9756

Diag. Cht. No. 8201-3 & 8152-2

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

(HYDROGRAPHIC)

Type of Survey ..... HYDROGRAPHIC

Field No. RA-5-2-78

Office No. H-9756

LOCALITY

State ..... Alaska

General Locality ..... Kashevarof Passage

Locality ..... Coffman Cove to Beck Island

1978

CHIEF OF PARTY

CAPT. J. P. Randall

LIBRARY & ARCHIVES

DATE ..... Dec. 5, 1979

★ U.S. GOV. PRINTING OFFICE: 1976—669-441

9756

Aua 6
Chts
17382
17360
17401

NOAA FORM 77-28 (11-72)

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

REGISTER NO.

H-9756

HYDROGRAPHIC TITLE SHEET

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

FIELD NO.

RA-5-2-78

State Alaska

General locality Kashevarof Passage

Locality Coffman Cove to Beck Island

Scale 1:5000 Date of survey April 24 - May 24, 1978

Instructions dated February 10, 1978 Project No. OPR-0910

Vessel NOAA Ship RAINIER (2021), Launches RA-3 (2123, RA-5 (2125), RA-6 (2126)

Chief of party CAPT James P. Randall

Surveyed by LTJG D.G. Brockhouse, ENS B.F. Hillard

Soundings taken by echo sounder, hand lead, pole Ross Fineline, Model 4000

Graphic record scaled by Ship's Personnel

Graphic record checked by Ship's Personnel

Position Verification by ~~Processed by~~ Thelma O. Jones Automated plot by PMC Xynetics Plotter

Sounding Verification by Thelma O. Jones

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

REMARKS: See Paragraph G for special methods used to locate control stations.

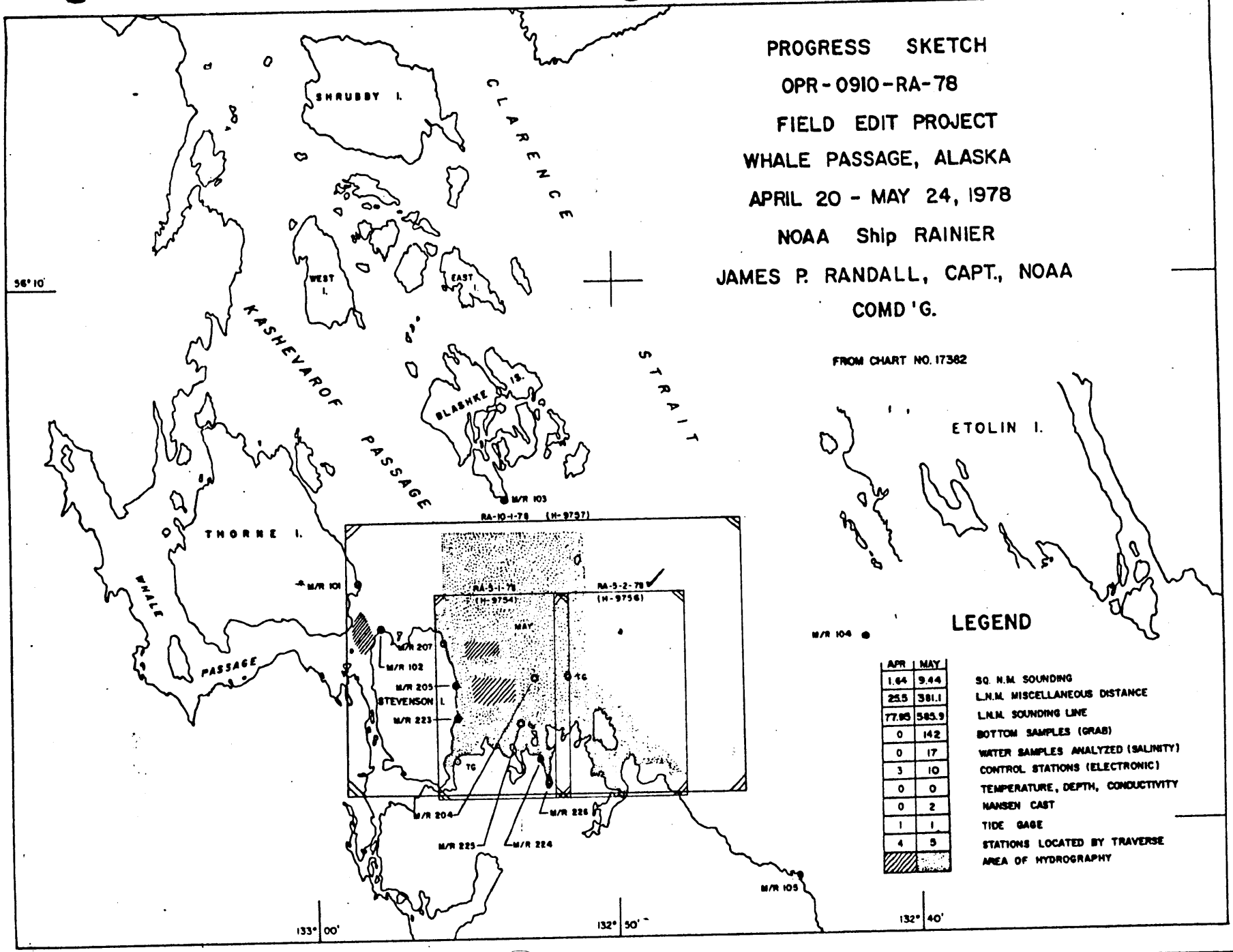
All time records related to GMT.

Misc. items were removed from this D.R. and are filed with the field records

Applied to stds 7/15/80
BHB

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

★ U.S. GOVERNMENT PRINTING OFFICE: 1976—665-661/1222 REGION NO. 6



APR	MAY
1.64	9.44
25.5	381.1
77.85	585.9
0	142
0	17
3	10
0	0
0	2
1	1
4	5

A. PROJECT

This survey was accomplished in accordance with PROJECT INSTRUCTIONS OPR-0910-RA-78, Whale Passage, Alaska, dated February 10, 1978; Change No. 1: Ammendment to Instructions, dated April 15, 1978; Change No. 2: Supplement to Instructions, dated May 11, 1978.

B. AREA SURVEYED

The area surveyed included a section northwest of Coffman Island, AK., and also covered Coffman Cove and the waters ~~southeast~~ northeast of the cove in Kashevarof Passage. The survey area was selected to include those areas of greatest hazard potential and to resolve the ambiguities of poorly detailed shoreline manuscripts. It is bounded on the western limit by H-9754 (RA-5-1-78) at longitude 132° 51'45" W. The northermost corner of RA-5-2-78 is defined by the junction with H-9757 (RA-10-1-78) at latitude 56° 30'12" N. The eastern limit of the survey area is longitude 132° 47'51" W and extends south into Kashevarof Passage to 56° 01'00" N. The survey was conducted between ~~May 16,~~ Apr. 24, 1978 and May 24, 1978.

C. SOUNDING VESSEL

The sounding vessels for the survey were NOAA Ship RAINIER's aluminum launches RA-3 (2123) and RA-6 (2126). The data acquisition system aboard RA-3 and RA-6 consisted of a standard hydroplot controller with a remote thumbwheel option, Digital PDP 8/e computer, Ross Fineline Model 4000 Fathometer and two Teledyne-Gurley Digital Sextants. The digital sextants performance exceeded all expectations and contributed significantly to the speed and accuracy of the survey. See Section P for more comments on the digital sextants. No unusual vessel configurations were used nor problems encountered which might have affected the accuracy of the survey.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

For RA-5-2-78, all echo soundings were obtained with Ross Fineline Fathometer Systems, which included the following components: Ross Model 4000 Transceiver, Ross Model 5000 Analog Recorder, Ross Model 6000 Digitizer and 100 kHz transducer. The following table summarizes the sounding vessels used and their echo sounding equipment with respective serial numbers.

Component	RA-3(2123)	RA-5(2125)	RA-6(2126
Transceiver	1080	1041-7	1042
Analog Recorder	1071	1040	1070
Digitizer	1080	1040	1041

Sound velocity corrections for echo soundings were derived from analysis of sea water samples obtained by 2 Nansen casts (see H.O. 607, Instruction Manual for Obtaining Oceanographic Data, Third Edition, U.S. Naval Oceanographic Office, 1968).

A cast was taken at 1947 GMT, May 8, 1978 at latitude 56° 05'48" N, longitude 132° 48'12" W. This site was located outside of the project area. The second cast, located within the H-9754 limits, was taken at 1130 GMT, May 24, 1978 at latitude 56° 01'36" N, longitude 132° 55'12" W. Samples from both casts were analyzed for salinity using standard laboratory procedures (see H.O. 607). The salinometer used for this analysis was a Plessy Model 6230, S/N 4989, which was last calibrated in March, 1978 by the Northwest Regional Calibration Center, Bellevue, Washington. Data from the Nansen cast and salinity measurement was input to computer program RK 530 - Velocity Correction Computations, and run on the RAINIER PDP 8/e digital computer, S/N 1015. Output from this program was used to plot a graph of "Actual Depth Minus Velocity Correction versus Velocity Correction". Preliminary and final velocity correctors were scaled from this curve using standard procedures (see Hydrographic Manual, Fourth Edition). Preliminary correctors were determined aboard RAINIER shortly after data from the Nansen cast had been processed, and these correctors were applied to soundings on smooth field sheets. Final correctors were calculated at the completion of the survey and submitted to PMC with other data. The preliminary and final velocity correctors were identical except for some minor differences in scaling depth values. For more information on detailing procedures refer to Echo Sounding Report OPR-0910-RA-78. Corrections for launch draft and residual instrument errors were determined from standard bar checks (see Hydrographic Manual, Fourth Edition). Bar checks were performed each day prior to beginning of and at completion of sounding operations. The first bar check was taken at one fathom increments to a depth of seven fathoms, and the second check was performed similarily to a depth of three fathoms. Graduations on bar check hand lines were compared with steel measuring tapes prior to beginning of and at completion of the hydrographic operations, and were found to be accurate.

Fathometer values of bar depths were abstracted at the end of each day. These statistics were scanned at completion of the survey and since no discernable changes were observed, bar check values were averaged for the survey. The mean values were subtracted from the corresponding true bar depths to obtain a series of "bar check correctors". Bar check correctors were co-plotted on the sound velocity correction curve. From these combined plots, the mean horizontal distances between bar and velocity correction curves were determined. These values represent the computed corrections for launch draft and residual instrument errors. However, since these correction values were not available until completion of the survey, an estimated launch draft and residual instrument error correction of 0.3 fathoms was used for plotting of boat, semi-smooth, and smooth field sheets. Computed launch draft and residual instrument error corrections were supplied to PMC in TC/TI tapes that accompanied other survey data.

Settlement and squat of the survey launches was not determined during this survey. However, the settlement and squat of launches RA-3, RA-5, and RA-6 was measured on March 29, 1978 at Building/ Pier #283, Sand Point Naval Base, WA. by the following procedure: A self-leveling Zeiss Ni 2 level was set up on stable ground and a tide staff was positioned vertically on the launch deck over the transducer position. The launch was run toward the level instrument at various speeds and the staff reading at each pass was recorded. No appreciable change in staff reading was noted during this test and consequently the settlement and squat of launch RA-3, RA-5, and RA-6 was assumed to be negligible, considering that the sounding unit was fathoms. In the event feet were to be used as the sounding unit, settlement and squat would become significant enough to correct for. Thus, no settlement and squat corrections were applied to any of the soundings obtained in this survey. The maximum "on-line" speed used in this survey was 2600 rpm.

Launches RA-3 and RA-6 utilize two modes for recording soundings. The first is a digital mode in which depth is intermittently sampled and recorded on teletype printout and on punch tape. The second is an analog mode in which depth is continuously sampled and recorded on fathograms. Digital data is used for basic compilation of field sheets with corrections and supplemental information taken from the analog record. The major error sources associated with each sounding system and method used to compensate for these errors are discussed below.

A "blanking" function is utilized in the digitizer system to prevent the logging of soundings from above a pre-set depth, i.e. spurious returns from fish, seaweed,etc. During survey operations, the blanking depth was set to a value slightly shoaler than the shoalest bottom depth expected in the immediate area and was adjusted as the depth changed. When a bottom depth shoaler than the blanking depth was encountered, missed digital depths were replaced with corresponding analog depths.

During hydrography, the analog initial would occasionally wander. Soundings were corrected for these initial errors during check scanning.

Phase error is caused by improper internal adjustment of the analog recorder and manifests itself by differences between analog and digital depths. The presence of phase error is determined by introducing an electronically simulated exact depth into the analog system and comparing the resultant analog value with the exact value. During hydrography, phase error of the analog system was frequently monitored and the analog recorder was adjusted so as to have no phase errors at the mean sounding depth. Consequently, no corrections for phase error were needed nor applied.

The trace taken during heavy seas and/or swells was scaled by assuming the bottom to be located one third of a trace-width from the top of the trace. This procedure yielded depth values that were shoaler or more conservative than the apparent depths.

Lead line soundings were made on all shoals having depths of seven fathoms or less. The lead line markings were compared with a steel measuring tape before and after the survey and found to be accurate. Since the records of lead line soundings were interspersed with fathometer soundings, special care was taken during processing to prevent the application of sound velocity corrections to lead line depths.

E. HYDROGRAPHIC SHEETS

The modified Transverse Mercator Projection and all soundings were plotted by RAINIER personnel using two Digital PDP 8/e Complot systems aboard the ship. Equipment included two Digital PDP 8/e computers, serial numbers 11430 and 01015, and two Complot plotters, Model DP-3, serial numbers 5848-18 and 5445-7.

Rough plots were made daily and a semi-smooth plot was performed as work progressed. To insure against the possibility of accepting bad visual fixes a daily position plot was made and examined prior to generating the semi-smooth sheet. All boat sheets were standard sizes and were skewed at 315°, however the final smooth sheet was not skewed.

The smooth field sheet was begun on June 21, 1978 and completed on July 8, 1978. No discernable distortion was detected on the mylar smooth sheet. Preliminary velocity correctors, TRA and predicted tides were applied to all fathometer soundings on the smooth sheet. All data was transferred to PMC for verification.

F. CONTROL STATIONS

Horizontal control for this survey was provided by existing triangulation stations, newly established triangulation stations, geodetically positioned visual signals, and photogrammetrically located visual signals.

Existing triangulation stations recovered for this survey included: BARNACLE 1916, BUSH 1916, COFFMAN 1915, JEN 1916, LAKE BAY MAGNETIC STATION 1916, LUCK (LUCK POINT SOUTH BASE) 1915, ROSE 1916, and SKE 1916.

Stations BECK ISLAND LIGHT 1978, CLAM 1978, LINCOLN ROCK WEST LIGHT 1978, and TRIPLET 1978 were established by Third Order Class I methods while stations FUN 1978 and TRIPLET RM 2 1978 were positioned by Third Order Class II techniques. All of the

above were monumented and described. BECK ISLAND LIGHT 1978, a USCG fixed aid to navigation, is discussed further in Section N of this report. For a complete discussion of establishment of the above mentioned triangulation stations, refer to Horizontal Control Report, OPR-0910-RA-78, Lake Bay, S.E. Alaska, April-May 1978.

The following visual hydrographic signals were geodetically located for use during this survey: BAR, CRY, GAR, JIM, LOU, LUG, NIP, PIT, SAP, SOB, and TIP. These signals were positioned by Third Order Class II methods which are described in the following publications: Classification, Standards of Accuracy, and General Specifications of Geodetic Control Surveys, NOAA-NOS, February, 1974 and Specifications to Support Classification, Standards of Accuracy, and General Specifications of Geodetic Control Surveys, NOAA-NOS, July 1975. None of these signals were monumented or described.

Field angle and distance measurements were made with the following instruments: Wild T2 Theodolites, S/N 68648 and S/N 73226, and Model CA 1000 Tellurometers, S/N 1805 (Remote Unit) and S/N 1806 (Master). The theodolites mentioned above were inspected and adjusted for correction of collimation errors in March 1978 by Mr. R. B. Melby, PMC, and the tellurometers were calibrated in February 1978 by RAINIER personnel.

Figure 1 illustrates the general method used to position geodetic hydrographic signals. Signals were positioned by simple spur traverse methods which, in some cases, were checked by intersection techniques. In spur traverse computations, the "new" station position is computed from the azimuth and distance from an existing station. Starting azimuths for spur traverse computations were calculated from the positions of the occupied and initial stations using Program No. 700-002-Geodetic Inverse Computation and RAINIER's Wang 700 Series Programmable Calculator, S/N 827335. The horizontal angle observed from the initial station to the signal was added to the starting azimuth to obtain an azimuth for position computations. Fixed instrument corrections were added to raw electronic distances to obtain the distances used in position computations. Geographic positions of visual signals were computed using Program No. 700-001-Geodetic Position Computation and RAINIER's Wang Calculator. All spur traverse position computations originated from station BARNACLE 1916.

The spur traverse positions of stations BAR, CRY, GAR, LOU, LUG, NIP, SOB, and TIP were checked by intersection methods. Intersection is a method of positioning a "new" station using horizontal angle observations from two or more existing triangulation stations. Actual position computations were obtained using Program 700-PF-022-Intersection Geographic Position Computation and RAINIER's Wang calculator. Difference between spur traverse and intersection positions were computed using the Geodetic Inverse

Computation Program and Wang calculator. Check angles at stations occupied by theodolite were calculated as follows: the azimuth from the occupied station to the check angle station was computed using the Geodetic Inverse Computation program and the starting azimuth was subtracted from this value. Observed check angles differed from computed values by -13" to +57". (A positive difference indicates that the computed value was greater than the observed).

Inverse distances between positions computed by spur traverse and intersection methods ranged from about 0.3 M to 1.0 M. Position from spur traverse computations were used for hydrographic position control. Data and computations for Third Order Class II signals is included in the separates attached to this report.

Thirty-two photogrammetrically located visual hydrographic signals were established for this survey. These signals were numbered as follows: 311 to 315, 320 to 325, 330 to 339, and 350 to 360. For details concerning methods used to locate these signals, refer to Field Edit Reports for "T" Sheets 12403, 12404, and 13096, Lake Bay, S.E. Alaska. The computations for all visual signals located by photogrammetric methods are located in the Separates Following the Text of this report.

G. HYDROGRAPHIC POSITION CONTROL

Sounding line position control during this survey was provided by visual means, positions being determined by three-point sextant fixes.

Two RAINIER launches, RA-3 (E.D.P. No. 2123) and RA-6 (E.D.P. No. 2126) were used during this survey. Positioning equipment used aboard the two launches was as follows:

RA-3 (2123)	Left Digital Sextant: S/N T6-0321 Right Digital Sextant: S/N T6-0322 Hazlow Navigation Interface: S/N 141
RA-6 (2126)	Left Digital Sextant: S/N TU-3601 Right Digital Sextant: S/N TU-3600 Hazlow Navigation Interface: S/N 3

During hydrographic operations the index on both digital sextants in a pair was checked frequently and noted on the raw data printout. The index correction was checked by zeroing both sextants in the pair and annotating the digital readouts in half minutes. This was done in each launch at the beginning of each day, at the end of each series of lines and whenever there was a change in anglemen. Whenever an index error of more than 1.5 minutes was noted, the sextants were zeroed.

Positioning equipment used aboard both digital launches operated almost flawlessly. Two minor problems, one with a sextant cable and the other with tension springs on the sextants, occurred which caused minor delays. Digital sextant S/N T6-0321 failed to operate properly on J.D. 136 (before fix No. 3000) due to a broken wire in the connecting cable. Hydrographic operations aboard RA-3 were delayed until the sextant pair being used was replaced by the pair normally used aboard launch RA-6. The broken wire in T6-0321 was repaired that evening aboard RAINIER and sextant pairs were returned to their original boats before the start of hydrographic operations on J.D. 137. The other problem encountered was with the amount of tension applied by the flat springs to the worm gear on the digital sextant's arm. Through heavy use the flat springs had become set causing the slightest bit of play in the gear. The springs were adjusted as necessary and eventually replaced on all sextants.

Visual signals used for this survey included photo-picked signals and Third Order Class I geodetic signals as stated in Section F of this report. At no time were weak geometric configurations encountered or unusual atmospheric conditions experienced that might have degraded the positional accuracy of the soundings taken during this survey.

RAINIER launch RA-5 (2125) was used during this survey to collect some of the bottom samples obtained. Positioning equipment aboard RA-5 included Mini-Ranger Console S/N 720 and R/T Unit S/N 720. Two Mini-Ranger shore stations were established and used for bottom-sampling positional control. Two shore stations were established on at least Third Order Class I geodetic control stations as described in Section F of this report. Mini-Ranger station numbers, corresponding transponder code numbers, and other relevant data was as follows:

Station No.	Station Name	Code	Code S/N	Dates on Station
104	LINCOLN ROCK WEST LIGHT 1978	4	777	J.D. 141-144
105	LUCK PT SOUTH BASE 1915	2	776	J.D. 141-144

Three point sextant fixes to visual signals located on at least Third Order Class I geodetic control stations were used to calibrate Mini-Ranger equipment used.

Two Mini-Ranger baseline calibrations were performed in conjunction with this survey. The first baseline calibration was performed in Ketchikan, AK. on April 21, 1978. This baseline calibration resulted in acceptable corrector values. The corrector values from the first baseline calibration were applied to raw position data throughout the survey. A second baseline calibration was performed at the U.S. Coast Guard Base, Kodiak, AK. on June 1, 1978. The

results of the second calibration indicated only minimal change in the baseline corrector values so the correctors from the first baseline calibration were used in smooth plotting of survey data. The baseline calibration also determined low signal strength cut-off points for each Mini-Ranger console, R/T unit, and shore transponder combination. All hydrography was run with signal strengths greater than these signal strength cut-off values. Refer to Electronic Control Report OPR-0910-RA-78 for more details on baseline calibrations and subsequent corrector values.

H. SHORELINE

The final shoreline on the 1:5000 scale smooth field sheet was transferred by Pantograph from unedited 1:10,000 scale shoreline manuscripts T-12403 and T-12404.* All areas covered by the smooth field sheet were field edited during the course of the survey but changes and corrections were not transferred to the smooth field sheet. Changes and additions are addressed in Field Edit Reports T-12403 and T-12404. All rocks shown on the smooth field sheet were located by the hydrographer.* *See Q.C. Report - item 1)*

I. CROSSLINES

Approximately 8.7 nautical miles of crosslines were run on H-9756 which represents 10.0 percent of the mainscheme mileage. Most of the area surveyed had an irregular bottom, and as a result 53 percent of the crossings agreed exactly to the fathom, while another 40 percent agreed within one fathom. 4.7 percent disagreed by no more than two fathoms and 2.3 percent disagreed by more than 2 fathoms. In these cases, the depth was changing rapidly and the difference was due more to slight position differences between soundings compared rather than due to sounding error. All crosslines are plotted in red ink. Survey launches RA-6 (2126) and RA-3 (2123) were used for all mainscheme and crossline soundings.

J. JUNCTIONS

The hydrographic survey H-9756 (RA-5-2-78) junctions with survey H-9754 (RA-5-1-78) along ~~latitude~~ longitude 132° 51'45" W. In the junction area fifty soundings were compared and ninety-four percent of the soundings agreed exactly or within one fathom. The remaining six percent agreed within two fathoms. The difference in sounding in these cases possibly resulted from small position errors between compared soundings in areas of an irregular and rapidly changing bottom.

The northern most corner of H-9756 (RA-5-2-78) junctions with H-9757 (RA-10-1-78) at latitude 56° 03'12" N. Approximately 80 soundings overlap at the junction. Eighty percent of the compared soundings agree within one fathom while the remaining compared soundings agree within two fathoms. Again, any difference in the soundings could be explained by position differences. ✓

There is also a junction on H-9756 (RA-5-2-78) between the boatsheets of the hydrographic launches RA-3 (2123) and RA-6 (2126). This occurs northeast of Coffman Island at latitude 56° 01'00" N. The two boatsheets overlap with two lines of hydrography spaced at 40 meter intervals. One hundred percent of the compared soundings agree within one fathom. There were no rocks or shoal developments in any of the junction areas and there were no junctions with any other contemporary surveys.

K. COMPARISON WITH PRIOR SURVEYS

Comparison of the present survey with H-3943, 1916, 1:20,000 showed good agreement throughout considering the irregular and rapidly changing bottom characteristics. Prior survey soundings, plotted in purple on the boat sheet, were distributed throughout the survey area. Soundings in the RA-5-2-78 survey area on all National Ocean Survey charts were derived from the 1916 survey and are discussed in Section L of this report.

See Verifiers Report Sec. VI.

There were no presurvey review items for this project.

L. COMPARISON WITH THE CHART

There are 2 charts which cover the Coffman Cove area: 17401 (8162), scale 1:10,000 and ~~11382~~ 17382 (8160), scale 1:80,000.

The largest scale chart used during the Coffman Cove survey was 17401 (formerly 8162) at a scale of 1:10,000. The chart is the 7th Edition and dated June 18, 1977. This chart shows approximately 250 soundings in the RA-5-2-78 survey area. When compared to the new boat sheet eight-three percent either agreed or differed only by one fathom and ten percent of the soundings differed by ± two fathoms. The remaining 7 percent that did not agree within two fathoms can be explained by position differences and the irregular bottom characteristics in the survey area.

The surveyed foul areas, shallow areas along the shore, navigational limits and small islands in the RA-5-2-78 survey area are not in agreement with the boundaries as they were charted on C-17401 and C-~~11382~~ 17382. However, the new survey data was in agreement with the field edit sheets ~~T-12402,~~ T-12403, and T-12404.

See... Verifiers Report Sec. II.

Charted rock positions on C-17401 were verified or disproved by taking detached positons (D.P.) and lead lines on certain rocks. Their geographic positions as well as height and time that the rocks bare can be found in Table 1. Each rock in the table has a designated letter which will help to identify its location on

TABLE 1

ROCI	LATITUDE	LONGITUDE	HEIGHT/TIME	SOURCE	DISPOSITION	REMARKS
✓✓B	56/02/09.877	132/51/30.748	0.2 fm L/L @ 155033 Z JD 142	Hydro Fix #6529 S.P.- 0⁷ Rk	~~Verified~~ NEW Chart	~~Charted correctly~~
✓E	56/02/01.3	132/51/15.2	Rock bares 5' @ 162425 Z JD 142	Hydro Fix #6532 SP - ✳(3)	Verified-Retain	Charted correctly
✓EE	56/02/02.8	132/51/14.0	Rock bares 2' @ 161406 Z JD 142	Hydro Fix #6531 S.P. - ✳(0)	New Rock-Chart	Not charted
✓F	56/02/06.1	132/51/01.2³	Rock bares 4' @ 165731 Z JD 142	Hydro Fix #6533 S.P. - ✳(3)	New Rock-Chart	Borders on edge of foul area as seen on T-sheets
✓FF	56/02/05.0	132/51/03.4⁵	Rock bares 4.5' @ 170143 Z JD 142	Hydro Fix #6534 S.P. - ✳(4)	Verified-Retain	Charted correctly
✓P	56/01/58.0	132/50/58.9	1.3 fm L/L @ 175400 Z JD 142	Hydro Fix # 6541 S.P.- 0⁸ Rk	Rock misplaced on chart Chart in new location	See report
	56/01/57.70	132/50/59.69		Pos. 678304 0² corrected depth	S.P. - ✳ cov 1 ft at MLLW	
✓H	56/01/49.884 6	132/50/05.386	Rock bares 5' @ 160000 825 Z JD 142	Hydro Fix #3988 S.P. - ✳(2)	Verified-Retain	
✓T	56/01/23.49 508	132/50/02.69 27	0.1 fm L/L @ 172140 Z JD 139	Hydro Fix #3378 S.P. - ✳(10)	New Rock-Chart	Not charted
✓K	56/01/16.733	132/50/10.447	Rock at surface @ 155555 Z JD 139	Hydro Fix #3360 Not Smooth Plotted	Verified Retain only #3359 on S.S.	Eastern end of large rock. (Western limit Rock "KKKK" Fix #3362)
✓KK	56/01/16.79 808	132/50/10.39 89	Rock at surface @ 155354 Z JD 139	Hydro Fix #3359 S.P. - ✳(6)	Verified	
	56/01/52.36	132/50/04.31	Peak on fathogram	Pos. 392302 Corrected depth -1.2 fm.	S.P. - ✳(7)	Falls in proximity to a ✳(4)

S.P. - = Smooth Plotted as...

TABLE 1.

TABLE 1

ROCK	LATITUDE	LONGITUDE	HEIGHT/TIME	SOURCE	DISPOSITION	REMARKS
✓KKK	56/01/15.7~~43~~	132/50/11.96~~4~~	0.6 fm L/L @ 155954 Z JD 139	Hydro Fix #3361 S.P. - * (2)	Verified Retain	
✓KKKK	56/01/15.8~~29~~	132/50/11.23~~0~~	0.4 fm L/L @ 160850 Z JD 139	Hydro Fix #3362 S.P. - * (4)	Verified Retain	Western limit of rock described by Fix #3360
✓J	56/01/17	132/50/17		Charted source not readily ascertainable	~~Disproved~~ ~~Delete~~ Not verified or disproved by the present survey. Referred to the compiler for evaluation and appropriate action.	Not seen by F.E./hydro @ -1.0' tide state. See report.
✓I	56/01/18.~~104~~	132/50/29.4~~08~~	Exposed @ 170841 Z JD 140	Hydro Fix #3533 S.P. - * (7)	Verified Retain	
✓U	56/01/20.1~~50~~	132/50/24.4~~84~~	Rock bares 2' @ 212604 Z JD 136	Hydro Fix #3000 S.P. - * (6)	New Rock Chart	Not charted C-17401
✓X	56/01/17.4~~22~~	132/50/24.8~~62~~	0.1 fm L/L @ 161853 Z JD 140	Hydro Fix #3528 S.P. - * (4)	New Rock Chart	Not charted
✓XX	56/01/17.3~~66~~	132/50/24.3~~02~~	0.1 fm L/L @ 161408 Z JD 140	Hydro Fix #3527 S.P. - * (3)	New Rock Chart	
✓Y	56/01/13.0~~34~~	132/50/31.3~~30~~	0.4 fm L/L @ 174205 JD 137	Hydro Fix #3080 S.P. - * (9)	Verified Retain	
✓#15H	56/01/07.~~383~~	132/50/~~20.013~~ 19.58	Rock bares 2' @ 144500 Z JD 125	FE Fix #1014 S.P. - * (0)	Verified Retain	Charted correctly Not on T-12403
✓#14H	56/00/49.7~~61~~	132/50/13.4~~31~~	Rock bares 2' @ 151500 Z JD 125	FE Fix #1015 S.P. - * (1)	New Rock Chart	Not charted Not on T-12403
✓Z	56/01/11.795	132/48/57.868	Rock covers @ 171500 Z JD 114	FE Fix #1013 S.P. - cov 3 ft MLLW *	New Rock Chart	Not charted
✓Q	56/01/10.771	132/48/55.804	Rock bares 2' @ 170600 Z JD 114 Rock 12' in diameter	FE Fix #1012 S.P. - cov 1 ft MLLW *	New Rock Chart	Not charted

S.P. - = Smooth Plotted as...

* Tide correctors for day 114 were not included in the survey records. See QC report #12

TABLE 1

Chart 17401 submitted with this report. In the case of a double or triple letter designation, the rock can be assumed to be located in the vicinity of the rock bearing the single letter.

Several new rocks were located. Their correct geographic position and other pertinent information can be found in Table 1. Rock "P" as noted on Table 1 - geographic position latitude 56° 01'58.0" N and longitude 132° 50'58.9" was misplaced on the chart. Field edit searched for the rock in its charted position using a Boston Whaler at a 0.0 tide state. Nothing was found. A detached position and lead line positioned the rock approximately 50 meters to the ~~right~~ east of its charted location.

Rock "J" - on Table 1 - charted position latitude 56° 01'17" N and longitude 132° 50'17" W was not found. Field edit searched for the rock from a Boston Whaler at a -1.0 tide state and nothing was found. Hydrographic soundings taken in the area also disprove the existence of this rock. Because of the rock's charted proximity to a rocky ledge a D.P. was not taken and it was assumed that the charted rock was a part of this ledge. The rock is not verified or disproved by the present survey. Chart disposition of the rock is referred to the compiler for evaluation and appropriate action.

In addition to those rocks located by hydrographic means and those charted on 17401 there were rocks located photgrammetrically by field edit. They are included in Field Edit reports T-12403 and T-12404. Chart 17382 (formerly 8160) at a scale of 1:80,000 was also compared with the new boat sheet. The chart is the 11th edition and dated March 26, 1977. Approximately 20 soundings from the chart fell within the RA-5-2-78 survey limits. Eighty-five percent of those soundings agreed within one fathom while ten percent agreed within two fathoms. The remaining five percent that did not agree within two fathoms can again be explained by slight position differences between the compared soundings in an area with irregular bottom characteristics.

It is recommended that a new chart of the Coffman Cove area be produced at a scale of 1:10,000. A chart of this scale would be of considerable value to the numerous loggers and fisherman working extensively in the area.

See Verifiers Report Sec. IX.

M. ADEQUACY OF SURVEY

This survey is complete and adequate to supersede prior surveys for charting. All fathograms were scanned for peaks and appropriate changes made to the records when necessary. Since this represents the first modern, extensive hydrographic survey in the Coffman Cove area, it should provide new, valuable information for those who may want to navigate in the area.

N. AIDS TO NAVIGATION

One fixed aid to navigation, Beck Island Light, was located during this survey. The position of the light at latitude 56° 02'52.416" N and longitude 132° 51'39.104" W was determined by geodetic intersection technique. The light was used as a visual signal for position control of the hydrographic launches and is contained on the signal list in the separates (see NOAA Form 76-40 Non-Floating Aids to Navigation and Landmarks for Charts). The Beck Island Light is charted properly and adequately serves the purpose for which it was established.

O. STATISTICS

During the hydrographic survey of sheet H-9756 a total of 2237 postions were obtained over 119.3 nautical miles of hydrography in an area of 1.64 square nautical miles.

There were two tide stations in the Lake Bay Project Area.

Specifics of these tide stations can be found in the tide note in Separates Following the Text.

There were thirty-seven bottom samples taken over the project area, including 3 cases where samples could not be collected because of a hard substrate. Their specifics may be found in the copy of NOAA Form 15-44 appended to this report.

MILEAGE ABSTRACT

Vessel	Nautical Miles	Positions	Bottom Samples
2123	69.2	1260	0
2125	0	17	17
2126	44.8	951	11
2129 (Skiff)	5.3	9	9
	119.3	2237	37

Refer to Abstract of Positions in the Separates Following the Text for further information concerning statistics.

P. MISCELLANEOUS

The use of digital sextants for hydrographic surveys is mentioned in this section because of their general importance in the quality of the survey in Coffman Cove.

The configuration of Coffman Cove would have made the use of electronic navigational control difficult if not impossible. However, the use of digital sextants allowed the survey to be completed rapidly and efficiently thus proving themselves to be an indispensable tool for the hydrographer.

Not since the advent of digital loggers has a piece of equipment been so welcome aboard a survey launch. The instrument is very easy to use, its optics are far superior to the manual hydrographic sextant, and the fact that the hydrographer now has a method of keeping the launch on line (through use of the steering indicator) makes for neat and accurate surveys. ✓

Q. RECOMMENDATIONS

The survey is complete and adequate to supersede all previous hydrography in the area. No additional field work or unusual conditions exist which might affect the nature of the bay in the near future. A 1:10,000 scale chart of the area might be useful as Coffman Cove is the site of a very active logging and fishing community. see chart 17401

See Verifier's Report Sec. IX

R. AUTOMATED DATA PROCESSING

Data acquisition and processing were accomplished per instructions in the Hydrographic Manual Fourth Edition, Manual Automated Hydrographic Surveys, and the PMC OPORDER.

Soundings and positions were taken by the Hydroplot System using programs RK 171, RK 175, and RK 176. There were daily master tapes and corresponding corrector tapes which include the launches TRA. Velocity correction tapes were generated from Nansen Cast Data. The following is list of all computer programs used for data acquistion or processing: ✓

PDP 8/e		Version Date
RK 171	VISUAL HYDROLOG	5/18/76
RK 175	VISUAL HYDROLOG	5/03/76
RK 176	VISUAL HYDROLOG - RK175 RESTART	5/01/74
RK 201	GRID, SIGNAL, AND LATTICE PLOT	4/18/75
~~RK 211~~	~~RANGE-RANGE NON-REAL TIME PLOT~~	~~1/15/76~~
RK 212	VISUAL STATION TABLE LOAD	4/01/74
RK 215	VISUAL NON-REAL TIME PLOT	8/16/74
RK 300	UTILITY COMPUTATIONS	2/05/76
RK 407	GEODETIC INVERSE/DIRECT COMPUTATION	10/23/75
RK 409	GEODETIC UTILITY PACKAGE	9/15/73
AM 500	PREDICTED TIDE GENERATOR	11/10/72
RK 530	LAYER CORRECTIONS FOR VELOCITY	5/10/76
RK 561	H/R GEODETIC CALIBRATION	2/19/75
AM 602	ELINORE - LINE ORIENTED EDITOR	5/20/75
AM 603	TAPE CONSOLIDATOR	10/10/72
RK 606	TAPE DUPLICATOR	8/22/74

S. REFERRAL TO REPORTS

The following separate reports are referred to in the Descriptive Report and contain specifics not necessarily covered by the Descriptive Report.

1) ECHO SOUNDING REPORT - OPR-0910-RA-78

2) HORIZONTAL CONTROL REPORT -OPR-0910-RA-78

3) ELECTRONIC CONTROL REPORT -OPR-0910-RA-78

4) FIELD EDIT REPORT -T-12403

5) FIELD EDIT REPORT -T-12404

Respectfully Submitted:

Donna L Stotler

Donna L. Stotler
ENS NOAA

INDEX TO SEPARATES FOLLOWING THE TEXT

✓ = Items removed from the D.R. and filed with the field records

FIELD TIDE NOTE

OPR-910-RA-78
H-9754, H-9756 and H-9757
Lake Bay, Alaska

Primary tide gauge 945-0460, Ketchikan, Alaska was utilized as the control gauge for all hydrography in Lake Bay and Whale Passage. GMT tide correctors for field reduction of soundings were based on the predicted tides for Whale Passage and were generated using Program AM500, PREDICTED TIDE GENERATOR, version November 10, 1977.

According to project instructions and changes to project instructions two tide stations were established and maintained throughtout the period of hydrography and field edit. Both tide gauges were operated on GMT.

T1, 945-0904, Lake Bay Creek, Alaska

A Bristol Bubbler tide gauge, S/N 736620, calibrated for a 0-40 foot range was installed on April 22, 1978 at Lat. 56° 01.4' N, Lon 132° 55.2' W. The gauge operated continuously for 32 days and was removed on May 24, 1978. Metric installation and removal levels were run to five benchmarks and two staffs on April 22, 1978 and May 23, 1978.

Difference of Elevations	October 12, 1973	April 22, 1978	May 23, 1978
R.S.1. - BM1	n/a	-3.586 m	-3.592 m
R.S.2. - BM1	n/a	-1.092 m	-1.092 m
BM1 - BM2	+0.693 m	+0.696 m	+0.694 m
BM2 - BM3	-1.406 m	-1.404 m	-1.405 m
BM3 - BM5	+0.222 m	+0.222 m	+0.224 m
BM5 - BM19	n/a	+0.100 m	+0.098 m

Two tide staffs were necessary due to the shallow gradient of the beach in the vicinity of the gauge site and large tidal range. Staff 1, installed furthest from the high water line, was graduated from 0.0 feet to 12.2 feet, and had a rod stop installed at 5.000 feet. Staff 2, installed nearer the high water line, was graduated from 12.2 feet to 28.0 feet and had a rod stop installed at 13.200 feet. Level records indicate that the lower staff moved 0.006 meters (0.019 feet) during the period of operation. The 12.2 foot mark on the lower staff was 0.005 meters (0.018 feet lower in elevation than the 12.2 foot mark on the upper staff. The staff/gauge relationship established during the 9 hour observation period and through single observations throughout the operating period indicates that 0.0 feet on the gauge equals -10.17 feet on the staff.

Twelve minute staff/gauge comparison observations were performed on April 24, 1978. Heavy fog delayed the beginning of observations, however observations were begun slightly before low tide and extended well beyond the next high tide. The lower staff went dry during a portion of the negative low tide so levels were run from the zero of the lower staff to the water, insuring a complete set of observations.

The gauge ran slow, losing approximately three minutes per day. Time losses were compensated for while scanning the marigram for hourly heights. The only other problem with the gauge was caused by the marigram paper jumping sprocket holes. The accumulated paper on the takeup spool was realigned and an additional desicant container was added inside the gauge compartment.

T2, 945-0906 Beck Island, Alaska

A Bristol Bubbler tide gauge, S/N 67A 16205, calibrated for a 0 to 30 foot range was installed on May 4, 1978 at Lat 56° 02.8'N, Lon 132° 51.7'W. The gauge operated continuously for 21 days and was removed on May 24, 1978. Metric installation and removal levels were run to five bench marks and one tide staff on May 5, 1978 and May 23, 1978.

	Difference of Elevations	
	May 5, 1978	May 23, 1978
R.S.1. - BM A	+1.592 m	+1.553 m
BM A - BM B	+1.483 m	+1.484 m
BM B - BM C	-0.106 m	-0.104 m
BM C - BM D	+0.340 m	+0.338 m
BM D - BM E	-0.760 m	-0.762 m

The staff was graduated from 0.0 feet to 22.2 feet, and had a rod stop installed at 20.200 feet. The level records indicate that the staff moved 0.039 meters (0.13 feet), during the period of operation. The staff/gauge relationship established during the 9 hour observation period and through single observations throughout the operating period indicates that 0.0 feet on the gauge equals 1.38 feet on the staff.

Twelve minute staff/gauge comparison observations were performed on May 5, 1978. Mechanical difficulties with the launch prevented personnel from reaching the tide gauge site until just before low tide but comparisons were continued until well after the next high tide.

The gauge ran slow losing approximately five minutes per day. Time losses were compensated for while scanning the marigram for hourly heights. Desicant containers were kept inside the tide gauge throughout the project and probably prevented the marigram paper from jumping sprocket holes.

A comparison between the predicted tides for Lake Bay, Alaska and two tide stations established by RAINIER is listed below in a tabular format. As the comparisons are very good, zoning is not recommended.

TIDAL COMPARISONS

Date	Predicted	945-0904	945-0906
April 24, 1978	1007Z (H)	1005Z	*
	1620Z (L)	1620Z	*
	21.0 feet	21.4 feet	*
April 27, 1978	1217Z (H)	1215Z	*
	1841Z (L)	1845Z	*
	18.8 feet	19.0 feet	*
April 30, 1978	1530Z (H)	1530Z	*
	2157Z (L)	2145Z	*
	13.0 feet	12.95 feet	*
May 3, 1978	0648Z (H)	0650Z	*
	1301Z (L)	1250Z	*
	14.3 feet	14.6 feet	*
May 6, 1978	0855Z (H)	0850Z	0850Z
	1505Z (L)	1455Z	1500Z
	18.9 feet	18.9 feet	18.9 feet
May 9, 1978	1039Z (H)	1035Z	1030Z
	1654Z (L)	1655Z	1655Z
	18.2 feet	17.9 feet	18.0 feet
May 12, 1978	1227Z (H)	1220Z	1215Z
	1851Z (L)	1845Z	1850Z
	13.8 feet	13.5 feet	13.4 feet
May 15, 1978	0318Z (H)	0315Z	0310Z
	2131Z (L)	2115Z	2120Z
	9.6 feet	10.4 feet	9.5 feet
May 18, 1978	0606Z (H)	0600Z	0600Z
	1218Z (L)	1210Z	1210Z
	11.6 feet	11.7 feet	11.6 feet
May 21, 1978	0818Z (H)	0815Z	0815Z
	1436Z (L)	1430Z	1435Z
	19.4 feet	19.5 feet	19.5 feet
May 24, 1978	1027Z (H)	1025Z	1025Z
	1649Z (L)	1645Z	**
	22.6 feet	22.7 feet	**

* the gauge was not installed at this time.

** the orifice went dry at low tide so the time of low tide and the range of the tide could not be computed.

Enroute to Whale Passage, Alaska the control gauge at Ketchikan, Alaska was inspected to insure operation, the tide observer was contacted, and second order levels from the staff to three benchmarks were run.

VELOCITY CORRECTOR TAPE LISTING
OPR-0910-RA-78, LAKE BAY, ALASKA
LJ-10-1-67(H-8946)
RA-5-1-78(H-9754)
RA-5-2-78(H-9756)
RA-10-1-78(H-9757)

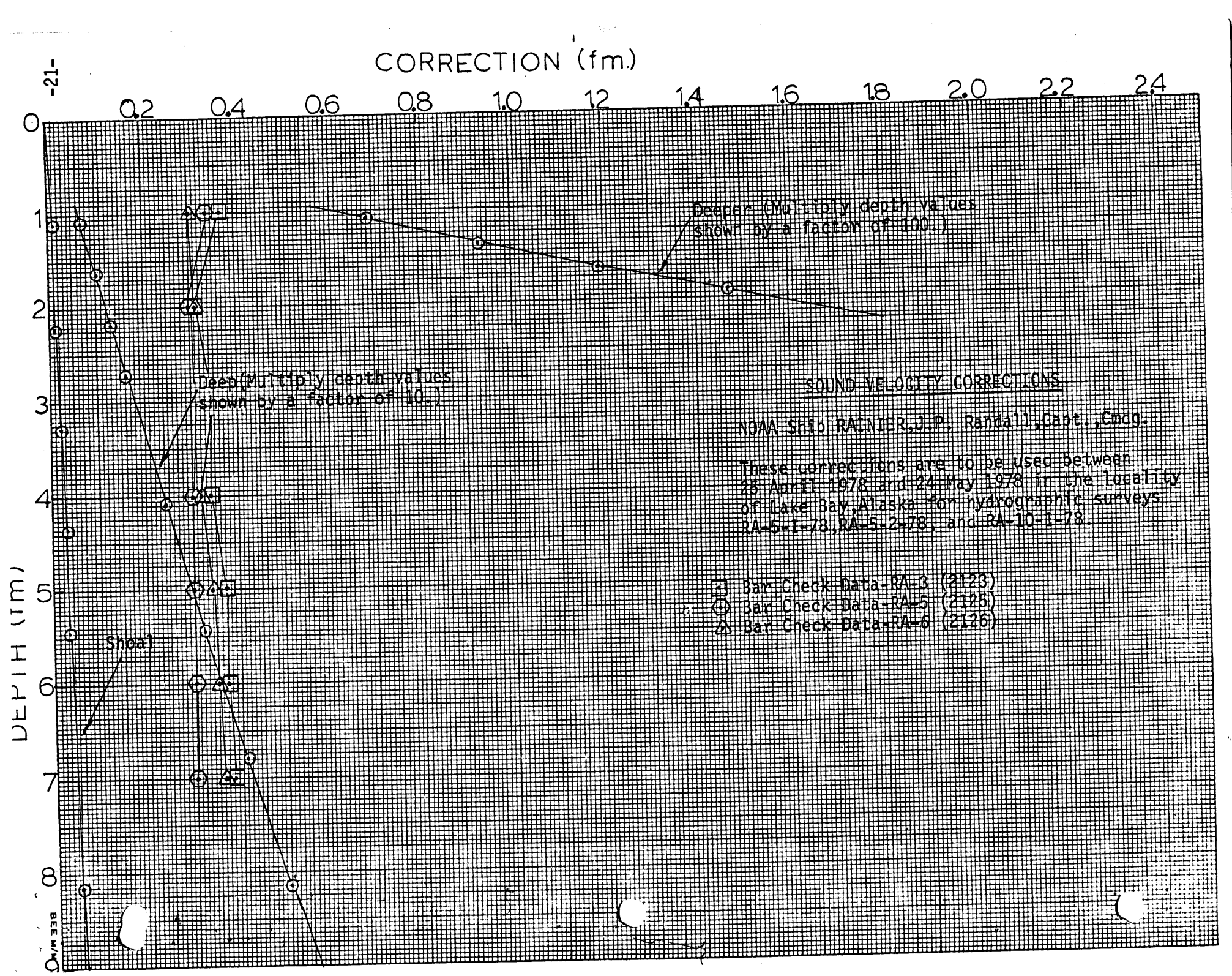
TABLE NO. 1
SCALE - FATHOM

```
000077 0 0000 0001 001 212600 009754
000250 0 0001
000415 0 0002
000590 0 0003
000740 0 0004
000875 0 0005
000980 0 0006
001150 0 0007
001260 0 0008
001380 0 0009
001500 0 0010
001610 0 0011
001700 0 0012
001800 0 0013
001910 0 0014
002000 0 0015
002120 0 0016
999999 0 0017
```

VELOCITY CORRECTOR TAPE LISTING
OPR-0910-RA-78,LAKE BAY,ALASKA
LJ-10-1-67(H-8946)
RA-5-1-78(H-9754)
RA-5-2-78(H-9756)
RA-10-1-78(H-9757)

TABLE NO.3
SCALE - FATHOMS
FOR LEADLINE DETACHED POSITIONS,ROCK D.PS. AND BOTTOM SAMPLES ONLY

000500 0 0000 0003 001 212300 009754
999999 0 0001


CORRECTION (fm.)
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
2.2
2.4
DEPTH (fm)
0
1
2
3
4
5
6
7
8
9
Deeper (Multiply depth values shown by a factor of 100.)
Deep (Multiply depth values shown by a factor of 10.)
Shoal
SOUND VELOCITY CORRECTIONS
NOAA Ship RAINIER, J.P. Randall, Capt., Cmdg.
These corrections are to be used between 25 April 1978 and 24 May 1978 in the locality of Lake Bay, Alaska for hydrographic surveys RA-5-1-78, RA-5-2-78, and RA-10-1-78.
Bar Check Data-RA-3 (2123)
Bar Check Data-RA-5 (2125)
Bar Check Data-RA-6 (2126)

MASTER STATION LIST
OPR-0910-RA-78
LAKE BAY, WHALE PASSAGE, AK

FINAL VERSION

```
101 3  56 04 33397 132 58 30548  250 0007 000000
/BEST 1916  M/R                      561323(1011)

102 6  56 03 45203 132 57 52138  250 0000 000000
/WHALE 1916  M/R                     561323(1146)

103 3  56 06 00496 132 53 40308  250 0000 000000
/SKE 1916  M/R  REAR RANGE           561323(1124)

104 3  56 03 25138 132 41 45050  250 0019 000000
/LINCOLN ROCK WEST LIGHT  1978  M/R       561323

105 3  55 59 03839 132 43 57390  250 0000 000000
/LUCK PT SOUTH BASE 1915  M/R             551324

204 4  56 02 44530 132 52 46230  250 0000 000000
/BARNACLE 1916  M/R  FRONT RANGE     561323(1007)

205 3  56 02 52768 132 55 21184  254 0000 000000
/FUN 1978  M/R                            561323

207 3  56 03 36532 132 55 47320  254 0000 000000
/BAR  M/R

223 3  56 02 02940 132 55 14950  250 0000 000000
/LAKE BAY MAGNETIC STA 1916 (MAG)  M/R 561323(1075)

224 3  56 01 19359 132 52 35986  254 0000 000000
/LOGS  M/R

225 1  56 01 50374 132 53 13029  254 0005 000000
/CLAM  M/R  REAR RANGE

226 3  56 01 05704 132 52 16762  254 0000 000000
/ECHO  M/R

200 6  56 05 02304 132 51 22990  139 0000 000000
/JEN 1916  REAR RANGE                561323(1064)

201 3  56 05 07079 132 52 39845  139 0000 000000
/ROSE 1916  FRONT RANGE              561323(1114)

202 4  56 03 36088 132 54 40627  139 0000 000000
/BUSH 1916                           561323(1021)

203 3  56 03 30404 132 49 51893  243 0000 000000
/TRIPLETS RM 2
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206 3  56 03 17238 132 55 34965  243 0000 000000
/CRY

208 1  56 02 48191 132 51 41336  243 0000 000000
/JOB

209 6  56 02 09546 132 51 24634  243 0000 000000
/NIP

210 0  56 02 19262 132 52 03617  243 0000 000000
/LUG

211 3  56 01 59921 132 51 44652  243 0000 000000
/SAP

212 7  56 01 52998 132 52 21384  243 0000 000000
/PIT

213 6  56 01 57807 132 52 57389  243 0000 000000
/GAR

214 6  56 02 10956 132 50 35154  139 0000 000000
/COFFMAN 1915                      561323(1028)

215 6  56 02 52416 132 51 39104  139 0000 000000
/BECK ISLAND LIGHT 1978            561323(1010)

216 4  56 01 52593 132 50 59979  243 0000 000000
/JIM

217 3  56 01 22817 132 54 51671  243 0000 000000
/DUG

218 3  56 01 42118 132 54 22360  243 0000 000000
/TIP

219 3  56 01 40735 132 55 27974  243 0000 000000
/LOU

220 3  56 01 11697 132 55 42294  243 0000 000000
/POT

221 3  56 01 24347 132 55 32492  243 0000 000000
/DAWA

222 3  56 01 32778 132 53 32889  243 0000 000000
/ACE

227 2  56 01 30200 132 52 43199  243 0000 000000
/BUGS
```

228 5 56 01 28670 132 53 05683 243 0000 000000
/BAT

229 3 56 09 37114 132 49 46922 139 0000 000000
/KEY REEF LIGHTHOUSE 1978 561323(1070)

230 6 56 00 59904 132 48 33595 139 0000 000000
/LUCK PT NORTH BASE 1924 561323(1081)

231 3 56 03 30473 132 49 50452 139 0000 000000
/TRIPLETS 1978

300 4 56 01 19825 132 55 22992 252 0000 000000
/RIP (HYDRO SIGNAL)

301 4 56 01 14132 132 55 26690 252 0000 000000
/OFF (HYDRO SIGNAL)

311 2 56 01 31088 132 52 46202 243 0000 000000
/PHOTO-HYDRO SIGNAL T-12403

313 4 56 01 50318 132 53 13196 243 0000 000000
/PHOTO SIGNAL T-12403

314 4 56 01 54221 132 53 02226 243 0000 000000
/PHOTO SIGNAL T-12403

320 1 56 01 16780 132 50 13880 243 0000 000000
/PHOTO SIGNAL T-12403

321 5 56 01 15476 132 50 41730 243 0000 000000
/PHOTO SIGNAL T-12403

322 5 56 01 21775 132 50 44948 243 0000 000000
/PHOTO SIGNAL T-12403

323 2 56 01 28935 132 50 54288 243 0000 000000
/PHOTO SIGNAL T-12403

324 2 56 01 34209 132 50 36124 243 0000 000000
/PHOTO SIGNAL T-12403

325 3 56 01 33837 132 51 01400 243 0000 000000
/PHOTO SIGNAL T-12403

330 2 56 00 51319 132 49 51823 243 0000 000000
/PHOTO SIGNAL T-12404

331 7 56 00 34839 132 49 53469 243 0000 000000
/PHOTO SIGNAL T-12404

332 5 56 00 28809 132 49 59398 243 0000 000000
/PHOTO SIGNAL T-12404

```
333 3  56 00 34758 132 50 01445  243 0000 000000
/PHOTO SIGNAL                              T-12403

334 3  56 00 42846 132 50 02904  243 0000 000000
/PHOTO SIGNAL                              T-12403

335 4  56 00 49215 132 50 18848  243 0000 000000
/PHOTO SIGNAL                              T-12403

336 3  56 01 01459 132 50 26987  243 0000 000000
/PHOTO SIGNAL                              T-12403

337 3  56 00 29204 132 50 27156  243 0000 000000
/PHOTO SIGNAL                              T-12403

338 0  56 00 21830 132 50 43820  243 0000 000000
/PHOTO SIGNAL                              T-12403

339 3  56 00 11478 132 50 38382  243 0000 000000
/PHOTO SIGNAL                              T-12403

350 3  56 01 56845 132 50 07522  243 0000 000000
/PHOTO SIGNAL                              T-12403

351 3  56 01 31401 132 49 59301  243 0000 000000
/PHOTO SIGNAL                              T-12404

352 4  56 01 17646 132 49 44091  243 0000 000000
/PHOTO SIGNAL                              T-12404

353 3  56 01 21717 132 49 33712  243 0000 000000
/PHOTO SIGNAL                              T-12404

354 3  56 01 08543 132 49 22504  243 0000 000000
/PHOTO SIGNAL                              T-12404

355 3  56 01 00727 132 48 56519  243 0000 000000
/PHOTO SIGNAL                              T-12404

356 3  56 00 53422 132 48 07326  243 0000 000000
/PHOTO SIGNAL                              T-12404

357 3  56 00 44483 132 48 22553  243 0000 000000
/PHOTO SIGNAL                              T-12404

358 3  56 00 38713 132 48 08252  243 0000 000000
/PHOTO SIGNAL                              T-12404

359 5  56 00 23584 132 47 43036  243 0000 000000
/PHOTO SIGNAL                              T-12404

360 5  56 00 14812 132 47 28634  243 0000 000000
/PHOTO SIGNAL                              T-12404
```

APPROVAL SHEET

DESCRIPTIVE REPORT TO ACCOMPANY

HYDROGRAPHIC SURVEY

H-9756

RA-5-2-78

OPR-0910-RA-78

In producing this sheet, standard procedures were observed in accordance with the Hydrographic Manual, PMC OPORDER and the Instruction Manual for Automated Hydrographic Surveys. The data was examined daily during the execution of the survey.

The boatsheet and accompanying records have been examined and are complete and adequate for charting purposes and are approved.

James P. Randall
Captain NOAA
Commanding

NOAA FORM 76-155
(11-72)

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

GEOGRAPHIC NAMES

SURVEY NUMBER

H-9756
(RA-5-2-78)

Name on Survey	A ON CHART NO. 17401, 11382	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	K U.S. LIGHT LIST	
BECK ISLAND	X									1
COFFMAN COVE	X									2
COFFMAN ISLAND	X									3
KASHEVAROF PASSAGE	X									4
PRINCE OF WALES ISLAND	X									5
GULL Rock	X									6
										7
										8
										9
										10
										11
										12
										13
										14
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										21
										22
										23
										24
										25

Approved:

Chas. E. Harrington

Chief Geographer - C3x5

29 JAN 1980

NOAA FORM 76-155 SUPERSEDES C&GS 197

October 11, 1978

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Pacific Marine Center:

Hourly heights are approved for Form 362

Tide Station Used (NOAA Form 77-12): 945-0906 Beck Island, Alaska

Period: April 22 - May 23, 1978

HYDROGRAPHIC SHEET: H-9756

OPR: 0910

Locality: Lake Bay, Alaska

Plane of reference (mean lower low water): 2.4 ft.

Height of Mean High Water above Plane of Reference: 15.1 ft.

Remarks: Zone Direct

Don M. Spillman
By Chief, Tides Branch

NOAA FORM 77-27 (5-77) | U. S. DEPARTMENT OF COMMERCE NOAA | HYDROGRAPHIC SURVEY NUMBER

HYDROGRAPHIC SURVEY STATISTICS

H-9756

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	BOAT SHEETS & PRELIMINARY OVERLAYS	2 & 4
DESCRIPTIVE REPORT	1	SMOOTH OVERLAYS: POS 1, ARC 2, EXCESS	3

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES			1-Smooth			
CAHIERS	2- with printouts & misc. data					
VOLUMES	1					
BOXES						

T-SHEET PRINTS (List) T-12403, T-12404 (2 parts)

SPECIAL REPORTS (List) 1- tide plot, 1- contour plot & 1- Sht. mark-up

OFFICE PROCESSING ACTIVITIES

The following statistics will be submitted with the cartographer's report on the survey

PROCESSING ACTIVITY	AMOUNTS: PRE-VERIFICATION	AMOUNTS: VERIFICATION	AMOUNTS: TOTALS
POSITIONS ON SHEET			2031
POSITIONS CHECKED		2031	
POSITIONS REVISED		14	
SOUNDINGS REVISED		51	
SOUNDINGS ERRONEOUSLY SPACED		Ø	
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED		Ø	
	TIME — HOURS		
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)	10		
VERIFICATION OF CONTROL		8	
VERIFICATION OF POSITIONS		58	
VERIFICATION OF SOUNDINGS		208	
COMPILATION OF SMOOTH SHEET		54	
APPLICATION OF TOPOGRAPHY		38	
APPLICATION OF PHOTOBATHYMETRY			
JUNCTIONS		16	
COMPARISON WITH PRIOR SURVEYS & CHARTS		27	
VERIFIER'S REPORT		39	
OTHER		25	
TOTALS	10	473	

	Beginning Date	Ending Date
Pre-Verification by: A.E. Eichelberger	11-16-78	11-17-78
Verification by: Thelma O. Jones	12-19-78	8-16-79
Verification Check by: A.E. Eichelberger & James S. Green	Time (Hours): 38	Date: 8-31-79
Marine Center Inspection by: HIT	Time (Hours): 13	Date: 9-14-79
Quality Control Inspection by: K. W. Wellman	Time (Hours): 127	Date: 1-28-80
Requirements Evaluation by: D. J. Hill	Time (Hours): 4	Date: 5/23/80

D Myers 3/22/80 29 hrs.

REGISTRY NO. _____

The Computer and Excess Sounding Cards for this survey have not been corrected to reflect the changes made to the Computer Card and Excess Card Printouts at this time of the review.

When the cards have been updated to reflect the final results of the survey, the following shall be completed:

CARDS CORRECTED

DATE_____ TIME REQUIRED_____ INITIALS_____

REMARKS:

REGISTRY NO. H-9756

The magnetic tape containing the data for this survey has not been corrected to reflect the changes made during evaluation and review.

When the magnetic tape has been updated to reflect the final results of the survey, the following shall be completed:

MAGNETIC TAPE CORRECTED

DATE_____ TIME REQUIRED_____ INITIALS_____

REMARKS:

PACIFIC MARINE CENTER
VERIFIER'S REPORT

REGISTRY NO: H-9756 FIELD NO: RA-5-2-78

Alaska, Kashevarof Passage, Coffman Cove to Beck Island

SURVEYED: April 24 - May 24, 1978

SCALE: 1:5,000 PROJECT NO: OPR-0910

SOUNDINGS: Ross Fineline Fathometer 4000 CONTROL: Visual-Digital Sextant

Chief of Party.....CAPT J.P. Randall
Surveyed by.....LTJG D.G. Brockhouse, ENS B.F. Hillard
Automated plot by.....Xynetics Plotter (PMC)
Verified by.....Thelma O. Jones
August 16, 1979

I. INTRODUCTION

This survey was to be a field edit project, in accordance with Project Instructions dated February 10, 1978, Change No. 1, dated April ~~12~~ 5, 1978. Hydrography was performed per Change No. 2, Supplement to Instructions dated May 11, 1978.

The area surveyed included a section extending south from Beck Island to Coffman Island including Coffman Cove and the waters northeast in Kashevarof Passage. The survey was conducted between April 24 and May 24, 1978.

Projection parameters used to prepare the boatsheet have been revised to center the hydrography on the smooth sheet. Parameters used for the smooth sheet are listed in the smooth printout.

Predicted tides for Whale Passage were used for field reduction of soundings. Approved tidal data from Beck Island was used for final reduction of soundings. (See Q.C. Report - item 12)

II. CONTROL AND SHORELINE

Horizontal control is adequately described in Section F and G of the Descriptive Report.

Signal 332, which falls outside the high water line, was not described in the hydrographic records.

The master station list as shown in the Descriptive Report has been amended to show only those stations used for control of this survey.

The Class I unreviewed photogrammetric manuscripts utilized for this survey, with their respective dates of photography and field edit are:

T-12403	1966-1978
T-12404	1966-1978

The lack of photo coverage for Beck Island necessitated transference of the shoreline from the field sheet. (The field sheet source is Chart 17401). The shoreline is for orientation only, and is shown in brown ink on the smooth sheet. (See Q.C. Report-item 1)

Due to conflicts between the portrayal of hydrography and foul limit lines, the lines were omitted from the smooth sheet, and the word "foul" shown wherever possible.

The following are discrepancies found to exist between the Field Edit Report and the Class I manuscript T-12404:

Section 52, paragraph 7, page 2. The area described is still shown as foul, with no mention of gravel and mud.

Section 52, paragraph 8, page 2. There are two separate areas shown on the manuscript. The larger of the areas, at latitude 56°01'10"N, longitude 132°48'57"W is the location of the two rocks located by hydrography (pos. 1012, and 1013). The smaller area at latitude 56°01'13"N, longitude 132°49'01"W, shows no indication of a rock.

The dashed circle was shown on the smooth sheet to show the approximate location of the ~~rock~~ foul area. Recommend the photo (66L5854) be examined and the rock charted accordingly. (See Q.C. Report-item 2)

The following ~~topographic~~ features were observed during hydrography, and noted in the raw records, but were not accurately located. These features were plotted on the smooth sheet during verification. The geographic positions given below for the features are the same as the position of the launch at the time of observation.

pos #302705 - fallen tree at latitude 56°01'12.5"N, longitude 132°49'51"W
pos #3321 - boat ramp at latitude 56°00'44.5"N, longitude 132°49'45.67"W
pos #3379 - kelp at latitude 56°01'27.40"N, longitude 132°49'57.93"W
pos #339404 - deadhead at latitude 56°01'23.21"N, longitude 132°50'21.03"W
pos #6363 - kelp at latitude 56°02'15.29"N, longitude 132°51'20.38"W
pos #6554 - kelp at latitude 56°02'13"N, longitude 132°51'13.77"W

III. HYDROGRAPHY

Crosslines are in good agreement with the main scheme lines. Soundings agree within a fathom. (See Q.C. Report-item 6)

Standard depth curves could be adequately drawn.

The bottom configuration and least depths are adequately delineated, except for the following shoal areas.

4.4 fathoms at latitude 56°02'44"N, longitude 152°51'27"W
9.3 fathoms at latitude 56°02'07"N, longitude 152°49'46"W
9.4 fathoms at latitude 56°01'32"N, longitude 152°49'32"W
4.8 fathoms at latitude 56°01'21"N, longitude 152°48'49"W
9.1 fathoms at latitude 56°02'0.5"N, longitude 152°49'55"W

There are thirty seven bottom samples within the limits of this survey.

IV. CONDITION OF SURVEY

The hydrographic records, overlays, smooth sheet and reports are adequate and conform to the requirements of the Hydrographic Manual, except for the following:

1,A. There were no developments of the shoal areas listed in Section III above.

2,B. Comparison was not made with all prior surveys of the area, for complete coverage.

3,C. There was no investigation of the deeper depth of 4.4 fathoms falling at the location of a charted shoal of 3 fathoms (latitude 56°02'44"N, longitude 152°51'21"W), nor was there any recommendation given for disposition.

4,D. There was no investigation of charted submerged dolphins in Coffman Cove.

V. JUNCTIONS

H-9756 junctions with contemporary surveys H-9757 (1978) to the northwest, and H-9754 (1976) to the west.* Junction soundings were in good agreement, within a fathom, except where position differences resulted in a disagreement within 2 fathoms. A shoaler depth of 29 fathoms at latitude 56°02'55.5"N, longitude 132°51'18"W was transferred from H-9757. Due to the large overlap in the junction area of H-9754, numerous soundings were transferred to reconcile the depth curves. (See Q.C. Report-item 4)

*Not available during Q.C. Inspection.

The junction curves and notes were inked accordingly.

VI. COMPARISON WITH PRIOR SURVEYS

A. H-1742 (1886) 1:80,000
H-1745 (1886) 1:10,000
H-2797 (1905) 1:10,000
H-3943 (1916) 1:20,000

H-1742 and H-1745 were of little value as comparison surveys, due to lack of grids, date of surveys and scales.

H-2797 showed good comparison of soundings, intermingled with general depth differences ranging to ± 7 fathoms, with maximum differences of 12 fathoms. The rocks and islet in the vicinity of latitude 56°02'00"N-56°02'15"N, longitude 132°51'00"W-132°51'15"W are in the same general location on the present survey.

reveals areas of good general agreement intermingled with scattered depth differences ranging from +4 to -8 fathoms.
Sounding comparison with H-3943, ~~was within a fathom.~~ The ~~rock and~~ shoal shown on the prior at latitude 56°01'18"N, longitude 132°49'00"W, is now depicted as an islet and shoal area. Shoreline changes are probably due to natural ~~attrition.~~ causes.

One rock was transferred from H-3943 at latitude 56°01'14", longitude 132°50'37".
Additional supplemental comments are included in the QC Report-item 8.
H-9756 is adequate to supersede all prior surveys in areas of common hydrography.

B. (See QC Report-item 9)
There are no presurvey review items for this survey.

VII. COMPARISON WITH CHARTS 17401 (7th Edition, June 18, 1977)
17382 (11th Edition, March 26, 1977)

A. Hydrography

The source of most of the charted hydrography and shoreline originated with the prior surveys mentioned in Section VI, as indicated on the chart mark-up.

The charted rocks verified, and new rocks found by hydrography are listed in Table 1 of the Descriptive Report.

The rock designated "B" is apparently a new rock. There is no charted rock at that location. There is a charted submerged rock at latitude 56°02'05"N, longitude 132°51'31"W, that was probably mistaken for rock "B". The verifier recommends that the new rock be charted. ~~and the existing rock remain as charted.~~ The area in the vicinity of the referenced charted rock should be revised to agree with the present survey.
The rocks designated "K" and "KK" are proximal, therefore only "KK" (position 3359) was plotted on the smooth sheet.
A 10 fm. depth, from an unknown source, charted at latitude 56°01'18"N/longitude 132°48'28"W falls adjacent to a 17.3 fathoms ~~19.9 fm~~ sndg. on H-9756. IT IS recommended the source be determined, and if reliable, continue to be charted. (See QC Report-item 10)
The 3 fathom peak at latitude 56°02'44"N, longitude 132°51'27"W was not disproved by hydrography. Recommend it remain as charted.

There was no investigation of the charted submerged dolphins between latitude 56°00'45"N-56°01'00"N, longitude 132°49'45"N-132°50'00"W. Recommend retention as charted.

The log booms charted in the vicinity of latitude 56°01'00"N, longitude 132°50'00"W, are relocated frequently as reported to the RAINIER field editor by the logging company personnel. Consequently, the log boom was not incorporated in this survey. It is recommended that the log booms be retained on the chart, since in all probability the location would still be in the same general area.

It is recommended that the additional rocks located on this survey be charted.
(See QC Report-item 11)
The following rocks are charted and not disproven by this survey. They originate ~~from~~ with an unknown source. It is recommended the source be researched, and if reliable, the rocks be retained as charted.

Latitude	Longitude
56°01'12"	132°49'18"
56°00'58"	132°50'29"

A rock charted at latitude 56°01'58", longitude 132°50'05" was not verified during this survey. A rock was located 30 meters west of the charted position. It is recommended the rock charted at the above location be deleted and the rock from H-9756 be charted.

This survey is adequate to supersede all charted hydrography of common areas, except as noted above.

B.b. Aids to Navigation

There is one fixed aid to navigation within the limits of this survey. Beck Island Light is charted properly and adequately serves the purpose for which it was intended.

VIII. COMPLIANCE WITH PROJECT INSTRUCTIONS

This survey adequately complies with the Project Instructions dated February 10, 1978, Change No. 1 dated April 5, 1978 and Change No. 2, dated May 11, 1978.

IX. ADDITIONAL FIELD WORK

This is a fair hydrographic survey, adequate for the purpose for which it was intended. However, since Coffman Cove is reported to be an active logging and fishing community, a 1:5000 scale chart inset is recommended.

Respectfully submitted,

Thelma O. Jones

Thelma O. Jones
Cartographic Technician
August 16, 1979

Examined and approved,

James S. Green
Chief, Verification Branch

APPROVAL SHEET

FOR

SURVEY H- 9756

A. All revisions and additions made on the smooth sheet during verification have been entered in the magnetic tape records for this survey. A new final position print-out has been made. A new final sounding print-out has been made.

B. The verified smooth sheet has been inspected, is complete, and meets the requirements of the Hydrographic Manual. Exceptions are listed in the verifier's report.

Date: Aug 6, 1979

Signed: [signature]

Title: Chief, Verification Branch

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Pacific Marine Center
1801 Fairview Avenue E
Seattle, WA 98102

DATE : September 18, 1979 OA/CPM3/JWC

TO : OA/CPM - Eugene A. Taylor

FROM : OA/CPM3 - John W. Carpenter

SUBJECT: PMC Hydrographic Inspection Team Report for Survey H9756

This survey is a basic hydrographic survey of a portion of Kashevarof Passage, Alaska. This survey was conducted by NOAA Ship RAINIER in 1978 in accordance with Project Instructions OPR-0910-RA-78 dated February 10, 1978, Change No. 1 dated April 5, 1978, and Change No. 2 dated May 11, 1978.

The following items were noted:

1. The fallen tree at Latitude 56°01'12.5"N and Longitude 132°49'45.5"W and the deadhead at Latitude 56°01'20.7"N and Longitude 132°50'20.3"W are approximate positions. At the direction of OA/CPM3, John W. Carpenter, the notation of (PA) has been added to the smooth sheet in order to better describe their location.

2. The tide report was excellent.

3. The Descriptive Report was written very well but the Chart Comparison section was not complete. See verifier's report for details.

4. Many shoal areas were not developed. Development of these areas should be considered for additional field work, specifically at the following location:

Latitude	Longitude
56°01'24"N	132°50'31"W
56°01'28"N	132°50'40"W
56°01'17"N	132°50'29"W
56°02'00"N	132°49'55"W
56°02'06"N	132°49'45"W
56°02'12"N	132°50'10"W
56°02'45"N	132°51'27"W
56°01'33"N	132°49'32"W

5. There is a problem with the floating pier at Latitude 56°00' 40.3"N, Longitude 132°49'45.5"W. The hydrographic data (launch

positions and hydrographer comments) and the recollection of individuals present in the survey area indicate a conflict with the portrayal shown on the Class I manuscript. Coastal Mapping was queried and confirmed the manuscript portrayal as that resulting from the field edit data. Although we believe that the Class I portrayal is incorrect, there is insufficient data to justify its being changed. The floating pier is portrayed on the smooth sheet as shown on the Class I manuscript. A field comparison of the field edit data with the hydrographic data may have precluded the occurrence of this situation.* Consideration should be given to updating the aerial photography which is 12 years old.

*(See Q.C. Report-item 13)

The inspection team finds H-9756 to be a fair basic survey adequate to supersede common areas of prior surveys and charted hydrography. Administrative approval is recommended.

John W. Carpenter

David B. MacFarland, Jr.

James W. Steensland

Stanley H. Otsubo

ADMINISTRATIVE APPROVAL
H-9756

The smooth sheet and reports of this survey have been examined and the survey is adequate for charting and to supersede common areas of prior surveys.

E A Taylor

Eugene A. Taylor, RADM
Director
Pacific Marine Center

28 Sept. 1979
Date

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Rockville, Md. 20852

OA/C352:KWW

January 28, 1980

TO: Glen R. Schaefer
Chief, Hydrographic Surveys Division

THRU: Chief, Quality Control Branch

FROM: K. W. Wellman
Quality Evaluator

SUBJECT: Quality Control Report for H-9756 (1978), Alaska, Kashevarof Passage, Coffman Cove to Beck Island

A quality control inspection of H-9756 was accomplished to monitor the survey for obvious deficiencies with respect to data acquisition, delineation of the bottom, determination of least depths and navigation hazards, junction, shoreline transfer, decisions and actions by the verifier, and cartographic presentation of data.

In general, the present survey was found to conform to National Ocean Survey standards and requirements except as discussed in the Verifier's Report, the HIT Report, and as follows:

1. Reference section H of the Descriptive Report:

The comments pertaining to the sources of the shoreline are considered misleading because the shoreline of Beck Island (vicinity of latitude 56°02.85'N, longitude 132°51.65'W) is not shown on T-12403. The shoreline of Beck Island as shown on the field sheet is considered to originate with chart 17401; however, the field sheet portrayal of the Beck Island shoreline is extremely disproportionate to that shown on the chart. Appropriate revisions of the shoreline at Beck Island appearing on the smooth sheet were accomplished during quality control inspection.

The field sheet was incorrectly addressed as the smooth sheet in comments made by the hydrographer. These statements were properly annotated as "smooth field sheets" during quality control. (See sections 4.2.1 and 7.1 of the Hydrographic Manual.)

Section IV of the Verifier's Report is supplemented by the following:

E. The shoreline for Beck Island does not originate with the shoreline manuscripts as indicated by the hydrographer. This fact, along with an

appropriate reference to the source of shoreline for Beck Island, should have been referenced in section H of the Descriptive Report.

2. The foul area depicted on the photograph in the vicinity of latitude 56°01.22'N, longitude 132°49.02'W was improperly noted as "RK" on the smooth sheet. The label RK is defined to be a pinnacle which rises abruptly from the bottom and is identified as rock. In this case, there is no evidence that such a feature exists. The RK was replaced by the label foul during quality control.

The cross-referenced comments in section II of the Verifier's Report are supplemented by the following:

The aerial photography was examined by the Coastal Mapping Division at AMC and no rock is visible in the area. The chart should be revised to agree with the present survey.

3. The junction between the present survey and H-9757 (1978) was deficient in that depth curves were not drawn so as to be in coincidence. (See C35 memo, November 16, 1978, "Accuracy Standards for Junctional Curves.") In addition, several soundings transferred from the present survey to adjoining survey H-9757 were displaced as much as 15 meters from the corresponding position on the present survey. Further, the shoreline of Beck Island was in obvious disagreement between the two sheets, despite the fact that the chart comprises the source of the shoreline shown on the present survey as well as on adjoining survey H-9757. Appropriate revisions were effected in the junctional area during quality control inspection.

4. Reference section V of the Verifier's Report:

The Verifier's Report was lacking the required reference to the year(s) when the field work on the adjoining surveys was performed. (See section 6.6(10) of the Hydrographic Manual.) The referenced section of the Verifier's Report was appropriately annotated during quality control inspection.

5. Several smooth plotted notations pertaining to rock elevations and one notation pertaining to a depth on a submerged rock were unnecessarily displaced from the intended features. All smooth sheet notations should be placed in proximity to the corresponding feature when sufficient space is available. (See section 7.3.7.5 of the Hydrographic Manual.) Appropriate revisions were effected during quality control inspection.

6. Irreconcilable scattered crossline differences ranging to as much as 3 fathoms were noted during quality control inspection. The survey records provide no reason for such differences. In these cases, the most likely bottom configuration should be delineated by judiciously rejecting certain soundings. Appropriate comments should be included in the Verifier's Report.

7. An anomalous combination of soundings and depth curves in the vicinity of latitude 56°01.92'N, longitude 132°51.55'W necessitated an examination of the pertinent survey records. The raw data listing indicates that the left angle of fix 685700 is questionable. The smooth plotted soundings (positions 685601-685700) were therefore rejected since no sufficiently reliable revision of the affected sounding line could be accomplished. The depth curves were revised during quality control inspection thus effecting the delineation of the most likely bottom configuration in the area. Such anomalous soundings and depth curves may be an indication of erroneous data and should, therefore, be examined carefully during shipboard and Marine Center processing.

8. Reference section VI of the Verifier's Report:

The cross-referenced comments pertaining to prior surveys H-2797 and H-3943 are considered erroneous since greater depth differences were noted during quality control inspection. The referenced section of the Verifier's Report was appropriately annotated during the quality control inspection. Further, the required references to the probable cause(s) of the noted depth differences were not included in the referenced section of the Verifier's Report. (See section 6.6(11) of the Hydrographic Manual and C35x2 memo, March 21, 1977, "Verifier's Report Format.")

Section VI of the Verifier's Report is supplemented by the following:

Further, the comparisons revealed minor random differences in the size and configuration of islands and shoreline features. The noted depth and shoreline differences are attributed to natural causes and to less accurate survey methods employed on the prior surveys. Two rocks awash were carried forward as submerged rocks to supplement the present survey. Due to the lack of common triangulation stations and distortion of the prior smooth sheet, an approximate datum shift was determined for H-2797. The rock retained from H-2797 was transferred by determining the most likely datum difference(s) on the basis of the best local fit of significant common topographic features. The rock transferred from H-2797 was designated as "PA" on the present survey smooth sheet due to the indeterminate datum shift in the area.

9. Reference section VI of the Verifier's Report:

The referenced section of the Verifier's Report is deficient in that there is no reference to prior wire-drag surveys H-3793 (1915-16) WD and H-3904 (1916) WD. These prior surveys cover portions of the present survey area and should have been considered during verification.

Section VI of the Verifier's Report is supplemented by the following:

B.	H-3793	(1915-16)	WD	1:40,000
	H-3904	(1916)	WD	1:20,000

Present survey depths of 6.6 and 7.3 fathoms (vicinity of latitude 56°02.32'N, longitude 132°50.40'W) conflict with cleared depths of 45 feet on H-3904 WD. In addition, a present survey depth of 8 fathoms (vicinity of latitude 56°02.32'N, longitude 132°50.12'W) falls within an area cleared to 50 feet on H-3793 WD. Except as noted above, there are no other conflicts between present survey depths and cleared areas on the prior wire-drag surveys. The noted conflicts are attributed to natural causes. The cleared depths in proximity to the shoaler conflicting soundings on the present survey are considered invalidated and should be disregarded.

Four soundings were carried forward from the prior wire-drag surveys to supplement the present survey.

10. Reference the cross-referenced comments in section VII-A of the Verifier's Report:

The charted 10-fathom sounding originates with prior survey H-3793 (1915-16) WD. The sounding is shown as 64 feet on the referenced source document and was carried forward as a 10.7-fathom sounding to supplement the present survey.

11. Section VII-A of the Verifier's Report is supplemented by the following:

Attention is directed to the rock charted in the vicinity of latitude 56°01.91'N, longitude 132°51.91'W. The rock originates with an unascertainable source. It is not verified or disproved by the present survey and is referred to the compiler for evaluation and appropriate action.

12. Smooth tide correctors for Julian day 114 are not included in either the Smooth Tide Listing or the Smooth Sounding Listing. As a result, the verifier's reduction of field observations for the rocks at detached positions 1012-13 could not be readily corroborated. The Smooth Tide Listing should be sufficiently comprehensive to cover the period of field work in the survey area.

The Verifier's Report should have included pertinent comments to clarify the methods used to reduce the referenced field observations. Information obtained from the Tides Branch revealed that the smooth plotted notes pertaining to the rocks are acceptable.

13. Section 5 of the HIT Report is supplemented by the following:

The hydrographer's attention is directed to section 7.2.4 of the Hydrographic Manual. Suitable sketches should accompany recorded comments to aid in resolving conflicts which may arise.

cc:
OA/C35
OA/C351

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Rockville, Md. 20852

OA/C351:DJH

JUN 19 1980

TO: OA/CPM - Eugene A. Taylor

FROM: ~~F/OA/63 - Roger F. Lanier~~

SUBJECT: H-9756 (1978), OPR-0910, Alaska, Kashevarof Passage, Coffman Cove to Beck Island, Report of Compliance with Project Instructions

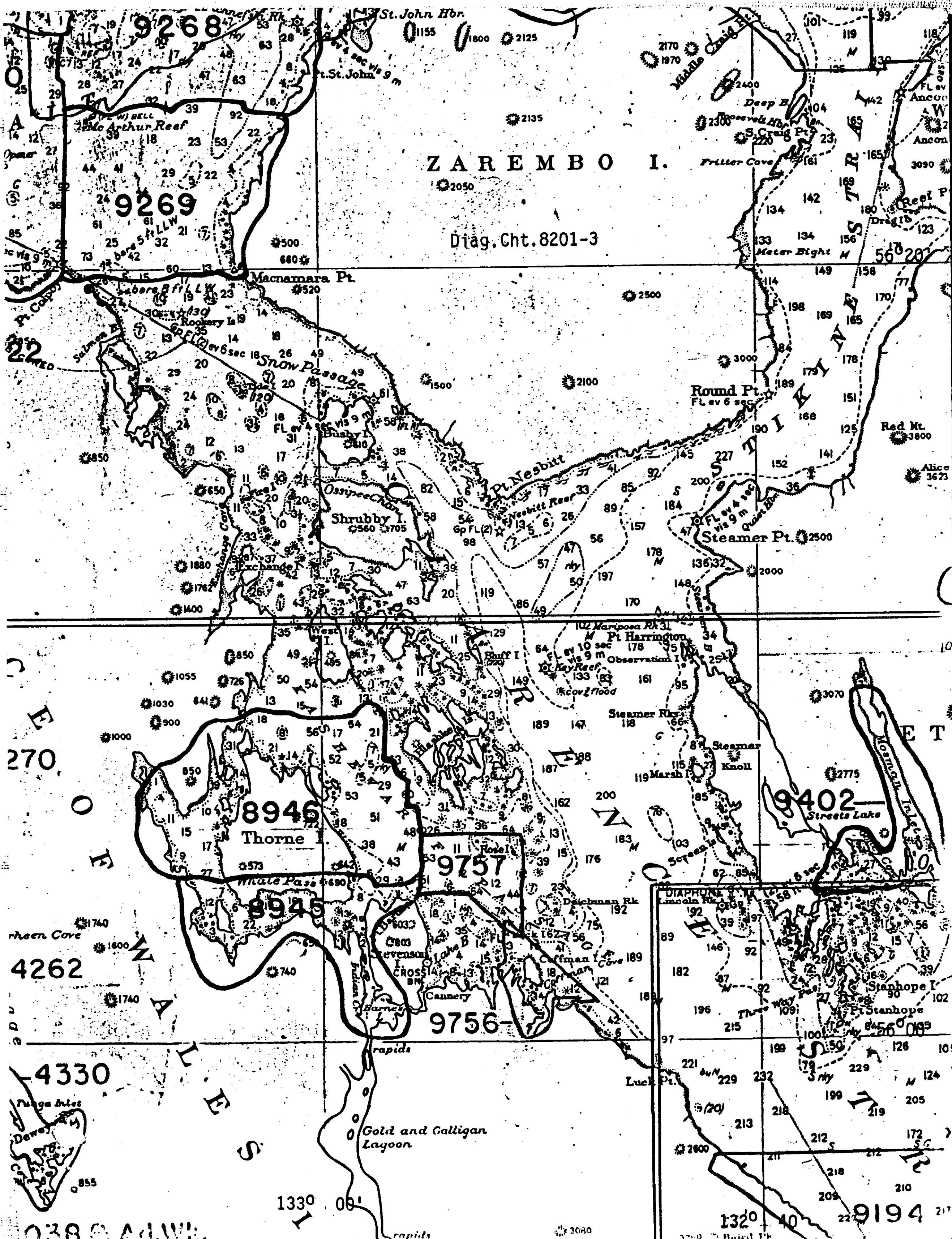
The smooth sheet and Descriptive Report for the subject survey have been examined. In addition to the Quality Control Report, dated January 28, 1980 (copy attached), and the Hydrographic Survey Inspection Team Report, dated September 18, 1979, the following is submitted:

The 37-inch width of the smooth sheet with soundings plotted within 1.5 inches of the east edge is in conflict with specifications contained in section 1.2.4 of the Hydrographic Manual.

Except as noted, the survey is complete and adequate for the purposes intended and is in compliance with Project Instructions OPR-0910-RA-78, dated February 10, 1978.

Attachment

cc:
OA/C352 w/o att.



ZAREMBO I.
Diag. Cht. 8201-3
St. John Hbr.
Pt. St. John
McArthur Reef
9268
9269
Macnamara Pt.
Rookery Is.
Snow Passage
Bushy I.
Ossipee Chan.
Shrubby I.
Exchange I.
Pt. Nesbitt
Nesbitt Reef
Round Pt.
Steamer Pt.
Deep B.
Roosevelt Hbr.
S. Craig Pt.
Fritter Cove
Meter Bight
Middle Craig
Ancon
Drag I.
Red Mt.
Alice
West I.
Bluff I.
Key Reef
Mariposa Rk.
Pt. Harrington
Observation I.
Steamer Rks.
Steamer Knoll
Marsh I.
Streets Lake
Mosman Inlet
9402
8946
Thorne I.
Whale Pass
8945
9757
Rose I.
Deichman Rk.
Lincoln Rk.
Coffman Cove
Stevenson I.
Cannery
Barnes
9756
Stanhope I.
Pt. Stanhope
Three Way Pass
9194
rapids
Gold and Galligan Lagoon
133° 00'
132° 40'
56° 20'
56° 00'
270
4262
4330
Tunga Inlet
Dewey

FORM C&GS-8352
(3-25-63)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. 9756

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
17382	1/28/81	Naitoh	~~Full~~ Part ~~Before~~ After Verification Review Inspection Signed Via
			Drawing No. 15
17360	2/25/81	A. Stemkel	~~Full~~ Part ~~Before~~ After Verification Review QC Inspection Signed Via
			Drawing No. 29 Applied critical corrections thru 17382
			/ RCN
17401	9/21/82	Lochman	Full ~~Part Before~~ After Verification Review QC Inspection Signed Via
			Drawing No. 7 Fully appl'd hydro
17382	9/22/82	Lochman	Full Part Before After Verification Review QC Inspection Signed Via
			Drawing No. 16 Fully appld hydro through
			chart 17401 in common area, directly to chart outside
17360	9/22/82	Lochman	Full Part Before After Verification Review Inspection Signed Via
			Drawing No. 30 Fully appld hydro through 17382
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
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			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.

FORM C&GS-8352 SUPERSEDES ALL EDITIONS OF FORM C&GS-976.

USCOMM-DC 8558-P63