result page numbering may be interrupted or non-sequential.

SC 2-597 AWOIS and SURF - RWD 9/88

NOAA FORM 77-28 SUPERSEDES FORM C&GS-537.

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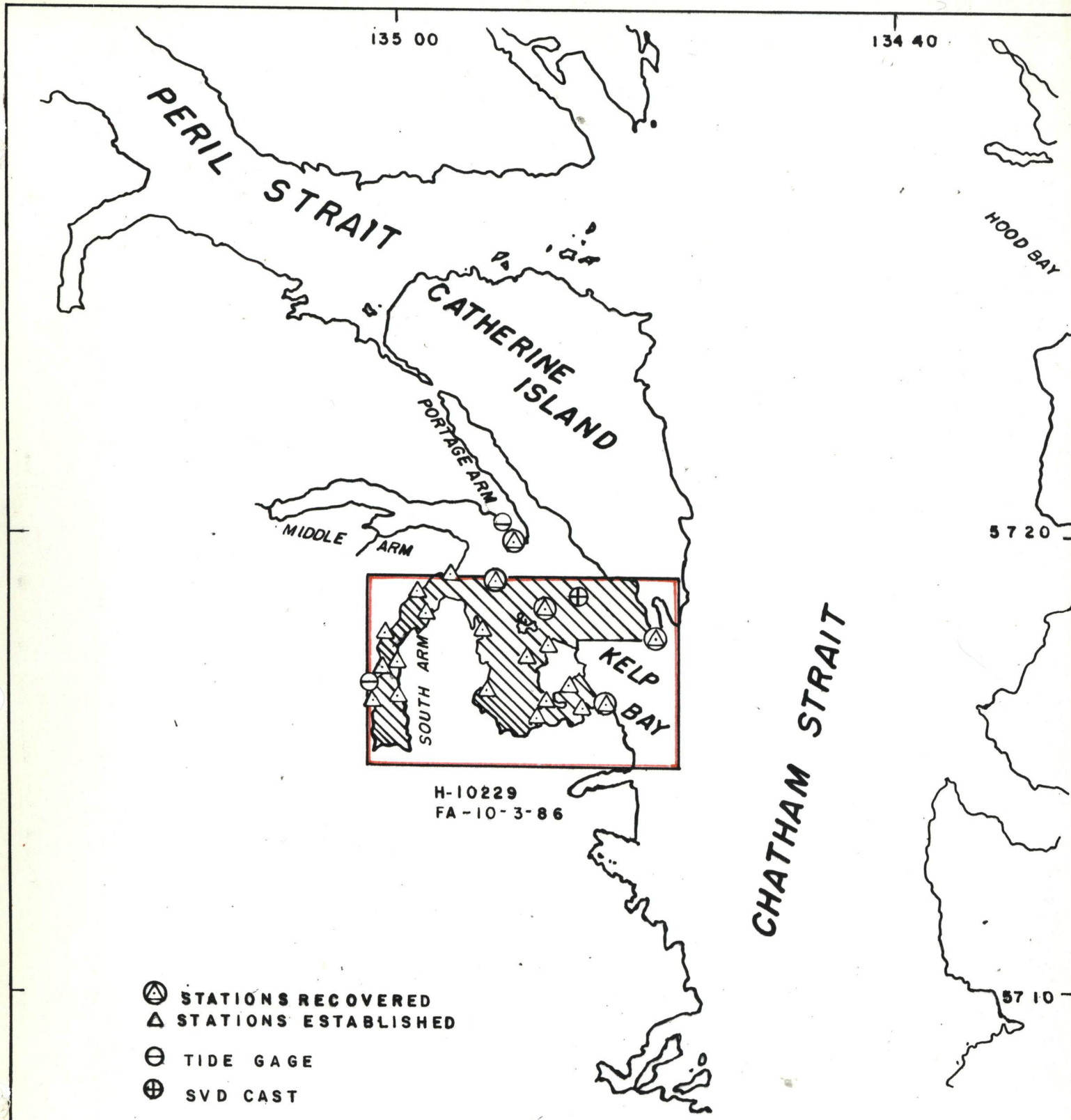


	OCT
SQ NM SOUNDING LINE	10
LNM SOUNDING LINE	323
BOTTOM SAMPLES	51
HYDRO CONTROL STATIONS	21
SV/D CAST	2
TIDE GAGE INSTALLATION	2
LNM SL VERIFICATION	15
HYDROGRAPHY	

MONTHLY PROGRESS SKETCH
OPR-0183-FA-86
-KELP BAY, ALASKA-

NOAA SHIP FAIRWEATHER S-220
CAPT JOHN W. CARPENTER, CMDG
SCALE OF NOS CHART 17320
October 1986

Descriptive Report
to Accompany Hydrographic Survey
H-10229 (FA-10-3-86)
NOAA Ship FAIRWEATHER S-220
Captain John W. Carpenter, Commanding

A. PROJECT

Hydrographic survey H-10229 was conducted in accordance with Project Instructions OPR-0183-FA-86 dated January 17, 1986 and Change No. 1 dated October 17, 1986. PMC OPORDER, the Hydrographic Manual (fourth edition) through Change No. 3, and the Hydrographic Survey Guidelines are also applicable.

This is a basic survey for the purpose of providing contemporary hydrographic survey data for existing nautical charts covering the area.

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

B. AREA SURVEYED

This survey covers the area within Kelp Bay between latitudes 57/17/55 and 57/19/00, The Basin, and South Arm.

The field work for this survey commenced on October 9, 1986 (DN 282) and was completed October 31, 1986 (DN 304).

C. SOUNDING VESSELS

Hydrographic data for this survey was collected 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 a 17-foot MonArk, FA-7, which was designated vessel number 2027 and a 17-foot Boston Whaler, FA-9, designated as 2029. The NOAA Ship FAIRWEATHER (vessel number 2020) was used for all sound velocity casts and to collect bottom samples in deeper areas. Some bottom samples were collected by FA-5.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

All of FAIRWEATHER's survey launches, each 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, year, and day.

Table I
Sounding Equipment
RAYTHEON DSF-6000N SERIAL NUMBERS

Date	2023	2024	2025	2026
282-303	A121N	B049N	A113N	B048N

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 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.

In most instances, the high-frequency beam data was digitized. The low frequency was used when, due to steepness or suspended particles in the water column, the high-frequency trace was lost. Also if side echos produced least depths over peaks and reduced line spacing wasn't 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".

All of FAIRWEATHER's survey launches were tested for settlement and squat on June 10, 1986 (DN 161) and August 18, 1986 (DN 230) in Womens Bay, Kodiak, Alaska. The test results were used to plot settlement and squat curves for each launch (forwarded with survey data). Measurements were conducted in accordance with Section 4.9.4.2 of the Hydrographic Manual. It was determined that there were no applicable settlement and squat corrections for any launch at speeds run while surveying in fathoms.

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 leveled by personnel on the pier using a circular bubble level. On April 29, 1986 a transducer draft of 0.3 fathoms was recorded for all launches (full fuel tank, for both 0 people and 4 people on board).

Velocity correctors were determined from two SV/D casts in accordance with section 4.9.5.2 of the Hydrographic Manual. Program VELTAB was used to compute tables. Results of both SV/D casts were similar enough to average and combine into one table. Table II shows the date and locations of all casts.

Table II
Velocity Casts

Cast No.	Date DN	Latitude Longitude
15	284	57/18.5N 134/52.5W
16	300	57/18.4N 134/52.2W

The SV/D casts were performed using a Plessy Model 9040 Environmental Profiling System (s/n 5647). This instrument was calibrated at the Northwest Regional Calibration Center (NRCC) on February 4, 1986 for the 1986 field season (calibration information was forwarded with survey data). XBTs were taken during the SV/D casts as a check on the Plessy System.

TC/TI tapes were made in accordance with PMC OPORDER, Appendix Q, dated May 12, 1986. Printouts of TC/TI tapes are included in the separates following the text of this report.

Predicted tide corrections were applied to the soundings plotted on the field sheets for this survey. The tide correctors used were from the 1986 West Coast of North and South America Tide Tables. For further information, refer to the "Field Tide Note" in the separates.

E. HYDROGRAPHIC SHEETS ✓

The final field sheets were plotted at the Pacific Marine Center in Seattle, Washington using a PDP/8e computer and complot plotter. This survey consists of two final field sheets, three overlays ("A" through "C"), and one development sheet plotted on mylar. The dimensions, scale, and skew of the final field sheets and development sheet are as follows.

SHEET	SCALE	SKEW	DIMENSIONS
FA-10-3N-86	1:10,000	0	21x50
FA-10-3S-86	1:10,000	0	21x50
AWOIS No.50974 through 50976	1:1,000	0	21x21

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

F. CONTROL STATIONS ✓

All horizontal control stations used in this survey were recovered or established by FAIRWEATHER personnel. All geodetic positions were based on the North American 1927 datum. New stations were located by conventional traverse methods. No anomalies in control, adjustment, or closures were encountered. All positions meet or exceed Third Order, Class I specifications.

Stations used in support of this survey are listed in Appendix V, List of Stations. For additional information, refer to the Horizontal Control Report, OPR-0183-FA-86.

G. HYDROGRAPHIC POSITION CONTROL ✓

Hydrographic position control was accomplished using the Motorola Mini-Ranger III system. The control configuration consisted of range/range and range/azimuth for the majority of positioning. Table III contains a list of console and R/T units for each sounding vessel.

"See Field Sheet" hydrography (i.e., hydrography controlled by a visual estimate of location with computed rates determined) was run in two locations on H-10229: latitude 57/18/05, longitude 134/58/20 (positions 9900-9901), and latitude 57/16/00, longitude 134/54/15 (positions 9902-9905). No geodetic control was possible or necessary in these small areas given the time constraints of the survey and size of the inlets. See Evsk Report, Section I

Table III

Mini-Ranger Equipment by Vessel

Vessel Number	DN	Console/RT Number
2023	282-304	B0323/B1398
2024	282-304	506042/E2716
2025	282-304	703/1108
2026	282-304	716/C1875

Mini-Ranger base line calibrations (BLC's) were conducted in accordance with Appendices M and S of the PMC OPORDER.

Beginning BLC's were performed on DN's 275-279 and DN 290 along a distance of 1253.6 meters between two recoverable marks (Coast Guard pier to Union 76 installation) in Juneau, Alaska. Ending BLC's were performed on DN's 336-338 along a distance of 990.2 meters between two recoverable points (Naval Reserve Pier to PMC pier B) across Lake Union in Seattle, Washington. Table IV contains a list of all calibrations performed in support of this survey.

Table IV

Mini-Ranger Baseline Calibrations

DN	Console/RT Number	Transponder Codes
275-279	506042/E2716	5,6,7,8,9,A,B,C,D
	B0323/B1398	5,6,7,9,A,B,C,D
	703/B1108	5,6,7,8,9,A,B,C,D
	716/C1875	5,6,7,8,9,A,B,C,D
290	B0323/B1398	8
336	B0323/B1398	5,6,7,8,A,B,C,D
337	B0323/B1398	9
	506042/E2716	5,6,7,8,9,A,B,C,D
	703/1108	A,B,C,D
338	703/1108	5,6,7,8,9

As the differences between beginning and ending BLC's were 5 meters or less, the beginning and ending calibrations were not averaged. The beginning correctors were used as the final correctors.

On DN 310 the modulator in RT unit C1875 failed. As a result, no ending BLC's were possible for console/RT pair 716/C1875. Critical and non-critical system checks verified beginning calibration correctors until the failure occurred.

Final baseline correctors and minimum signal strengths can be found in the Electronic Control Data package submitted for OPR-0183-FA-86.

Hydrographic positioning equipment was critically system checked at least once per week unless adverse weather prohibited it (at which point they were accomplished as soon as weather allowed). Non-critical system checks were conducted once per day except when equipment failures prohibited it. All hydrographic positioning equipment was found to be accurate within the limits set forth by the PMC OPORDER. Critical system checks were accomplished using the theodolite cut method. The instruments used were Wild T-2 theodolites with serial numbers 26336, 85652, 257219, 276503.

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

H. SHORELINE ✓

Shoreline details for this survey are from two 1:10,000 scale mylar enlargements of TP-01167, a 1:20,000 scale, Class III, registered shoreline manuscript. All verified features are in black ink on the final field sheet with changes recorded in red ink. New features are displayed in black ink.

There are some conflicts between hydrography and the manuscript high waterline in South Arm. This may be due to trees overhanging the water by as much as 20 feet in many areas. It was also noted that grass grows below the high waterline in the southern end of South Arm (probably due to heavy fresh water influx from the river at the head and the many streams off the mountainsides). The high waterline should be delineated as shown on the ~~final field sheet~~ smooth sheet. concur

A rock awash indicated on the manuscript at latitude 57/15/34.5, longitude 134/55/03, was not found after a 10-minute search (position no. 4391). Bottom visibility was good, and no kelp or eddies were seen. It is recommended that this not be charted. Pos# 4389, 0 fathoms (least depth in area) at lat. 57°15'33.97"N, long. 134°55'03.45"W. Chart area as shown on smooth sheet.

At latitude 57/18/54.67, longitude 134/51/31.45, the manuscript indicates a reef. A 10-minute visual and echo-sounder search indicated a depth of 1 fathoms at this location (position no. 4892). Chart area as shown on smooth sheet.

At latitude 57/18/07.5, longitude 134/54/44, the manuscript indicates an islet or reef. A 10-minute search was done over the area (position no. 2019). No islet or prominent reef was found. Pos# 2019 0.3 fathoms (least depth in area) at Lat. 57°18'07.22"N, long. 134°54'43.69"W. Chart area as shown on smooth sheet.

Manuscript rocks southeast of Yellow Rock in the vicinity of latitude 57/18/14, longitude 134/53/57, were observed; however, no heights were obtained. Drawn on smooth sheet with no elevations.

A manuscript submerged rock, elevation unknown, at latitude 57/18/38, longitude 134/57/51, was found to be part of a shoal on which divers' least depths were obtained (position no. 9024 and 9025). The present survey depths should be charted instead of the submerged rock symbol. Pos# 9024, 0.6 Rk at lat. 57°18'37.78"N, long. 134°57'46.86"W. Pos #9025 2.4 Rk at lat. 57°18'40.76"N, long. 134°57'48.67"W. Chart area as shown on smooth sheet.

Two manuscript submerged rocks, elevations unknown, 150 meters southwest of Yellow Rock in the vicinity of latitude 57/18/14, longitude 134/54/06, were not found. Line spacing was reduced to 22 meters in the area. Depths of 5 and 10 fathoms were found. However, the bottom was found to be irregular in the channel between Yellow Rock and the unnamed island to the southwest. Chart area as shown on smooth sheet.

Other manuscript submerged rocks, elevations unknown, that were not found* after launch echo-sounder searches of the area and reduced line spacing are as follows:

MANUSCRIPT LATITUDE	LONGITUDE	Survey DEPTH FOUND(fm)	POSITION
57/17/45.07	134/53/59.77	21.2	4955
* 57/18/02.23	134/55/49~~18.41~~	~~8 7 2~~ Rk	4801
57/15/40.53	134/55/05.04	4 2 3	2392
57/15/5~~82.73~~	134/54/43.37	~~20~~ 19	2575
*57/17/4~~82.86~~	134/55/06~~5.72~~	4 1.5 Rk	~~4927~~ 4850

* Records denoted with a * indicate rocks confirmed by present survey.

Three drums attached to steel girders were found at latitude 57/17/~~19~~, 18.58 longitude 134/56/~~40~~, 39.59 (position no. 2055) instead of a rock as indicated on the manuscript. A steel cable runs from this to the shore and it appears to have been used as a mooring device. It is recommended that an "obstruction" symbol be used in lieu of a rock symbol at this location. Pos# 2055, obstruction 7 ft MLLW at the above position. concur

The platform indicated on the manuscript in South Arm at latitude 57/16/03, longitude 134/59/27, was not found (reference no. 400). A search was conducted for 10 minutes and the only evidence found was squared off timber on the shore. Do not chart platform.

Many new features have been added to the shoreline in South Arm such as: beaches, streams, waterfalls, and ledges. In the area between Pond Island and South Point. several items appearing on the manuscript as rocks are in fact points on ledges (that are not necessarily prominent). In other instances, items shown as islets are actually reefs. Also, several rocks not indicated on the manuscript were found. See the ~~final field~~ smooth sheet for the above changes and additions. concur

The following control stations are located on small offshore islets or islands: Islet, Plover, Yellow, and Zubof.

I. CROSSLINES ✓

All crosslines were run at a minimum of 45 degrees with respect to the main scheme lines and they account for 12% of the total coverage.

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

In areas where the depth exceeds 20 fathoms, crossline agreement is excellent, except over some irregular and steep bottom terrain where mainscheme and crosslines vary by more than the 3% given in Section 4.6.1 of the Hydrographic Manual. Again, there is no systematic problem that would account for differences in these areas. concur

J. JUNCTIONS See Evac Report, Section 5

Survey H-10229 junctions with two contemporary surveys in the areas listed below:

Registry No.	H-10202
Scale	1:10,000
Year	1985
Relative Location	Entrance to Kelp Bay between North Point and Pond Island, and the area between South Point and the south side of Pond Island.

Registry No.	H-10203
Scale	1:10,000
Year	1985
Relative Location	Kelp Bay along latitude 57/19/00.

In the junction with H-10202 at the entrance to Kelp Bay between North Point and Pond Island, the soundings agree within 1 fathom except near Pond Island where there are some larger differences which can be attributed to the steep bottom. There is no systematic problem that would account for differences in these areas. concur

Between South Point and the southeast side of Pond Island the soundings agree within 1 fathom. concur

A rock from H-10202 that ~~bares~~ uncovers 10 feet is plotted on the H-10229 final field sheet at latitude 57/16/24, longitude 134/51/49. This rock falls within H-10229 hydrography and is shown on the present survey to correctly delineate the junction area.

Overall, agreement between soundings at the junction with survey H-10203 is within 1 fathom. However, on survey H-10203 the depths shoal from 45 fathoms to 34 fathoms in the vicinity of latitude 57/19/00, longitude 134/56/21, which is 8 fathoms shallower than the soundings shown on the present survey. Additional lines were run in an east-west direction at 45-meter spacing in this area. In addition, the line from H-10203 with the depths in question was rerun during the present survey. No evidence was found of the shoaler depths indicated on survey H-10203. Furthermore, the area appears to be relatively flat. It is believed that the shallower depths indicated on H-10203 were caused by heavy schools of fish. While surveying H-10203 in this area during the 1985 field season, FAIRWEATHER personnel recall that many schools of fish were apparent on the echo-sounder trace and in some cases lines had to be rerun. Therefore, it is recommended that survey H-10229 supersede soundings from H-10203 in the vicinity of latitude 57/19/00, longitude 134/56/21. See Evac Report, section 6 concur

K. COMPARISONS WITH PRIOR SURVEYS See Evac Report, section 6

The survey area is covered by prior survey H-2240, 1895 (scale 1:20,000).

Per project instructions comparisons were also made with the reconnaissance surveys performed by the DAVIDSON:

124987	1:20,000	1983
124988	1:10,000, Partial Enlargement of 124987	

Comparison with the 1895 survey was difficult; overlaying the old survey with the present survey by correlating latitudes and longitudes was not practical as neither the shoreline nor soundings matched well. Therefore, the two surveys were compared by matching the shoreline.

All soundings on survey H-10229 agree with H-2240 within 2 fathoms. (Due to the different survey methods used during an 1895 survey, this comparison is considered good.) Survey H-10229 is consistently shoaler than the 1895 survey in areas less than 20 fathoms deep. This is due to the denser line spacing of the present survey. In areas greater than 20 fathoms deep, the present survey was usually deeper than the 1895 survey.

In the vicinity of latitude 57/16/42, longitude 135/00/25, the 1895 survey indicates a depth of 7-1/4 fathoms. However, hydrography accomplished over the area (45-meter line spacing) revealed depths of 15 to 30 fathoms. It is recommended that the present survey depths be charted at this location. concur

In the vicinity of latitude 57/18/26, longitude 134/55/57, two depths of 7-1/4 and 7-1/2 fathoms over a shoal are indicated on the prior survey. A diver determined least depth of 3.4 fathoms was discovered (position no. 9022), at lat. 57°18'27.10"N, long. 134°55'53.71"W chart according to smooth sheet.

Several other areas shoaler than indicated on the 1895 survey were discovered in addition to those given above. They are in the following areas: between Pond Island and Crow Island, along the eastern side of The Basin, south of Zubof Rock, between South Point and Pond Island, in the area northwest of North Point, and in the area on the south side of the entrance to South Arm. These were reported as dangers to navigation. chart according to smooth sheet.

The two submerged rocks, elevations unknown, shown on the 1895 survey at latitude 57/17/32, longitude 134/54/43, and at latitude 57/17/22, longitude 134/54/28, were found to be shoal areas extending from a charted small island. Chart area as shown on smooth sheet.

The three submerged rocks, elevations unknown, shown on the 1895 survey 150 meters southwest of Yellow Rock in the vicinity of latitude 57/18/14, longitude 134/54/06, were not found (line spacing was reduced to 22 meters in the area). However, the bottom was found to be irregular in this channel between Yellow Rock and the unnamed island to the southwest. See Evac Report, section 6

A submerged rock, elevation unknown, shown on the 1895 survey at latitude 57/17/40, longitude 134/55/06, was not found during a 10-minute search (see position no. 4928). A least depth of ~~14.0~~ 14.3 fathoms was found at this location. See Evac Report, section 6

A submerged rock, elevation unknown, shown on the 1895 survey at latitude 57/16/14, longitude 134/52/25, was not observed during hydrography performed at standard line spacing; no further investigation was made. However, a rock awash was found approximately 100 meters to the west (position no. ~~2713~~ 2317). Rock, uncovers 8 ft MLLW at lat. 57°16'15.07"N, long. 134°52'36.21"W. See Evac Report, Section 6

Comparison with the DAVIDSON survey was made by exact correlation of latitude and longitude. For least depth determinations, survey H-10229 was consistently shoaler (except in one case) than the DAVIDSON survey in areas less than 20 fathoms deep. This is due to the denser line spacing of the present survey. In areas with depths greater than 20 fathoms, the present survey was usually deeper than the DAVIDSON survey by 0 to 2 fathoms. In areas where differences were greater than 2 fathoms, the cause was steep slopes. There is no systematic problem that would account for differences in these areas. Concur

At latitude 57/18/48, longitude 134/55/55, a 0.8-fathom sounding was found by DAVIDSON. A diver least depth of 1.5 fathoms (position no. 9090) was found in the vicinity by the present survey. No kelp was noted. If possible, the 0.8-fathom sounding from reconnaissance survey 124987 should be reviewed for correctness. Pos# 474702, 14 Rk at lat. 57°18'48.59"N, long. 134°55'55.06"W

A rock awash indicated on the DAVIDSON survey at latitude 57/16/12, longitude 134/52/45, was not found during a 20-minute search (see position no. 2315). Line spacing was reduced to 10 meters for 20 meters on each side of the position indicated by the DAVIDSON. A depth of 11.3 fathoms was found at the position given above. However, approximately 70 meters to the southeast at latitude 57/16/10.5, longitude 134/52/42, a rock ~~baring~~ uncovering 8 feet (reference no. 142) was found.

The following AWOIS items were investigated:

✓ 50967 - Deadhead at latitude 57/16/10, longitude 134/53/35.

A rock ~~baring~~ uncovering 3 feet at MLLW was found at the AWOIS location (also shown on the shoreline manuscript as a rock awash). A diver circle search and sweep was conducted for at least 75 meters around the rock location; no deadhead was found. It is recommended that the present survey findings be plotted at latitude 57/16/10, longitude 134/53/36 (position no. 9093). Deadhead considered disproven.

✓ 50969 - 1/4-fathom depth at latitude 57/16/32, longitude 134/52/51.

A shoal was found in the vicinity during mainscheme hydrography. Line spacing of 22 meters was accomplished over the area to define the limits. A diver's least depth has the shoal ~~awash~~ covered 1 ft at MLLW at latitude 57/16/32.74 longitude 134/52/~~52.0~~ 51.97 (position no. 9066). It is recommended that the shoal be charted at the position given. Concur

✓ 50972 - Log boom at latitude 57/17/27, longitude 134/56/28.

No log boom was found during shoreline verification or during hydrography. This should be removed from the chart.

Concur

50973 - Rocks and reef in the vicinity of Zubof Rocks (latitude 57/17/40, longitude 134/55/51). Rocks and reef adequately resolved

Positions were taken on the limits of the reef (position no's. 6283, 6284, 4923, 4924). The charted rock awash at latitude 57/17/38, longitude 134/55/57, was not found during a 15-minute search (see position no 6280). Water visibility was 15 feet. However, 30 meters to the east a shoal was discovered with a least depth of 1.8 fathoms (see position no's. 4922, 4925, 6282, 9083). 5

See EVAL Report, section 6

50974, 50975, 50976 - Three rocks awash in the vicinity of latitude 57/18/02, longitude 134/54/12.

A full echo-sounder search (8-meter line spacing) was accomplished over a 100-meter radius around the AWOIS positions (see the 1:1,000 scale enlargement field sheet). There were no indications of rocks awash except at latitude 57/18/01.7, longitude 134/54/19.5, 60 meters from the high water line, where a rock was found ~~baring~~ uncovering 6 feet (position no. 4634). It is recommended that this rock be charted at the position given, and that the AWOIS items on the chart be removed.

See EVAL Report, section 7

50977 - Rock awash at latitude 57/18/33, longitude 134/56/13.

A full echo-sounder search (22-meter spacing) was accomplished over a 100-meter radius around the AWOIS position (see development "B"). There were no indications of a rock awash with depths in the area ranging from ~~11~~ 22 to 32 fathoms. It is recommended that the symbol for "rock awash" be removed from the chart at the position given above, and the area be charted according to the smooth sheet.

50978 - Rock awash in the vicinity of latitude 57/18/52, longitude 134/50/47.

A 10-minute visual and echo-sounder search was conducted for 50 meters around the charted position (position no. 4893, depth 0.3 fathoms) at 10-meter line spacing. The bottom was visible, and kelp was also noted along with small boulders leading up to a ledge 10 meters to the north. At latitude 57/18/53.5, 20 longitude 134/50/47.31 (position no. 4894) the high point of a ledge was found to ~~bare~~ uncover 15 feet. The ledge and prominent point as shown on the final field sheet should be charted in lieu of the rock awash at the AWOIS location.

See EVAL Report, section 7

L. COMPARISON WITH THE CHART

See EVAL Report, section 7

Comparisons were made between H-10229 and a 1:10,000 scale enlargement of Chart 17337 (1977, 7th edition, 1:40,000) updated by Local Notice to Mariners. The soundings on the chart for this area were derived from prior survey H-2240, 1895, and through changes issued by Local Notice to Mariners from the DAVIDSON reconnaissance surveys and FAIRWEATHER's report from the 1985 field season. As a comparison of soundings has been previously discussed in Section "K" of this report it will not be repeated here, except for one discrepancy that was noted.

In the vicinity of latitude 57/18/42, longitude 134/56/55, a 35-fathom depth appears on the chart whose source is shown on the chart markup as H-2240. However, this sounding is not in agreement with the 1895 survey. Hydrography accomplished over the area (90-meter line spacing) revealed depths of 25 fathoms, which are more consistent with

the 1895 survey. It is recommended that the charted depth be removed and replaced with depths from the present survey in this area. concur

Several dangers to navigation were noted during this survey. A list of these dangers including description, latitude and longitude, and position no. may be found in the letter addressed to the Commander (OAN) of the Seventeenth Coast Guard Distict dated December 19, 1986. A copy of that letter is included in Appendix IX, Dangers to Navigation. See attached letters

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

The following non-sounding items were found to not be in agreement with the chart:

The two mooring buoys in the vicinity of latitude 57/17/17, longitude 134/56/25, were not found during shoreline verification or during the running of hydrography. It is recommended that they be removed from the chart. (Note: Chart letter 955/83 deleted the mooring buoys.) concur

A search by visual methods and by reduced line spacing was conducted in the area west of Crow Island for four charted rocks awash. Two of the four rocks, reference no's. 314 and 315, were found at latitude 57/17/59.7, longitude 134/55/15, and latitude 57/18/01, longitude 134/55/14, respectively. No evidence was found of the other two at latitude 57/18/02, longitude 134/55/20, and latitude 57/17/53, longitude 134/55/17. See Evnc Report, section 7

No detached position was obtained for a new rock baring 1 foot in the vicinity of latitude 57/18/05, longitude 134/50/08, which was found while running a hydrographic survey line (between positions 1192 and 1194). This rock is plotted on the final field sheet in black, and is marked "PA". This rock was incorporated into the ledge at the above position, chart area as shown on the smooth sheet.

The grass-covered tidal flat at the southern end of South Arm does not appear to be as extensive as indicated on the chart.

M. ADEQUACY ✓

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

N. AIDS TO NAVIGATION ✓

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

O. Statistics ✓

Vessel	2020	2023	2024	2025	2026	Total
Positions	16	1534	1900	33	944	4427
Nautical Miles	0	115	137	0	71	323
Square Miles	--	--	--	--	--	10
Bottom Samples	16	2	13	5	15	51
Velocity Casts	2	0	0	0	0	2
Tide Stations	--	--	--	--	--	2
Days of Production	--	--	--	--	--	23

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.. The requirement for spacing of samples given in Section 1.6.3 of the Hydrographic Manual could not be met due to the breakdown of the bottom sample winch on vessel 2025. Therefore, samples were only taken in the areas were it was possible to do so by hand, or safely by the ship. Samples were also collected, in some cases, concurrently with dive investigations.

While doing dive investigations north of North Point on the east side of Kelp Bay, currents up to 2 knots on a rising tide were observed. In addition, it was observed 0.3 nautical mile east of the entrance to South Arm changes in current direction lagged noticeably behind the change of tide.

Q. RECOMMENDATIONS ✓

None concur

R. AUTOMATED DATA PROCESSING

The following programs were used for data acquisition or processing.

Number	Program Name	Version Date
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
PM 360	Electronic Corrector Abstract	02/02/76
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
RK 530	Layer Corrections for Velocity	05/10/76
RK 562	Theodolite Calibration	09/05/84
	VELTAB	02/01/85

S. REFERRAL TO REPORTS

The following reports will be submitted separately:

Report	Date
Horizontal Control Report	01/87
Coast Pilot Report	01/87
Electronic Control Data	01/87

Kelp Bay, Alaska
Field Tide Note
1986 Field Season

The tide gage located at Juneau, Alaska (945-2210) served as the reference station for the predicted tides used for correctors on survey H-10229 as specified by Project Instructions OPR-0183-FA-86.

The controlling tide station is Juneau, Alaska (945-2210).

Predicted tide correctors were interpolated aboard the FAIRWEATHER using data from the 1986 West Coast Tide Tables and program AM 500 dated November 10, 1972. All correctors calculated were based on zone correctors supplied by the project instructions and tabulated below.

Time Correction		Height Correction
High Water	Low Water	Range Ratio
-0hr 15min	-0hr 10min	x 0.84

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

Three Bristol analog tide gages (range of 0-30 feet) were installed at two locations in support of survey H-10229. Location and period of operation are as follows:

SITE	LOCATION	PERIOD
PORTAGE POINT, KELP BAY 945-1796	57/19/54N 134/55/24W	15-31 October (S/N 73A-231) 8-31 October (S/N 67A-16201)
SOUTH ARM, KELP BAY 945-1761	57/16/42N 135/00/36W	10-31 October (S/N 73A-229)

PORTAGE POINT

Gage (serial number 67A-16201) was installed on the west side of the point that separates Middle Arm from Portage Arm in Kelp Bay on October 8, 1986 (DN 281). When it was discovered that the staff to gage comparisons had been varying on this gage, a second gage (serial number 73A-231) was installed on October 15, 1986 (DN 288) to run concurrently. Both gages were removed on October 31, 1986.

The orifices at the Portage Point station were bolted to separate rocks, both approximately six inches above the bay floor, and the tubing was led across the bottom and weighted with rocks along its length. The staff was bolted to a 2x4 with stainless steel lag bolts. The staff was bolted to a rock face at the 3.2-foot and 4.3-foot marks; braced by a strongback at the

8-foot level with two guy wires which led from the top of the graduated staff to eyebolts set in rock. Zero of the tide staff equals 9.3 feet on the gage (serial number 73A-231). No final value from staff-gage comparisons was possible for the malfunctioning gage. A discussion of each gage follows.

GAGE 67A-16201

On October 13, 1986 (DN 286), a review of the staff to gage comparison noted a 1-foot difference from previous staff to gage comparisons. Subsequent staff to gage comparisons eliminated the possibility of personnel misreading the staff. To investigate this discrepancy, comparisons were made every 12-minute for 12 hours. For the high water to high water on October 14, 1986, staff to gage differences on the falling tide varied from 6.5 to 7.6 feet, and on the rising tide from 6.6 to 7.0 feet. For staff readings, swell and wave action averaged approximately 0.3 feet on the falling tide and 0.1 feet on the rising tide.

Other staff to gage differences observed are as follows:

DATE	STAFF TO GAGE DIFFERENCES (FT)	TIDE STATUS
9 Oct (3-hour obs.)	6.4	rising
11 Oct	7.3	falling
12 Oct	7.0	just past low tide
13 Oct	6.1	rising
13 Oct (6 hours later)	7.4	falling
14 Oct	6.1	rising

To see if the dampening valve was adjusted incorrectly, the valve was opened further on October 15 at 0900 UTC; observations were made later that day. During the rising tide, the staff to gage difference ranged from 6.7 to 7.0 feet for a 3-hour observation. During the falling tide, differences ranged from 6.8 to 7.4 feet.

A review of the October 14 observations showed that the gage appeared to lag behind the actual water level only on the falling tide and never reached the actual low tide before rising.

Another gage (S/N 73A-231) was installed adjacent to the first gage on the afternoon of October 15, and a new 3-hour observation was done in tandem with the old gage on October 16. Staff to gage comparisons were relatively constant for the new gage only.

GAGE 73A-231

At 1800 UTC October 25, 1986 (DN 298), the speed on the clock mechanism was decreased after it was discovered that it had gained eleven minutes in two days. There were no other problems.

SOUTH ARM

Gage (serial number 73A 229) was installed on the west side of South Arm on October 10, 1986 (DN 283) and was removed on October 31, 1986 (DN 304).

The orifice at the South Arm station was bolted to a rock approximately six inches above the bay floor, and the tubing was wired to the cliff face below low water. The staff consisted of a plastic scale in 2-foot sections, screwed to a 2x4 with 1 1/2-inch brass screws; bolted to the rock face at the 0.5-foot and 6.2-foot marks, and wired to the rock face from the 12-foot mark. Zero of the tide staff equals 8.0 feet on the gage.

The South Arm gage ran smoothly with no problems throughout the period of surveying.

LEVELS

Opening levels for Portage Point were run on October 9, 1986 (DN 282) to five recovered standard NOS brass disks, one eyebolt (a temporary benchmark), and a geodetic survey disk. Closing levels were run on October 31, 1986 (DN 304) over the same run. A maximum error of 0.003m between benchmark set-ups was obtained for opening levels and 0.002m for closing levels. A difference of 0.002m was obtained between the opening and closing levels for the segment from the staff to the temporary benchmark.

Opening levels for South Arm were run on October 10, 1986 (DN 283) to three eyebolts (temporary benchmarks), and were rerun on October 21, after it was discovered that the difference between forward and backward runs exceeded allowable limits. Closing levels were run on October 31, 1986 (DN 304) over the same run. A maximum error of 0.001m between benchmark set-ups was obtained for opening levels and 0.002m for closing levels. A difference of 0.002m was obtained between the opening and closing levels for the segment from the staff to the first temporary benchmark.

ZONING RECOMMENDATIONS

None

RECOMMENDATIONS

It is recommended that the data from the malfunctioning gage at Portage Point (serial number 67A-16201) not be used to compute tide reducers. For hydrographic data collected October 10 through October 15, South Arm tide data should be used to compute tide reducers. Both gages can be used as needed for tide reducers after that date. Tide data for hydrography run on October 9 will need to be extrapolated using the South Arm gage.

SOUTH POINT, 1983
107 0 57 16 17939 134 51 42464 250 0003 000000

NORTH POINT, 1983
109 0 57 17 35920 134 49 48665 250 0009 000000

YELLOW, 1983
117 0 57 18 15792 134 54 01704 250 0006 000000

PLOVER, 1983
119 0 57 18 56704 134 56 01017 250 0003 000000

PORTAGE, 1983
121 0 57 19 42748 134 55 09249 250 0003 000000

GENE, 1983
123 0 57 20 32314 134 54 18844 250 0002 000000

EXIT, 1986
140 0 57 18 56223 134 57 45698 250 0002 000000

POND, 1986
142 0 57 17 33182 134 53 47674 250 0002 000000

BARAN, 1986
144 0 57 18 05525 134 58 41530 250 0002 000000

DIXIE, 1986
146 0 57 18 30594 134 59 12919 250 0003 000000

HARI, 1986
148 0 57 16 59640 135 00 17850 250 0002 000000

LYN, 1986
150 0 57 17 05463 134 59 48955 250 0002 000000

CLEAR, 1986
152 0 57 16 12824 135 00 35489 250 0002 000000

GLACIER, 1986
154 0 57 16 22357 134 59 48553 250 0002 000000

UZBEK, 1986
156 0 57 17 36635 135 00 19590 250 0002 000000

ZUBOF, 1986
158 0 57 17 40278 134 56 17990 250 0006 000000

ISLET, 1986
160 0 57 17 25820 134 54 44189 250 0003 000000

BASIN, 1986
162 0 57 16 36590 134 56 14426 250 0002 000000

LOG, 1986
164 0 57 16 13578 134 52 33686 250 0003 000000

CUT, 1986
166 0 57 16 18005 134 54 01218 250 0002 000000

SURGE, 1986
168 0 57 16 42425 134 52 58341 250 0003 000000

CUT AZ, 1986
170 0 57 16 05038 134 53 59524 250 0003 000000

99

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
NOAA Ship FAIRWEATHER
1801 Fairview Ave. East
Seattle, Washington 98102

December 19, 1986 1703-01.05

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

Dear Sir:

The following items were noted by the NOAA Ship FAIRWEATHER during survey operations in the vicinity of The Basin and South Arm, Kelp Bay, Alaska (hydrographic survey H-10229) and are considered dangers to navigation. Questions concerning this survey may be directed to Chief, Nautical Chart Branch, telephone (206) 526-6835.

The following statements are recommended for inclusion in the Local Notice to Mariners:

1. "The following shoal areas in Kelp Bay should be added to Chart 17337. (All depths are reduced to MLLW based on predicted tides.)

DEPTHS	LATITUDE	LONGITUDE	POSITION NUMBER
7.4 fathoms	57/18/17.1N	134/50/46.4W	9000
9.8 fathoms	57/18/21.5N	134/50/58.0W	hydro
3.9 fathoms	57/17/39.1N	134/54/25.4W	9047
6.9 fathoms	57/17/37.0N	134/54/15.2W	9046
7.5 fathoms	57/17/44.8N	134/54/06.7W	9052
1.9 fathoms	57/18/04.6N	134/53/58.0W	9099
5.3 fathoms	57/18/18.2N	134/55/05.3W	9009
8.7 fathoms	57/18/24.3N	134/55/04.0W	hydro
7.3 fathoms	57/18/41.5N	134/57/39.0W	hydro
2.0 fathoms	57/18/07.4N	134/59/29.3W	9023
6.7 fathoms	57/17/12.5N	134/56/05.0W	hydro
7.4 fathoms	57/17/32.4N	134/55/19.0W	9032
3.0 fathoms	57/16/51.2N	134/55/59.1W	9081
3.7 fathoms	57/16/53.1N	134/54/44.1W	9036
3.1 fathoms	57/18/27.2N	134/55/53.7W"	9022

2. "The following rocks in Kelp Bay should be added to Chart 17337. (All depths and elevations are reduced to MLLW based on predicted tides.)

DESCRIPTION	LATITUDE	LONGITUDE	POSITION NUMBER
Rock covered 0.4 fathoms	57/17/42.3N	134/56/06.4W	9041
Rock covered 1.3 fathoms	57/17/22.0N	134/55/51.3W	9039
Rock uncovered 3 feet	57/16/10.2N	134/53/35.7W	9093
Rock uncovered 7 feet	57/17/07N	134/54/12W	Ref. No. 322
Rock uncovered 6 feet	57/17/12N	134/54/12W"	Ref. No. 321

3. "An uncharted shoal has been located with a least depth of 5.3 fathoms (MLLW based on predicted tides) at latitude 57/18/32.9N, longitude 134/51/22.2W, and extends approximately 275 yards in a northwesterly direction from this position (Chart 17337)." Pos. No. 9101

4. "In Kelp Bay, within an area bordered on the north by Pond Island, on the east by a line connecting the easternmost point of Pond Island with South Point, on the south by Baranof Island, and on the west by longitude 134/53/30W, numerous uncharted shoals and submerged dangerous rocks have been located. New rocks bare up to 8 feet and least depths on shoals range from 0.1 to 6.0 fathoms (MLLW based on predicted tides). Caution should be exercised when transiting this area (Chart 17337)."

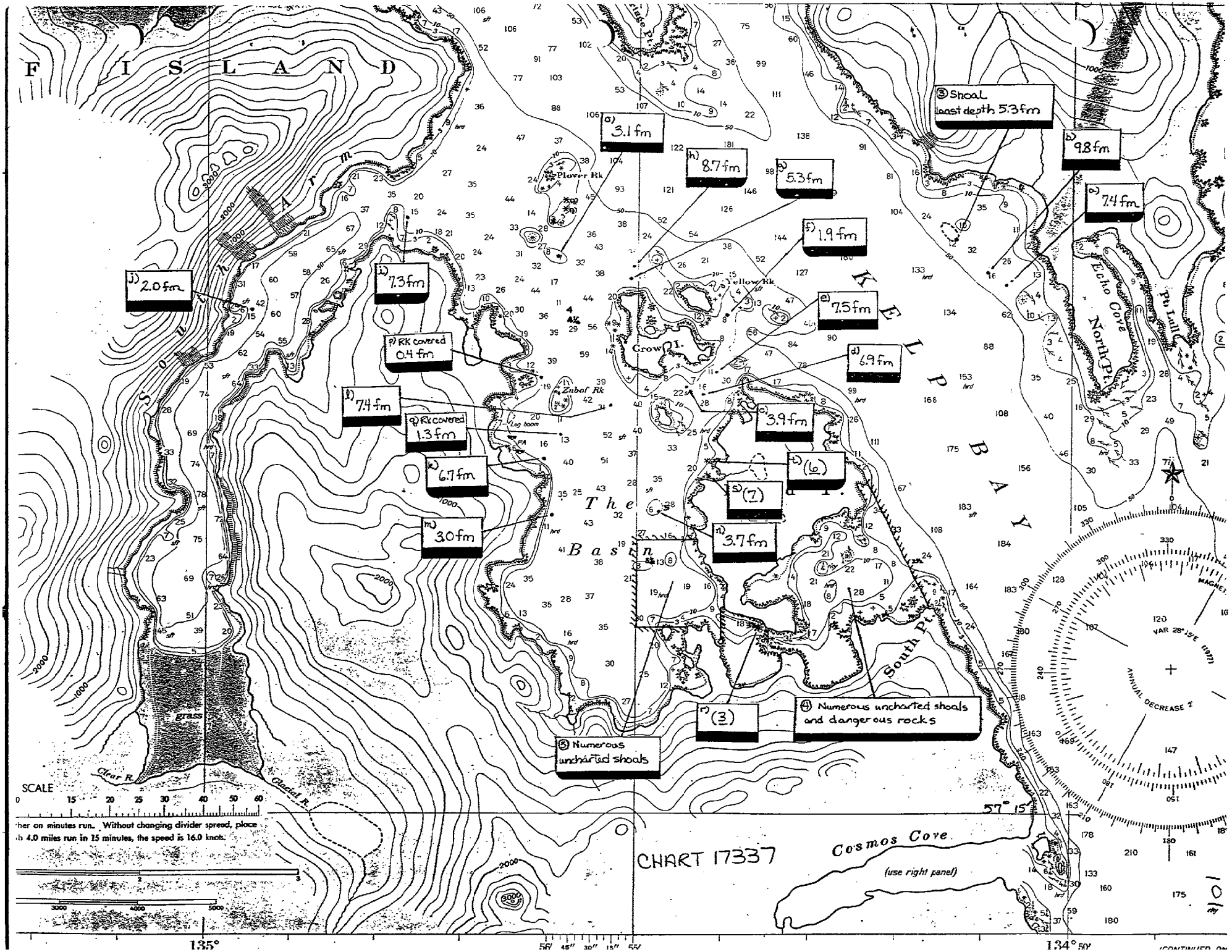
5. "In Kelp Bay west of Pond Island, within an area bounded on the south by latitude 57/16/10N, on the west by longitude 134/55/00W, on the north by latitude 57/16/42N, and on the east by Pond Island and longitude 134/54/00W, numerous uncharted shoals have been located. Least depths on new shoals range from 1.2 to 5.5 fathoms (MLLW based on predicted tides). Caution should be exercised when transiting this area (Chart 17337)."

Sincerely,

John W. Carpenter
Captain, NOAA
Commanding Officer

Attachment

cc: N/CG222 - Chart Information Section
N/MOP21 - Nautical Chart Branch
DMAHTC, Code NVS, Washington, D.C. 20315


F I S L A N D
Plover Rk
Yellow Rk
Crow I.
Zubof Rk
Leg boom
Clear R.
Glacial R.
grass
The Basin
KELP BAY
Echo Cove
North Pt.
Pt Lull
South Pt.
Cosmos Cove
(use right panel)
CHART 17337
SCALE
a) 3.1 fm
b) 9.8 fm
c) 7.4 fm
d) 6.9 fm
e) 7.5 fm
f) 1.9 fm
g) 5.3 fm
h) 8.7 fm
i) 7.3 fm
j) 2.0 fm
k) 6.7 fm
l) 7.4 fm
m) 3.0 fm
n) 3.7 fm
o) 3.9 fm
p) Rk covered 0.4 fm
q) Rk covered 1.3 fm
(3)
(6)
(7)
③ Shoal least depth 5.3 fm
④ Numerous uncharted shoals and dangerous rocks
⑤ Numerous uncharted shoals
57° 15'
135°
134° 50'
MAGNETIC
VAR 28° 15'E (1971)
ANNUAL DECREASE 2'

102

1985 Field Season

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
NOAA Ship FAIRWEATHER
1801 Fairview Ave. East
Seattle, Washington 98102

December 2, 1985 1703-01.05:MRK

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

Dear Sir:

This letter confirms my radio messages, P 191749Z NOV 85 and P 261548Z NOV 85.

The following items were noted by the NOAA Ship FAIRWEATHER during survey operations in the vicinity of Catherine Island, Chatham Strait, Alaska (survey H-10202) and in Portage and Middle Arms, Kelp Bay, Alaska (survey H-10203) and are considered dangers to navigation. Questions concerning this survey may be directed to Chief, Nautical Chart Branch, telephone (206) 526-6835.

The following statements are recommended for inclusion in the Local Notice to Mariners:

1. "An uncharted rock covered by 0.6 fathoms (MLLW based on predicted tides) is at latitude 57/22/31.8N, longitude 134/57/18.3W (Charts 17337 and 17320)."

2. "An uncharted rock covered by 2.7 fathoms (MLLW based on predicted tides) is at latitude 57/22/11.8N, longitude 134/57/13.7W (Charts 17337 and 17320)."

3. "An uncharted shoal has been located extending from latitude 57/20/14.4N, longitude 134/56/42.9W, (depth of 4.3 fathoms) to latitude 57/20/15.8N, longitude 134/56/51.2W, (depth of 6.1 fathoms) (Charts 17337 and 17320)."

4. "An uncharted shoal covered by 8.0 fathoms (MLLW based on predicted tides) is at latitude 57/19/09.5N, longitude 134/56/35.9W (Charts 17337 and 17320)."

5. "An uncharted shoal covered by 9.7 fathoms (MLLW based on predicted tides) is at latitude 57/19/11.7N, longitude 134/56/44.0W (Charts 17337 and 17320)."

6. "An uncharted shoal covered by 3.4 fathoms (MLLW based on predicted tides) is at latitude 57/20/14.3N, longitude 134/53/53.6W (Charts 17337 and 17320)."

H-10203, 1985

7. "An uncharted rock baring 4 feet (MLLW based on predicted tides) is at latitude 57/18/40N, longitude 134/55/59W (Charts 17337 and 17320)."

8. "An uncharted rock baring 3 feet (MLLW based on predicted tides) is at latitude 57/18/44N, longitude 134/55/51W (Charts 17337 and 17320)."

9. "An uncharted rock baring 2 feet (MLLW based on predicted tides) is at latitude 57/18/47N, longitude 134/55/52W (Charts 17337 and 17320)."

Fall within 1986 field season survey area - Sextant fixes to tangents of land.

10. "Within the charted 10-fathom curve extending south from Portage Point in Kelp Bay in the vicinity of latitude 57/19/30N, longitude 134/54/45W, numerous rocks and shoals exist. Shoal depths range from 0.7 fathoms to 4.1 fathoms thoughout the area (MLLW based on predicted tides). Extreme caution should be exercised when transiting this area (Charts 17337 and 17320)."

11. "An uncharted rock baring 3 feet (MLLW based on predicted tides) is at latitude 57/19/36.7N, longitude 134/55/05.2W (Charts 17337 and 17320)."

H-10203, 1985

12. "An uncharted rock covered 2.6 fathoms (MLLW based on predicted tides) is at latitude 57/16/31.3N, longitude 134/51/55.8W (Charts 17337 and 17320)."

13. "An uncharted rock covered 0.1 fathoms (MLLW based on predicted tides) is at latitude 57/17/52.2N, longitude 134/50/08.3W (Charts 17337 and 17320)."

14. "An uncharted rock covered 0.8 fathoms (MLLW based on predicted tides) is at latitude 57/17/53.3N, longitude 134/50/14.4W (Charts 17337 and 17320)."

H-10202, 1985

Sincerely,

John W. Carpenter
Captain, NOAA
Commanding Officer

cc: N/CG222 - Chart Information Section
N/MOP21 - Nautical Chart Branch

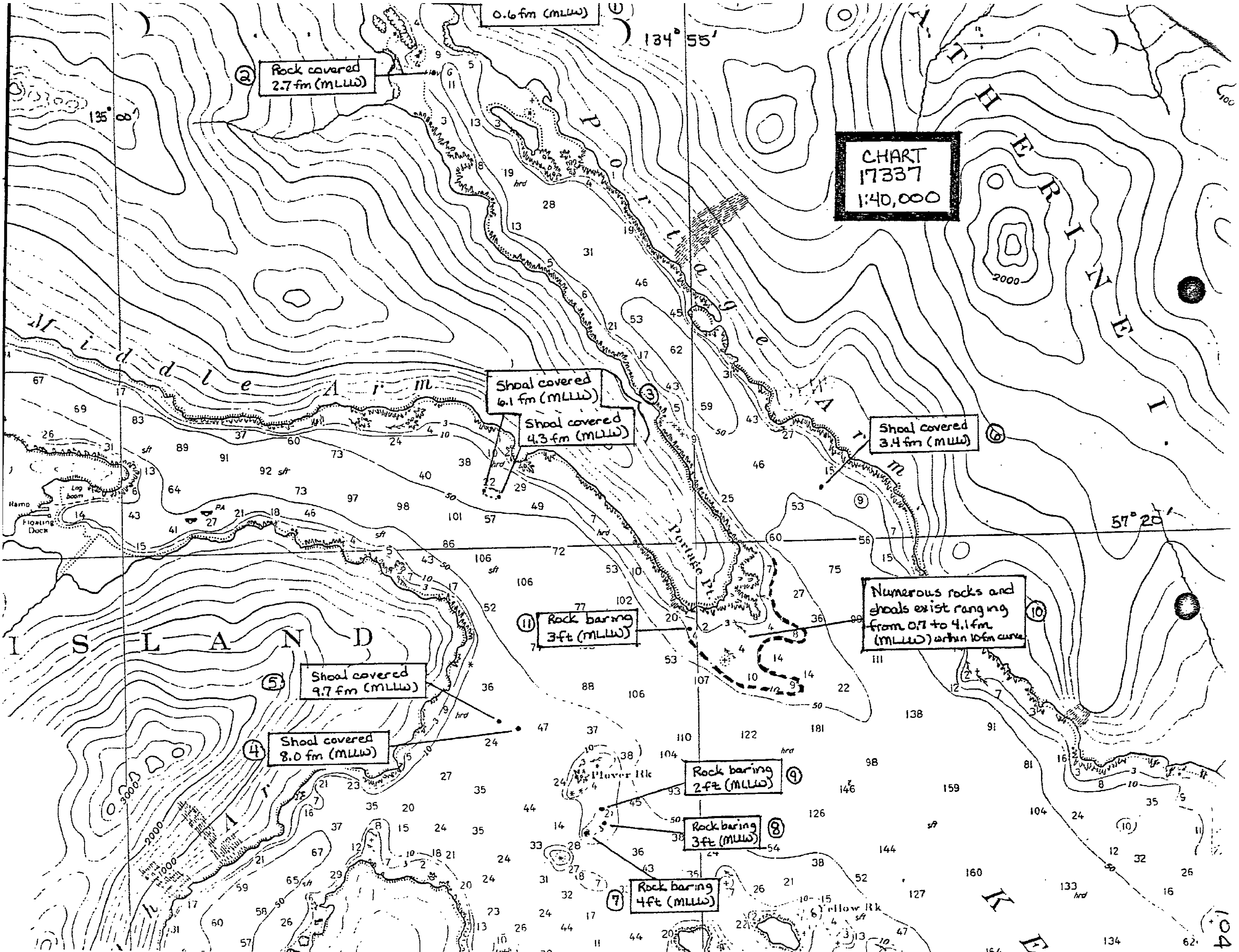
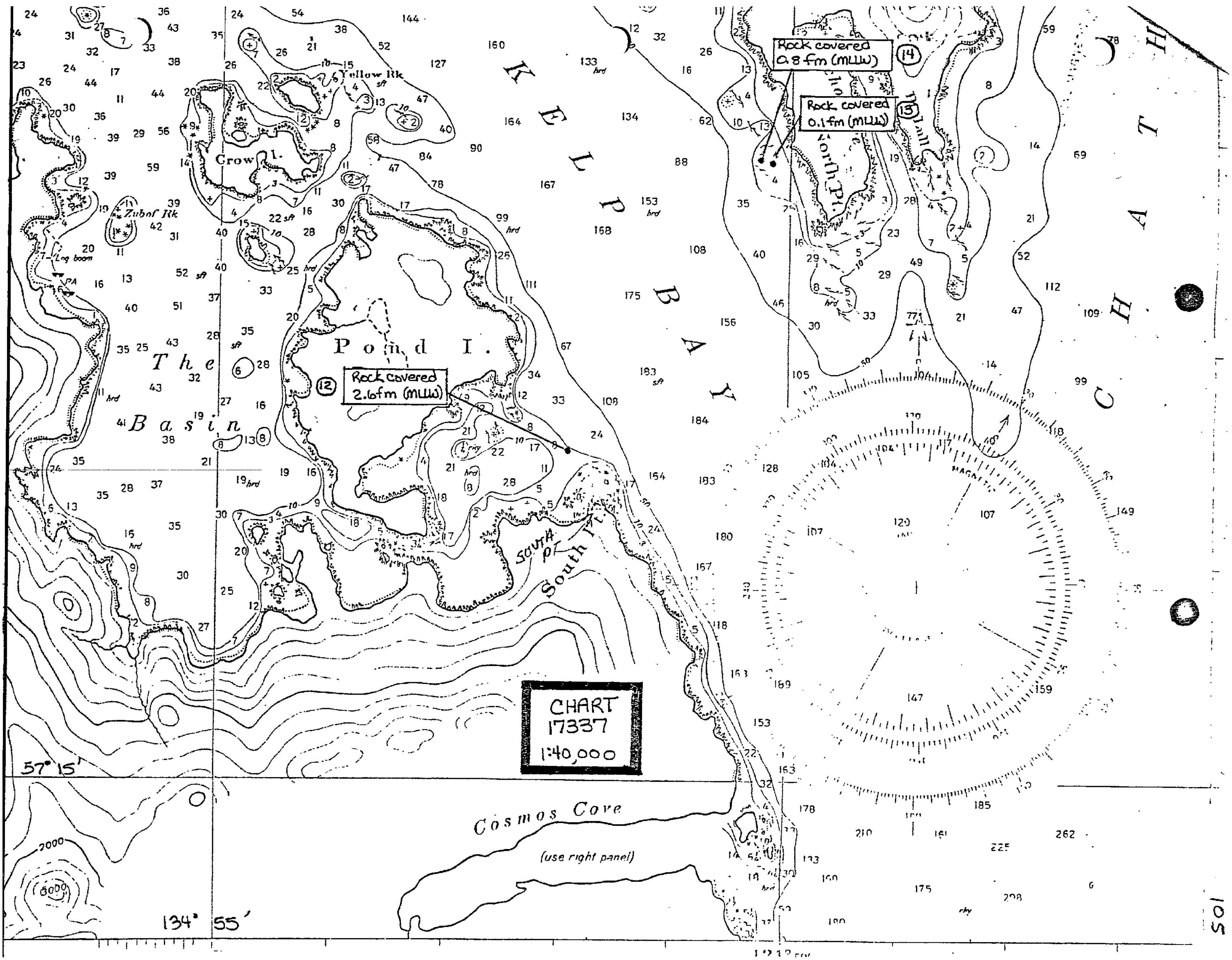


CHART
17337
1:40,000
0.6 fm (MLLW)
Rock covered 2.7 fm (MLLW)
Shoal covered 6.1 fm (MLLW)
Shoal covered 4.3 fm (MLLW)
Shoal covered 3.4 fm (MLLW)
Numerous rocks and shoals exist ranging from 0.7 to 4.1 fm (MLLW) within 10 fm curve
Rock baring 3 ft (MLLW)
Shoal covered 9.7 fm (MLLW)
Shoal covered 8.0 fm (MLLW)
Rock baring 2 ft (MLLW)
Rock baring 3 ft (MLLW)
Rock baring 4 ft (MLLW)
Portage Arm
Middle Arm
Portage Pt.
Plover Rk
Yellow Rk
Log boom
Ramp
Floating Dock
134° 55'
135° 00'
57° 20'
104



KELP BAY
CHATH
Rock covered 0.8 fm (MLLW)
Rock covered 0.1 fm (MLLW)
Rock covered 2.6 fm (MLLW)
Pond I.
The Basin
Crow I.
Yellow Rk
Zubof Rk
North Pt.
South Pt.
Cosmos Cove
(use right panel)
CHART 17337 1:40,000
57° 15'
134° 55'

HHHHSSC
SS DE OA
ISN-OA/67
RIXT
P 261548Z NOV 85
FM NOAAS FAIRWEATHER
TO CCGDSEVENTEEN JUNEAU AK
INFO NOAAMOP SEATTLE WA
DMAHTC WASHINGTON DC//NVS//
ACCT CM-VCAA
BT
UNCLAS
CORRECTION TO DANGER TO NAVIGATION
A. MY 191749Z NOV 85
1. PARA 1. J. OF REF A HAS AN ERROR. THE CORRECT DANGER TO NAVIGATION ITEM IN ITS ENTIRETY IS LISTED BELOW
2. PARA 1. J. SHOULD READ AS FOLLOWS:
WITHIN THE CHARTED 10-FM CURVE EXTENDING SOUTH FROM PORTAGE POINT IN KELP BAY IN THE VICINITY OF LATITUDE 57/19/30N, LONGITUDE 134/54/45W, NUMEROUS ROCKS AND SHOALS EXIST. SHOAL DEPTHS RANGE FROM 0.7 FMS TO 4.1 FMS THROUGHOUT THE AREA. EXTREME CAUTION SHOULD BE EXERCISED WHEN TRANSITING THIS AREA.
BT
TOD-11:26:15:58 RA
NNNN

HHHHSSC
SS DE OA
ISN-OA/64
RIXT
P 191749Z NOV 85
FM NOAAS FAIRWEATHER
TO CCGDSEVENTEEN JUNEAU AK
INFO NOAAMOP SEATTLE WA
DMAHTC WASHINGTON DC//NVS//
ACCT CM-VCAA
BT
UNCLAS
DANGERS TO NAVIGATION

1. THE FOLLOWING DANGERS WERE NOTED BY THE NOAA SHIP FAIRWEATHER DURING SURVEY OPERATIONS IN THE VICINITY OF CATHERINE ISLAND, CHATHAM STRAIT, ALASKA (SURVEY H-10202) AND PORTAGE AND MIDDLE ARMS, KELP BAY, ALASKA (SURVEY H-10203). ALL ITEMS PERTAIN TO CHARTS 17337 AND 17320. DEPTHS ARE REFERENCED TO MLLW BASED ON PREDICTED TIDES.

A. AN UNCHARTED ROCK COVERED BY 0.6 FM IS AT LATITUDE 57/22/31.8N, LONGITUDE 134/57/18.3W.

B. AN UNCHARTED ROCK COVERED BY 2.7 FM IS AT LATITUDE 57/22/11.8N, LONGITUDE 134/57/13.7W.

C. AN UNCHARTED SHOAL HAS BEEN LOCATED EXTENDING FROM LATITUDE 57/20/14.4N, LONGITUDE 134/56/42.9W, (DEPTH OF 4.3 FM) TO LATITUDE 57/20/15.8N, LONGITUDE 134/56/51.2W, (DEPTH OF 6.1 FM).

D. AN UNCHARTED SHOAL COVERED BY 8.0 FM IS AT LATITUDE 57/19/09.5N, LONGITUDE 134/56/35.9W.

E. AN UNCHARTED SHOAL COVERED BY 9.7 FM IS AT LATITUDE 57/19/11.7N, LONGITUDE 134/56/44.0W.

F. AN UNCHARTED SHOAL COVERED BY 3.4 FM IS AT LATITUDE 57/20/14.3N, LONGITUDE 134/53/53.6W.

ACTION.....REPLY BY:(LTR/MSG).....ADD'L FOLLOW-UP.....

CC: MOP/X2/1/2/.../.../.../...IN DATE..11/19/85..MSG RELEASE

G AN UNCHARTED ROCK BARING 4 FT IS AT LATITUDE 57/18/40N, LONGITUDE 134/55/59W.

H. AN UNCHARTED ROCK BARING 3 FT IS AT LATITUDE 57/18/44N, LONGITUDE 134/55/51W.

I. AN UNCHARTED ROCK BARING 2 FT IS AT LATITUDE 57/18/47N, LONGITUDE 134/55/52W.

J. WITHIN THE CHARTED 10-FM CURVE EXTENDING SOUTH FROM PORTAGE POINT IN KELP BAY IN THE VICINITY OF LATITUDE, 57/19/30N, LONGITUDE 134/54/45W, NUMEROUS ROCKS AND EXIST. SHOUAL DEPTHS RANGE FROM 0.7 FMS THROUGHOUT THE AREA. EXTREME CAUTION SHOULD BE EXERCISED WHEN TRANSITING THIS AREA.

K. AN UNCHARTED ROCK BARING 3 FT IS AT LATITUDE 57/19/36.7N LONGITUDE 134/55/05.2W.

L. AN UNCHARTED ROCK COVERED 2.6 FM IS AT LATITUDE 57/16/31.3N, LONGTITUDE 134/51/55.8W.

M. AN UNCHARTED ROCK COVERED 0.1 FM IS AT LATITUDE 57/17/52.2N, LONGITUDE 134/50/08.3W.

N. AN UNCHARTED ROCK COVERED 0.8 FM IS AT LATITUDE 57/17/53.3N, LONGITUDE 134/50/14.4W.

2. CONFIRMATION LETTER CONTAINING SAME INFORMATION WILL BE SENT.
BT
TOD-11:19:18:15

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 monitored field work and inspected selected portions of the data on a daily basis. This survey is complete and requires no additional field work. The data is forwarded for final review and processing.

Submitted by:

DeWayne J. Nodine

DeWayne J. Nodine
Ensign, NOAA

Reviewed by:

Maureen R. Kenny

Maureen R. Kenny
Lieutenant, NOAA
Field Operations Officer

Approved by:

John W. Carpenter

John W. Carpenter
Captain, NOAA
Commanding Officer

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

DATE: March 16, 1987

Marine Center: Pacific

OPR: 0183

Hydrographic Sheet: H-10229

Locality: Kelp Bay, Alaska

Time Period: October 9 - 31, 1986

Tide Station Used: 945-1761 South Arm, Kelp Bay, Alaska

Plane of Reference (Mean Lower Low Water): 0.54 Ft.

Height of Mean High Water Above Plane of Reference: 13.0 Ft.

Remarks: Recommended Zoning:

Zone Direct

for Brian K. Russell

Chief, Tidal Datum Quality
Assurance Section

NOAA FORM 76-155
(11-72)

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

SURVEY NUMBER

H-10229

GEOGRAPHIC NAMES

Name on Survey	A ON CHART NO. 17337	B ON PREVIOUS SURVEY NO.	C ON U.S. QUADRANGLE MAPS	D FROM LOCAL INFORMATION	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H U.S. LIGHT LIST	K	
ALASKA, KELP BAY, THE BASIN AND SOUTHARM (TITLE)										
ALASKA (TITLE)										1
BARANOF ISLAND	X									2
CATHERINE ISLAND	X									3
CLEAR RIVER	X									4
CROW ISLAND	X									5
GLACIAL RIVER	X									6
KELP BAY										7
PLOVER ROCK	X									8
POND ISLAND	X									9
SOUTH ARM										10
SOUTH POINT	X									11
THE BASIN										12
YELLOW ROCK	X									13
ZUBOF ROCK	X									14
										15
										16
										17
					Approved:					18
										19
					Charles E. Harrington					20
					Chief Geographer - N/CG2x5					21
					APR 22 1987					22
										23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

FILE COPY

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Pacific Marine Center
1801 Fairview Avenue East
Seattle, Washington 98102-3767

April 16, 1987 N/MOP21x2/MM

To: C.O., NOAA Ship FAIRWEATHER

From: N/MOP - Robert L. Sandquist

Subject: Preprocessing Examination of H-10229, Alaska, Kelp Bay, The Basin and South Arm

Hydrographic survey H-10229 has been reviewed in accordance with Hydrographic Survey Guideline No. 15, and the Preprocessing Examination Critique for this survey is attached. Survey H-10229 is accepted for Pacific Marine Center processing.

The Preprocessing Examination Critique is designed to provide information which will be useful to the Command for maintaining the quality of future hydrographic surveys. I encourage you to use this information constructively. Your comments on specific critique items are welcome.

Attachment

cc: N/MOP2x1
N/MOP21x2
N/MOP211
N/CG2

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Pacific Marine Center
Nautical Chart Branch
7600 Sand Point Way NE
Seattle, Washington 98115-0070

April 15, 1987 N/MOP21x2/MM

To: N/MOP - Robert L. Sandquist

From: N/MOP 21 - Thomas W. Richards

Subject: Preprocessing Examination for H-10229

I. SURVEY INFORMATION

A. Field No. FA-10-3-86 Registry No. H-10229

B. State Alaska

General Locality Kelp Bay

Sublocality The Basin and South Arm

C. Project Instructions: OPR-0183-FA-86

Original dated January 17, 1986

D. Dates:

Field Work Commenced	October 9, 1986
Field Work Completed	October 31, 1986
plus 6 weeks	December 12, 1986
* Data rec'd at Marine Center	February 4, 1987
plus 2 months	April 6, 1987

Examination critique transmitted to field April 16, 1987

Target for completion of Marine Center processing October 16, 1987

* Request dated 11/24/86 to extend data submission date to 12/24/86 was approved.

II. PREPROCESSING EXAMINATION CRITIQUE

Hydrographic survey H-10229 was performed by personnel of the NOAA Ship FAIRWEATHER, Captain John W. Carpenter, Commanding Officer. The following personnel supervised portions of the data acquisition: Lieutenant Kenny, Lieutenant Moen, Ensign Crozer, Ensign Abbott, Ensign Cone, Ensign Lynch, Ensign Bernard, Ensign Nodine and Chief Survey Technician Krick.

In accordance with the Preprocessing Examination System set forth in Hydrographic Survey Guideline (HSG) No. 15, Section III, the following items are brought to your attention:

A. Danger to Navigation Report:

FAIRWEATHER reported in a Dangers to Navigation letter 16 shoals, 5 rocks, and 2 areas of hazardous navigation within the limits of H-10229.

No additional dangers to navigation were identified during the preprocessing examination.

B. Compliance with Instructions:

Survey H-10229 generally complies with the Project Instructions. There are 9 AWOIS items within the limits of the survey.

C. Final Field Sheets:

The hydrographer depicts shoreline changes in red on the final field sheets but does not include position numbers associated with these changes. All changes to shoreline manuscripts should be shown on final field sheets in red with position numbers [PMC OPORDER Appendix P, Section I.B].

The hydrographer included 2 overlays of data designated NSP which will assist in the verification of least depths. All but one least depth appearing on the overlays was brought forward onto the final field sheets (0.2fms; 57/16/36 N, 134/52/21 W). The least depths of all investigations should be included on the final field sheets [HM1.5.2, 4.5.7.2; PMC OPORDER Appendix Q].

Control station ZUBOF is not plotted on the final field sheets. All control stations which are within the limits of the survey area and used for positioning control should appear on the field sheets [HM 4.2.5].

D. Descriptive Report:

Section D (Sounding Equipment and Corrections to Echo Soundings) states transducer depth, sound velocity and settlement and squat correctors were determined but does not state if any correctors, other than predicted tides and settlement & squat, were applied to soundings on the final field sheets. All correctors applied to soundings on field sheets should be noted within this section of the Descriptive Report [HM 5.3.4.D; PMC OPORDER Appendix Q, Attachment B, Section D.4].

Within Section H (Shoreline), the hydrographer disproves a manuscript rock at 57/15/40.5 N, 134/55/05 W, but incorrectly references a 4-fathom depth found during the survey at this location (Position #2392). Survey depths in the area and all data for position #2392 show depths to be 25 fathoms.

Section H states three manuscript rocks southeast of Yellow Rock (57/18/14 N, 134/53/57 W) were observed but no heights were obtained. An accurate description (including the date, time and height of each observation) should be obtained for each feature seaward of the shoreline [PMC OPORDER Appendix P, Section I.A].

Section L (Comparison with the Chart) states that a grass area in the southern section of South Arm isn't as extensive as charted but does not state if area should be charted as depicted on the manuscript. All non-sounding features should include a charting recommendation [PMC OPORDER Appendix Q, Attachment B, Section L.4].

Section P (Miscellaneous) states bottom sample spacing was exceeded because of winch malfunction on vessel 2025. The section does not state why other vessels could not obtain bottom samples to meet spacing required within the Hydrographic Manual.

E. Echograms:

Several peaks visible on mainscheme line echograms were neither inserted via corrector tapes nor investigated by the hydrographer (see Attachment A). It appears one or two of the peaks are in close proximity to crosslines or developments but no trace of the peaks is visible on these supplementary sounding lines. An explanation of echogram scanning techniques, explaining criteria for determining which peaks and deeps are inserted into the sounding records, should be included within the Descriptive Report.

F. Sounding Volumes and/or Raw Data Printouts:

Some stamp information (position numbers, serial numbers, name of person who checked data, etc) is not completed on master printouts and echograms. All applicable stamp information should be included in the data records [HM 4.8.3.2, 4.8.3.3; PMC OPORDER Appendix Q, Section 1.d.(1).(a)].

In few instances, annotations on master printouts are either illegible or confusing (see Attachment B). All changes and notes on printouts should be clear and concise [HM 4.8.1; PMC OPORDER Appendix Q, Section 1.d.(1).(a)].

In few instances when running range/azimuth hydrogaphy, closing initial values were not recorded on the master printouts. It is recommended that the values of all initial checks be recorded on the master printout or sounding volume during the course of data acquisition.

G. Sounding Correctors:

The hydrographer states 2 velocity casts in the north section of the survey area were used to determine velocity correctors for all soundings. A velocity cast should have been taken in the South Arm area as the hydrographer reports much fresh water flowing into South Arm from rivers and waterfalls. The

hydrographer also reports grass growing within the high water line of southern South Arm which is indicative of freshwater influx. It is probable that the sound velocity correctors determined for this survey do not accurately reflect the water column in the western half of the survey area (South Arm).

K. Special and/or Ancillary Reports:

The Electronic Control Report was briefly examined during the preprocessing examination; no significant problems in technique or calculation were evident. No Corrections to Echo Soundings Report was written for the survey as all data and information was included with the data package. The Horizontal Control Report was not available for consideration in the preprocessing examination.

L. Automated Data Check:

Several (106) errors were encountered during the spooling of the survey due to improper alignment of data tapes when they were being created.

Fifteen errors within data tapes (times out of sequence, incorrect vessel number, incorrect corrector tape format) were found during spooling of the survey.

One data tape was labelled backwards, causing parity errors during spooling of the survey.

M. General Comments:

The hydrographer is commended for efforts in acquiring the data necessary to depict on the final field sheets numerous critical uncharted features.

N. Survey Acceptance:

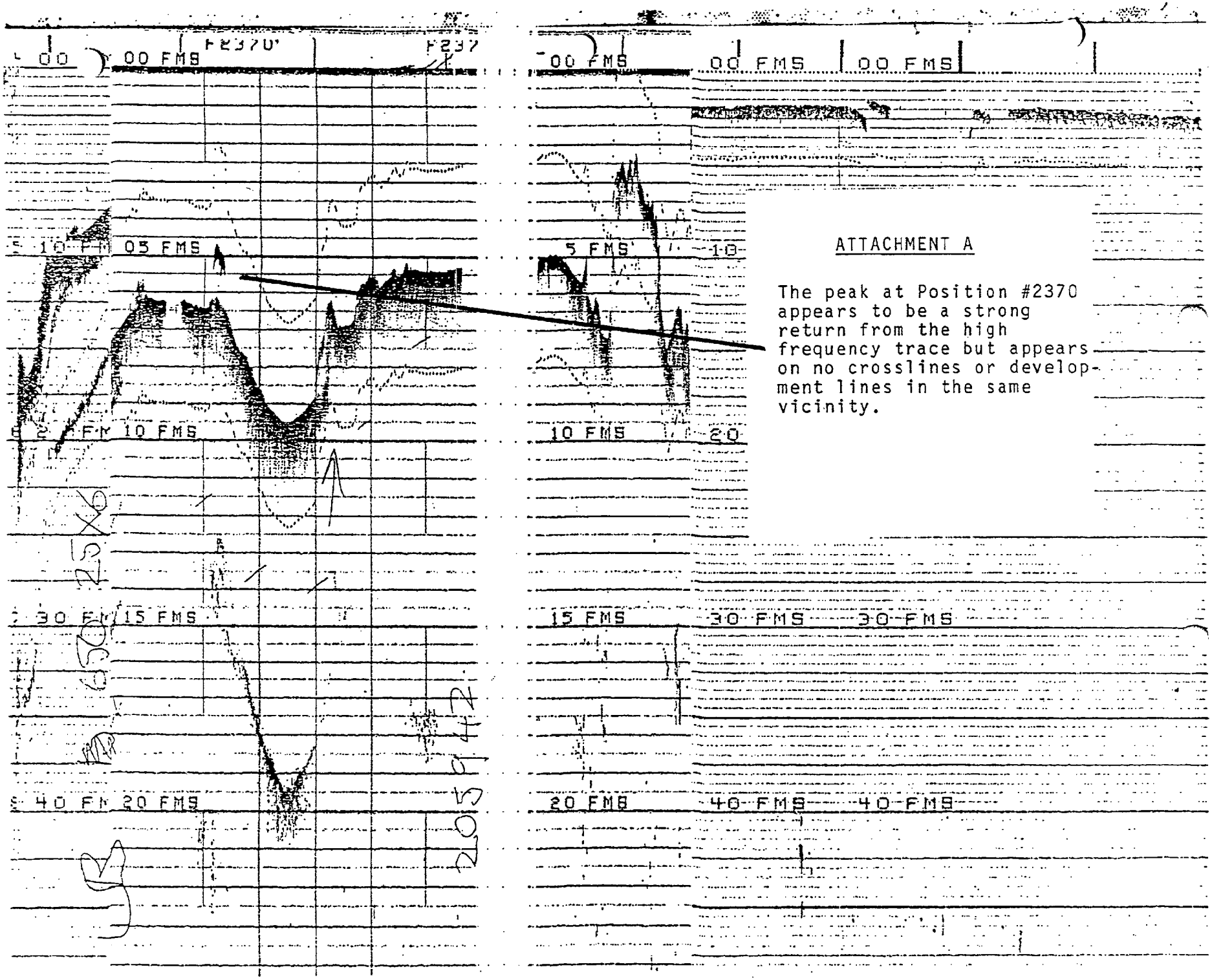
The preprocessing examination for H-10229 was conducted under the time constraints of HSG 15. All comments contained herein are based on a spot check of the data, and it is possible that some problem areas have not been addressed.

Except for the items noted in the critique, survey H-10229 is in compliance with the Project Instructions. I recommend that H-10229 be accepted for Nautical Chart Branch processing.

Prepared by:

Marlene Mozgala

Marlene Mozgala



ATTACHMENT A

The peak at Position #2370 appears to be a strong return from the high frequency trace but appears on no crosslines or development lines in the same vicinity.

ATTACHMENT B

Example of confusing notation on master printout. Hand-written notes were in 3 different colored pens.

```
ANGLE=190/48/12
X=    16637   Y=     8017
174006 00033          004216           04
*B 174925 1.0 on mark
174031 ***** 02326 004213 ****** 04   NOT
MD
*Z
ANGLE=189/43/16
X=    16681   Y=     7950
NMS=     0.273   HRS=     0.090
```

angle good for this time and depth

LT RA bow 2m of shore

```
1.7
174148 ***** 02327 004264 ****** 04
MD
*Z
ANGLE=190/08/20
X=    16622   Y=     7949
174213 00050          004258           04
174238 00094 02328 004257 ****** 04
*Z — 174255. 6.8
ANGLE=191/05/20
X=    16590   Y=     8012
174303 00071          004260 49949  04
174328 00058 02329 004258 ****** 04
        5.4
*Z
ANGLE=192/13/54  mistyped 192/53/54  Bad X
X=    16545   Y=     8084
174353 00032          004257           04  >R
        4900
*B 174357 1.1 07.
174418 ***** 02330 004254 ****** 04
MD                                  192/56/57
*Z
ANGLE=192/55/27
X=    16523   Y=     8131
```

LR stern 2m of shore

2541
650

192/55/27

angle good this time depth

LT LA bow 1m of shore 18 oct

NOAA FORM 77-27(H)
(9-83)

U.S. DEPARTMENT OF COMMERCE

HYDROGRAPHIC SURVEY STATISTICS

REGISTRY NUMBER
H-10229

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	SMOOTH OVERLAYS: POS., ARC, EXCESS	10
DESCRIPTIVE REPORT	1	FIELD SHEETS AND OTHER OVERLAYS	6

DESCRIPTION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR-GRAMS	PRINTOUTS	ABSTRACTS/ SOURCE DOCUMENTS	
ACCORDION FILES	3					
ENVELOPES						
VOLUMES	6					
CAHIERS						
BOXES						

SHORELINE DATA

SHORELINE MAPS (List): TP-01167 (2 parts)

PHOTOBATHYMETRIC MAPS (List):

NOTES TO THE HYDROGRAPHER (List):

SPECIAL REPORTS (List):

NAUTICAL CHARTS (List): 2 parts of Chart 17337 (enlargement)

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			
POSITIONS REVISED			
SOUNDINGS REVISED			
CONTROL STATIONS REVISED			
	TIME-HOURS		
	VERIFICATION	*EVALUATION*	*TOTALS*
PRE-PROCESSING EXAMINATION			
VERIFICATION OF CONTROL			
VERIFICATION OF POSITIONS	224.0		224.0
VERIFICATION OF SOUNDINGS	271.0		271.0
VERIFICATION OF JUNCTIONS			
APPLICATION OF PHOTOBATHYMETRY			
SHORELINE APPLICATION/VERIFICATION			
COMPILATION OF SMOOTH SHEET	169.0		169.0
COMPARISON WITH PRIOR SURVEYS AND CHARTS		12.0	
EVALUATION OF SIDE SCAN SONAR RECORDS			
EVALUATION OF WIRE DRAGS AND SWEEPS			
EVALUATION REPORT		43	43
GEOGRAPHIC NAMES			
OTHER* Digitizing			
*USE OTHER SIDE OF FORM FOR REMARKS — TOTALS	664.0	55	

Pre-processing Examination by M. Mozgala	*Beginning Date* 2/4/87	*Ending Date* 4/16/87
Verification of Field Data by P. Niland	*Time (Hours)* 664	*Ending Date* 1/12/88
Verification Check by S. Otsubo, B. Olmstead	*Time (Hours)* 144.0	*Ending Date* 12/15/87
Evaluation and Analysis by C.R. Davies	*Time (Hours)* 55	*Ending Date* 1/15/88
Inspection by D. Hill	*Time (Hours)* 16	*Ending Date* 2-9-88

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

PACIFIC MARINE CENTER
EVALUATION REPORT
H-10229

1. INTRODUCTION

H-10229 is a basic survey accomplished by the NOAA Ship FAIRWEATHER under the following Project Instructions.

OPR-0183-FA-86, dated January 17, 1986
Change Number 1, dated October 17, 1986

This survey is in Alaska and covers most of Kelp Bay. The surveyed area extends from longitude 134°50'00"W westward to South Arm and from latitude 57°19'00"N southward to the shoreline of Baranof Island. The bottom is very irregular and, with the exception of many isolated rocky features, is composed of mud, sand, and shells. Depths range from zero to a deep of 172 fathoms.

Field processing used predicted tides for Juneau, Alaska. Office processing used approved hourly heights zoned from South Arm, Kelp Bay, Alaska gage (945-1761).

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

A digital file, generated for this survey, includes categories of information required to comply with N/CG2 Hydrographic Survey Guideline No. 23, Completion of Digital Hydrographic Surveys, September 7, 1983. Certain descriptive information, however, may not be included 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.

The hydrographer generated computed rates, i.e. pseudo fixes for see-field-sheet (SFS) positions 9900-9901 and 9902-9905. Hydrographic Survey Guidelines No. 62 specifies that SFS must be entered into the digital record via digitizing of the plotted data. Such digitizing was not accomplished since a check of the quality of the computed digital data indicates that no higher quality would result from such a effort. The intent of the HSG 62 specification seems to be to provide a means of generating geographic position data without the extraordinary effort involved in scaling positions from the field sheets. Since this had already been accomplished, digitizing of the data during office processing would have been redundant.

2. CONTROL AND SHORELINE

Sections F and G of the hydrographer's report and the Horizontal and Electronic Control Reports for OPR-0183-FA-86 contain adequate discussions of horizontal control and hydrographic positioning.

Positions of horizontal control stations used during hydrography are 1983 published and 1986 field values based on NAD 27. The computation of positions accomplished during office processing used these same values. 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: 1.220 seconds (37.7 meters)
Longitude: -6.481 seconds (-105.9 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 data by NGS.

There are 31 weak fixes (angles of intersection less than 30 degrees or greater than 150 degrees) noted on the 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 shoreline map applies to this survey.

	Photo Date	Class
TP-01167	July, August 1983	III

The observed shoreline deviated from that depicted on the shoreline map in several locations in South Arm. The deviations are depicted on the smooth sheet in red. This delineation is not supported by fix data but rather is generalized from hydrographic positions in proximity to the shoreline.

3. HYDROGRAPHY

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;

c. Show the survey was properly controlled and soundings plotted correctly.

It should be noted that many of the position fixes which the hydrographer described as locating least depths over rocks and rocky shoals were superseded during office processing by adjacent fixes which more accurately locate the least depths. However, the raw data records for these adjacent fixes will not contain marginal annotations relative to rocks or rocky shoals. The hydrographer's report, describing these features, was revised after carefully evaluating all the data associated with each rocky feature. These revisions were made only if a shoaler depth than that identified by the hydrographer would result.

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 noted in the attached copy of the Preprocessing Examination Report, dated April 16,1987.

5. JUNCTIONS

Survey H-10229 junctions with the following surveys.

Survey	Year	Scale	Area
H-10202	1985	1:10,000	east
H-10203	1985	1:10,000	north

Soundings have been transferred from both surveys to justify depth curves and to portray shoaler information; however, the junctions are not formally complete. The junction surveys were previously processed and forwarded for charting. Junction comparisons were made using copies. Three soundings, 34, 38, and 39-fathoms, centered at latitude 57°19'00"N, longitude 134°56'21"W are approximately ten fathoms shoaler than the depths on H-10229. The hydrographer was aware of the discrepancy and developed the area to verify or disprove the shoal depths. There is no indication from the present survey that the depths exist and they are therefore considered discredited. To complete the junctions, portions of the depth curves on surveys H-10202 and H-10203 should be revised to conform with those on survey H-10229.

6. COMPARISON WITH PRIOR SURVEYS

H-2240 (1895) 1:20,000

Survey H-2240 covers the entire area of the present survey. Soundings deeper than 30 fathoms generally agree within 2 to 3 fathoms. Inshore of the 30-fathom depth curve agreement is poor. Differences are attributed to densified sounding coverage resulting in the discovery of additional shoal features. Other differences are attributed to datum adjustments, natural shoreline changes and the relative accuracy of the data acquisition techniques. For further information see the hydrographer's report, section K.

The three submerged rocks appearing on survey H-2240 immediately southwest of Yellow Rock were investigated. The rocks at latitude 57°18'11"N, longitude 134°54'08"W and latitude 57°18'12"N, longitude 134°54'04"W are considered disproven. The third rock is considered verified by the discovery of a rock covered 3.2 fathoms MLLW at latitude 57°18'17"N, longitude 134°54'09"W.

The submerged rock appearing on H-2240 at latitude 57°16'17"N, longitude 134°52'28.5"W is not considered disproven. The hydrographer believes that a rock uncovering 8 feet MLLW approximately 100 meters west confirms the prior

rock but this is not supportable. The difference in elevations and the otherwise accurate mapping of the local area during the prior survey indicate that the early hydrographer most likely discovered a rock and there is a reasonable possibility that the feature continues to exists. The submerged rock has been carried forward to the present survey. The position of the rock on the present survey is a compromise between the location as scaled from the projection lines and its position relative to the shorelines on the prior and present surveys. This location is farther offshore than presently charted. It is recommended that the rock be charted as shown on the present smooth sheet and the rock charted at latitude 57°16'15"N, longitude 134°52'26"W be deleted.

The submerged rock appearing on survey H-2240 at latitude 57°15'53"N, longitude 134°54'33"W was confirmed by a 0.4-fathom depth. However, since the hydrographer did not specifically describe the feature as being a rock, no rock symbol has been added to the smooth sheet. It is recommended that the charted rock be deleted and the shoal depth from the present survey be charted.

The submerged rock at latitude 57°17'40"N, longitude 134°55'06"W was verified. A minimum echo sounder depth of 4.8 fathoms MLLW supports the prior survey description of the area as shoal, however, there is no description of the area as rocky in the raw records. It is likely that the prior hydrographer considered the feature to be a rock due to the generally rocky nature of the local coastline. The present survey records, however, do not support a specific submerged rock description. A 4.8 fathom minimum depth is considered to be sufficiently descriptive of this shoal feature and continued charting of this feature as a rock should be done at the discretion of the compiler.

BP 124987 1:20,000
BP 124988 1:10,000

Reconnaissance Survey BP-124987 provides reconnaissance survey coverage of the entire area of this survey. Survey BP-124988 is a 1:10,000 enlargement of the central portion of BP-124987. Both these surveys were conducted by the NOAA Ship DAVIDSON in 1983. Comparison with these surveys is satisfactory, taking into consideration that survey H-10229 provides better depiction of the bottom through closer line spacing, supplemented by diver-determined least depths. The present survey also provides better positions and descriptions of features, especially rocks and reefs. For further information see the hydrographer's report, section K.

AWOIS items originating from the prior survey are adequately discussed in section K of the hydrographer's report supplemented as follows:

✓ AWOIS item 50973, rocks and reef at latitude 57°17'40"N, longitude 134°55'51"W, was investigated by the hydrographer. A submerged rock with a diver-determined least depth of 1.1 fathoms was located at latitude 57°17'39.33"N, longitude 134°55'52.37"W. Six rocks (1 ft below to 7 ft above MLLW) and a reef were also found centered at latitude 57°17'32"N, longitude 134°55'52"W, approximately 250 meters south of the above rock. It is recommended that these features and significant shoal soundings be charted according to this survey.

Survey H-10229 is adequate to supersede the prior surveys within the common area.

7. COMPARISON WITH CHART

Chart 17337, 7th Edition, dated February 26, 1977; scale 1:40,000
Chart 17320, 12th Edition, dated April 13, 1985; scale 1:217,828

a. Hydrography Most charted information originates from the prior surveys discussed in section 6 of this report and requires no further discussion. Other soundings and charted features originate from miscellaneous sources. For more details see section L of the hydrographer's report.

A search was accomplished to locate four rocks awash charted in the area west of Crow Island. Three of the four charted rocks were found and are recommended for charting at the following positions.

Feature	Latitude	Longitude
Rock, uncovers 8 ft	57°18'01.0"N	134°55'14.0"W
Rock, uncovers 11 ft	57°17'59.7"N	134°55'15.0"W
Rock, uncovers 7 ft	57°18'02.2"N	134°55'18.4"W

The fourth rock at latitude 57°17'53"N, longitude 134°55'17"W is considered disproven and should be removed from the chart. For further information see the hydrographer's report, section L.

Survey H-10229 is adequate to supersede charted hydrography within the common area.

b. AWOIS AWOIS items originating from miscellaneous sources are adequately discussed in section L of the hydrographer's report, supplemented as follows.

AWOIS #	Feature	Latitude (N)	Longitude (W)
50974	rock awash	57°18'01"	134°54'15"
50975	rock awash	57°18'02"	134°54'12"
50976	rock awash	57°18'03"	134°54'11"

The above charted rocks were investigated using an echo sounder and 8-meter line spacing within a 100-meter radius around the rock group. A rock, uncovering 6 ft, was found at latitude 57°18'01.7"N, longitude 134°54'19.0"W. No other rocks or indications of rocks awash were located within the search area. Hydrography indicates a natural channel through this area with depths of not less than 5.5 fathoms. It is recommended that the three rocks be removed from the chart, and the area be revised as shown on the smooth sheet.

AWOIS item 50978, rock awash at latitude 57°18'52"N, longitude 134°50'47"W, was investigated and resolved by the hydrographer. A ledge, uncovering 14 feet, and a reef, uncovering 9 feet, were found at latitude 57°18'53.20"N, longitude 134°50'47.31"W and latitude 57°18'52"N, longitude 134°50'50"W, respectively. It is recommended that the area be charted as shown on the smooth sheet.

c. Controlling Depths There are no charted channels with controlling depths within the limits of this survey.

d. Aids to Navigation There are no fixed or floating aids located within the limits 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 several shoals and rocks to the USCG by radio message and by letter, dated November 19, 1985 and December 19, 1986, respectively. Copies of these reports, previously forwarded to N/CG222, are attached.

No additional dangers were identified during office processing.

8. COMPLIANCE WITH INSTRUCTIONS

Survey H-10229 adequately complies with the Project Instructions mentioned in section 1 of this report.

9. ADDITIONAL FIELD WORK

This is a very good basic survey, no additional field work is recommended.

Charles R. Davies

Charles R. Davies
Cartographer

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

Dennis Hill

Dennis Hill
Chief, Hydrographic Section

ATTACHMENT TO DESCRIPTIVE REPORT FOR H-10229

I have reviewed the smooth sheet, accompanying data, and reports of this hydrographic survey. The hydrographic survey meets or exceeds Charting and Geodetic Services (C&GS) standards, complies with instructions, and is accurately and completely represented by the smooth sheet and digital data file for use in nautical charting.

Thomas W. DiSanto 2/11/88
Chief, Nautical Chart Branch (Date)

CLEARANCE: SIGNATURE AND DATE:

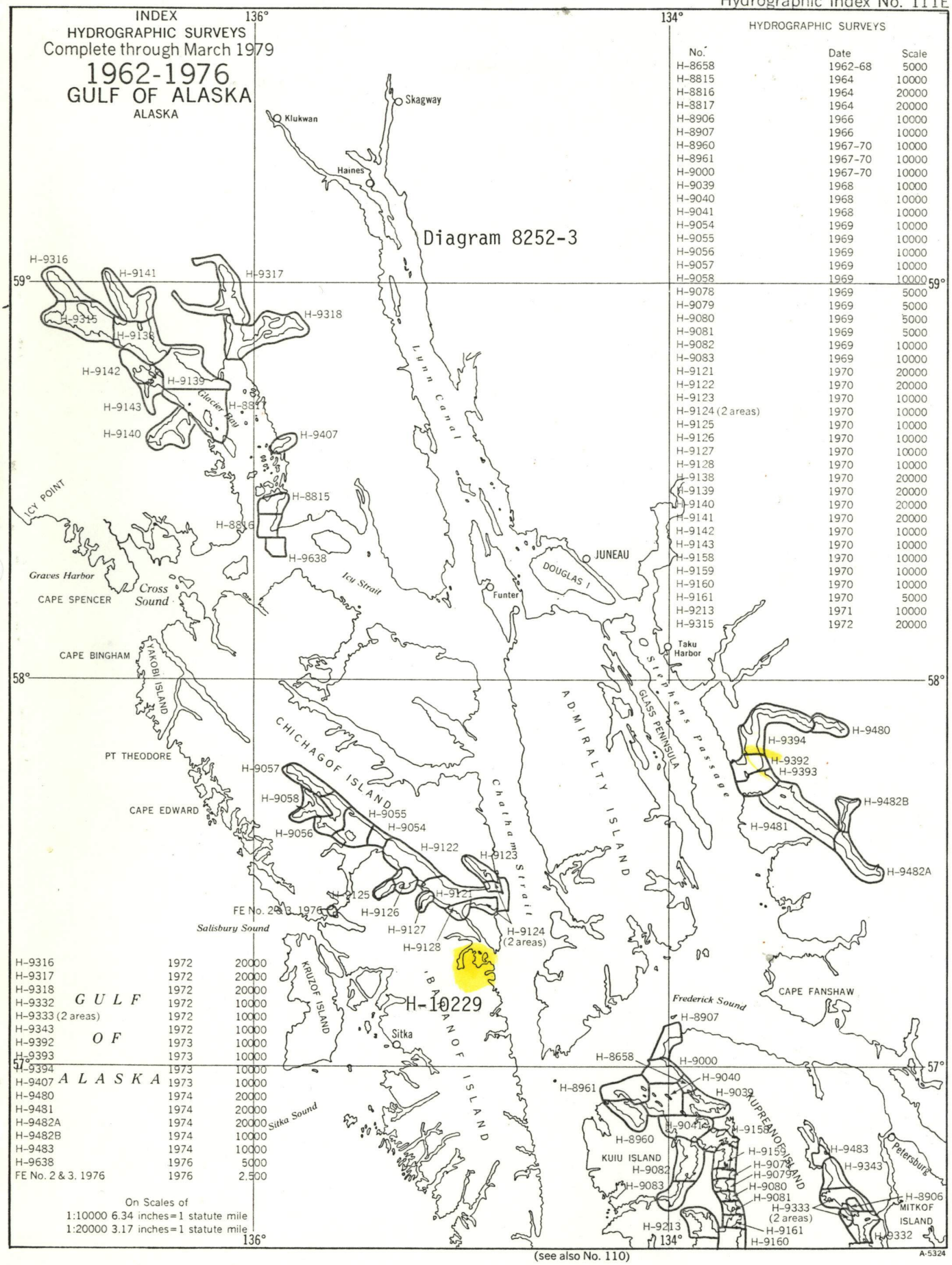
N/MOP2:LWMordock Lawrence W. Mordock 2/12/88

After review of the smooth sheet and accompanying reports, I hereby certify this survey is accurate, complete, and meets appropriate standards with only the exceptions as noted above.

Robert L. Sandquist 2-12-88
Director, Pacific Marine Center (Date)

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

Hydrographic Index No. 111E



HYDROGRAPHIC SURVEYS

No.	Date	Scale
H-8658	1962-68	5000
H-8815	1964	10000
H-8816	1964	20000
H-8817	1964	20000
H-8906	1966	10000
H-8907	1966	10000
H-8960	1967-70	10000
H-8961	1967-70	10000
H-9000	1967-70	10000
H-9039	1968	10000
H-9040	1968	10000
H-9041	1968	10000
H-9054	1969	10000
H-9055	1969	10000
H-9056	1969	10000
H-9057	1969	10000
H-9058	1969	10000
H-9078	1969	5000
H-9079	1969	5000
H-9080	1969	5000
H-9081	1969	5000
H-9082	1969	10000
H-9083	1969	10000
H-9121	1970	20000
H-9122	1970	20000
H-9123	1970	10000
H-9124 (2 areas)	1970	10000
H-9125	1970	10000
H-9126	1970	10000
H-9127	1970	10000
H-9128	1970	10000
H-9138	1970	20000
H-9139	1970	20000
H-9140	1970	20000
H-9141	1970	20000
H-9142	1970	10000
H-9143	1970	10000
H-9158	1970	10000
H-9159	1970	10000
H-9160	1970	10000
H-9161	1970	5000
H-9213	1971	10000
H-9315	1972	20000
H-9316	1972	20000
H-9317	1972	20000
H-9318	1972	20000
H-9332	1972	10000
H-9333 (2 areas)	1972	10000
H-9343	1972	10000
H-9392	1973	10000
H-9393	1973	10000
H-9394	1973	10000
H-9407	1973	10000
H-9480	1974	20000
H-9481	1974	20000
H-9482A	1974	20000
H-9482B	1974	10000
H-9483	1974	10000
H-9638	1976	5000
FE No. 2 & 3. 1976	1976	2.500

GULF OF ALASKA

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

(see also No. 110)

A-5324

NOAA FORM 75-96
(10-83)

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

MARINE CHART BRANCH

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10229

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
17337	10-14-88	BHanna	~~Full~~ Part ~~Before~~ After Marine Center Approval Signed Via
			Drawing No. 9; EXAM. FOR CRITICAL CORRECTIONS ONLY; N/C.
17320	10-14-88	BHanna	~~Full~~ Part ~~Before~~ After Marine Center Approval Signed Via
			Drawing No. 23; EXAM. FOR CRITICAL CORRS. ONLY; N/C
17337	10-26-88	Russell P Kennedy	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 9
17320	11/1/90	Dan Hlack	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 24 APP'D THRU 17337
			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
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			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.

SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED.

Appl to Stds 3-21-88 BH