

H-10064

Diagram No. 8102-3

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey ... Navigable Area Hydrographic ...

Field No. RA-10-10-82

Office No. H-10064

LOCALITY

State Alaska

General Locality ... Boca De Quadra

Locality Six Miles NE of Bactrian Point

1982

CHIEF OF PARTY

CAPT R. J. Land

LIBRARY & ARCHIVES

DATE March 1, 1984

☆U.S. GOV. PRINTING OFFICE: 1980-786-230.

H-10064

AREA 6

CHTS:

17427 } to sign off see
17420 } Record of Application

HYDROGRAPHIC TITLE SHEET

H-10064

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

FIELD NO.

RA-10-10-82

State Alaska

General locality Boca de Quadra

Locality Six miles NE of Bactrian Point

Scale 1:10,000

Date of survey November 8-18, 1982

Instructions dated June 2, 1982

Project No. OPR-0361-RA-82

Vessel NOAA Ship RAINIER Launches 2123, 2124, 2125, and 2126

Chief of party R. J. Land, CAPT, NOAA

Surveyed by LT J. O'Clock, LT S. Ludwig, ENS R. Koehler, ENS J. Judson, ENS B. Postle, ENS W. Logue

Soundings taken by echo sounder, hand lead, pole, Ross Finline

Graphic record scaled by RAINIER personnel

Graphic record checked by RAINIER personnel

Verified

~~Reviewed~~ by R. Davies, J. Shafner

Automated plot by PMC Xynetics Plotter

Evaluated

~~Reviewed~~ by K. M. Scott

Soundings in fathoms ~~xxx~~ at ~~xxx~~ MLLW

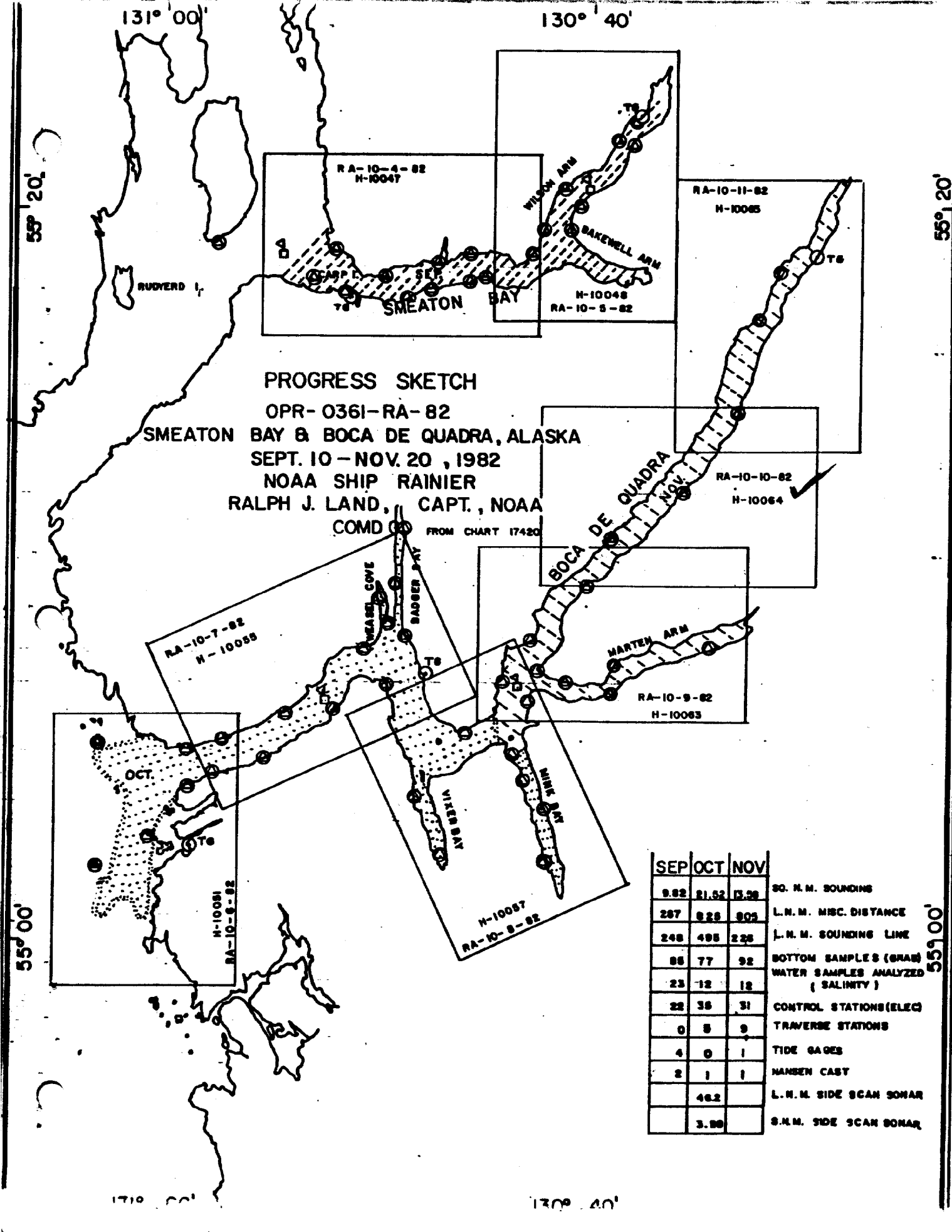
REMARKS: Comments in black ink by evaluator

3-584 STANDARDS CLUD

Clay

AWOIS - 6/28/84 MJA

SA 4-22-97



PROGRESS SKETCH
 OPR-0361-RA-82
 SMEATON BAY & BOCA DE QUADRA, ALASKA
 SEPT. 10 - NOV. 20, 1982
 NOAA SHIP RAINIER
 RALPH J. LAND, CAPT., NOAA
 COMD FROM CHART 17420

SEP	OCT	NOV	
9.82	21.52	13.29	SO. N.M. SOUNDING
287	828	903	L.N.M. MISC. DISTANCE
248	495	225	L.N.M. SOUNDING LINE
85	77	92	BOTTOM SAMPLES (GRAM)
23	12	12	WATER SAMPLES ANALYZED (SALINITY)
22	35	31	CONTROL STATIONS (ELEC)
0	5	9	TRAVERSE STATIONS
4	0	1	TIDE GAGES
2	1	1	HANSEN CAST
	46.2		L.N.M. SIDE SCAN SONAR
	3.89		S.N.M. SIDE SCAN SONAR

55° 00'

A. PROJECT

Hydrographic survey H-10064 (RA-10-10-82) was conducted in accordance with Project Instructions OPR-0361-RA-82, Smeaton Bay and Boca de Quadra, Alaska dated June 2, 1982, with the following changes: Change No. 1, Supplement to Instructions, dated July 28, 1982, and Change No.2, Amendment to Instructions, dated August 23, 1982.

B. AREA SURVEYED

The northern arm of Boca de Quadra was surveyed from approximately 51°10.1'N to approximately 51°14.1'N. Dates of this survey were JD 312 to 322.

C. SOUNDING VESSELS

All sounding data, detached positions and bottom samples were obtained by RAINIER hydrographic launches RA-3 (2123), RA-4 (2124), RA-5 (2125), and RA-6 (2126). RA-5 collected all bottom samples.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

Introduction

All information contained in this section is applicable to survey H-10064. Sounding equipment is discussed as well as corrections, which include sound velocity, draft, settlement and squat, instrument corrections for blanking, and phase and initial drift errors. Analog interpretation problems are also discussed.

Sounding Equipment

Echo soundings obtained during survey H-10064 were taken by RAINIER launches RA-3 (2123), RA-4 (2124), RA-5 (2125), and RA-6 (2126). RA-5 was used for bottom sampling only. Each launch was equipped with Ross Fineline Fathometer systems. These systems include the following Ross components: model 400 transceivers, model 5000 analog trace recorders, model 6000 digitizers, and 100 khz transducers. The serial numbers of these components are summarized in Table I.

TABLE I
Echo Sounding Component Serial Numbers

<u>Launch</u>	<u>2123</u>	<u>2124</u>	<u>2125</u>	<u>2126</u>
Transceiver	1041	1040	1042	1080
Analog	1071	1042	1070	1046
Digitizer	1041	1080	1042	1040

Sound Velocity Corrections

Two Nansen casts were performed in order to determine sound velocity corrections. Table II summarizes the Nansen cast data.

TABLE II
Nansen Cast Data

<u>Date</u>	<u>Location</u>	<u>Velocity Table</u>
18 OCT 82	55°06.5'N 130°52.6'W	8
18 NOV 82	55°06.9'N 130°43.3'W	8

Water samples obtained from the Nansen casts were analyzed for salinity using a Beckman model No. RS-713 salinometer (S/N 59265) and standard laboratory procedures (see H.O. 607, Instruction Manual for Obtaining Oceanographic Data, Third Edition, U.S. Naval Oceanographic Office, 1968). The salinometer was last calibrated in April, 1982 by the Northwest Regional Calibration Center, Bellevue, Washington. The calibration results are provided in the separates following the text.

Velocity correction tables were yielded by inserting the Nansen cast results into computer program RK530: Velocity Correction Computations (May 19, 1976 version) which was run on RAINIER's PDP 8/e digital computer system.

The standard velocity correctors for this survey were obtained by graphing the actual depths minus velocity corrections versus velocity correction and picking off depths that corresponded to standard correction intervals (see Hydrographic Manual, Fourth Edition, 1976). A list of computed correctors is provided in the separates following the text.

Launch Draft Corrections

Corrections for launch draft were determined from standard bar checks (see Hydrographic Manual, Fourth Edition, 1976). Bar checks were performed daily, except when wind or rough seas prevented launch personnel from obtaining accurate bar check data.

Mean fathometer depth values were corrected for velocity and subtracted from the true bar depths. The resulting values agreed with the historic value of 0.3 fathoms for the survey launch's TRA's except for RA-3. The TRA for RA-3 was computed to be 0.45 fathoms which agrees with the prior TRA computed after the installation of the side scan sonar equipment on this launch.

The smooth field sheet for this survey was plotted using a launch TRA value of 0.3 fathoms except for soundings obtained by RA-3. RA-3 soundings were plotted using a launch TRA value of 0.~~3~~₄ fathoms. ✓

Launch Settlement and Squat Corrections

Settlement and squat tests were conducted at Shilshole Bay Marina in Puget Sound, Washington on April 2 and 6, 1982 and at Port Chatham, Alaska on July 23, 1982. The second location was used to obtain new settlement and squat values for RA-3, after the installation of the side scan sonar equipment. A leveling rod was located over the transducer on each launch. An observer on shore sighted through a level to the rod and recorded the readings at various speeds. These readings were taken at speeds increasing from 0 RPM to 2600 RPM (full ahead) for each launch except RA-4, which went to 2800 RPM. A second set of readings was taken at speeds decreasing from full ahead to 0 RPM. The two sets of readings were then averaged to yield the final settlement and squat correctors. A list of the final correctors is included in the separates following the text. ✓

Settlement and squat correctors were not applied to the final smooth field sheet of this survey. All soundings were obtained at speeds for which the corrector equalled 0.0 fathoms. ✓

Sounding Instrument Correctors

During survey operations the blanking depth was set to a value shoaler than the shoalest bottom expected and was adjusted as the depth changed. Corresponding analog trace depths were substituted for missing digital soundings as a part of standard scanning procedures. ✓

The initial trace on the analog recorders was continuously monitored to prevent any error caused by a drifting initial. Phase calibrations were also performed to prevent belt tension error and stylus/paper misalignment on launch fathometers in accordance with PMC OORDER. ✓

Manual Sounding Correctors

Manual soundings were obtained by use of hand-held lead lines where required. Depth markings on these lines were compared with a steel measuring tape prior to survey operations and were found to be accurate. ✓

Special Analog Interpretation Problems

Fathograms were scanned for peaks and deeps on-line and again at the end of each work day as part of standard scanning procedures. Due to the steepness of the bottom topography, side echoes were prevalent in the area of this survey. The side echo problem was enhanced when sounding parallel to a steep bottom gradient. The fathometers were operated ✓

using the manual gain control rather than the automatic gain control (AGC) to help keep the occurrence of side echoes to a minimum. Digital depths were replaced by analog depths whenever they were found to represent side echoes rather than the true bottom. However, due to the difficulty of interpreting side echoes, some interpretation discrepancies may still exist in areas where side echoes were prevalent. ✓

E. HYDROGRAPHIC SHEETS

Smooth hydrographic sheets were prepared by the PDP 8/e complot system aboard the RAINIER. A modified transverse mercator projection was used for plotting data. A list of parameters used to define the projections are included in the separates following the text. Soundings on the smooth sheet have been corrected for predicted tides, launch draft, preliminary velocity correctors and Mini-Ranger baseline calibration correctors. ✓

One field sheet, RA-10-10-82, covered the entire survey area. Field records will be forwarded to the Pacific Marine Center, Seattle, Washington for verification. ✓

200 meter line spacing was used for this survey. Due to the extreme steepness of the inshore area, depths of 20 fathoms or more often occurred just 10-20 meters offshore. Launches began and ended lines as close to shore as possible. ✓

Any indication of shoaling or potential anchorage areas were developed. ✓

F. CONTROL STATIONS

The following stations were established using Third Order, Class I specifications. The method used for establishing the four control stations was brace triangulation. The North American 1927 Datum was used. For more information refer to the Horizontal Control Report, OPR-0361-RA-82. ✓

BOCA, 1982
DE, 1982
QUADRA, 1982
CAROLINE, 1982

G. HYDROGRAPHIC POSITION CONTROL

Range/azimuth was the only method used for hydrographic position control. Motorola Mini-Ranger III positioning systems and Wild Theodolites were used. The tables below summarize the location of all Mini-Ranger mobile and shore equipment. ✓

TABLE I
Mini-Ranger Mobile Equipment

<u>Vessel</u>	<u>Console S/N</u>	<u>R/T S/N</u>
2123	720	2710
2124	30269	1636
2125	715	1660
2126	711	1646

TABLE II
Mini-Ranger Shore Equipment

<u>Code</u>	<u>Transponder S/N</u>	<u>Station #</u>
A	1645	Not Used
B	4951	209,210
C	1628	207,208,209,210
D	1569	207,209,210
E	911721	Not Used
F	911711	Not Used
2	B1106	Not Used

Ending calibration for these codes occurred in Seattle, Washington on November 30, 1982. For more information concerning initial and ending calibrations, refer to the Electronic Control Report OPR-0361-RA-82.

Mini-Ranger Calibration and System Check

System checks for this survey were completed by either launch to launch static, baseline crossing methods, or observing horizontal sextant angles to Third Order, Class I or higher geodetic stations.

Mini-Ranger baseline calibrations for this survey were performed on October 29-30, 1982 and November 30, 1982. These calibrations took place in Ketchikan, Alaska and Seattle, Washington, respectively. Only the initial correctors were used to plot the smooth field sheet. The initial baseline calibration for each R/T console pair and transponder combination also determine minimum signal strength cutoff values for each system. The data for all baseline calibrations are included in the Electronic Control Report.

Mini-Ranger Performance

All shore stations were positioned on Third Order, Class I or higher geodetic stations. Power was supplied by two 12-volt batteries connected in series. Overall, shore transponder units performed very well with few problems as did all mobile equipment. ✓

H. SHORELINE

The shoreline for this survey was transferred from enlargements of U.S. Geological Survey Quadrangle Maps at 1:63,360 scale. The enlargements initially provided were not at the correct scale and had to be enlarged a second time to 1:10,000 by an enlargement projector at Pacific Marine Center, Seattle. This resulted in a large amount of distortion rendering the shoreline inaccurate. ✓
It is difficult to determine whether shoreline discrepancies are the result of the inaccuracies inherent in the enlargement processes or misrepresentation of actual features.

In addition, the U.S. Geological Quadrangle Maps do not agree with the prior survey or the charted shoreline. (Plane table survey methods were most likely the source for this old shoreline). The current quadrangles are very much closer to the actual shoreline and it is recommended that the shoreline be updated with photogrammetry in the near future. A good check on the accuracy of the shoreline is the fact that nearly all of the geodetic stations are located very near the tree line, which is also basically the mean high water line in this area.

(See
Eval
Rpt
Sect. 2)

Rocks and ledge areas on the present survey were positioned and delimited. ✓

(See Eval Report, Sect. 7)

I. CROSSLINES

The survey area was covered by 17% of crosslines. Sounding comparisons were very good and were within 3 fathoms. All but three comparisons were within five fathoms. Comparisons at $55^{\circ}13'25.5''N$, $130^{\circ}36'35.0''W$ and $55^{\circ}10'30''N$, $139^{\circ}39'41''W$ are located on steep gradients and a small position change can cause a large depth difference. Another comparison at $55^{\circ}13'41''N$, $130^{\circ}34'30''W$ is located on a slight slope and this can explain the depth difference. ✓

J. JUNCTIONS

Junctions comparisons with H-10065 are excellent. All depths over 100 fathoms compared within 3 fathoms. Four soundings located in the area of $55^{\circ}14'09''N$, $130^{\circ}34'36''W$ vary in comparisons by as much as 7 fathoms (50 vs 43). However, this area is on a very steep gradient and small ✓

position differences can result in large depth differences. ✓

~~Comparisons~~ ^{Junctions} with H-10063 compared well. However, comparisons that occurred on the steep gradients along the shore varied by large differences. This gradient must be kept in mind when comparing soundings. ✓

K. COMPARISONS WITH PRIOR SURVEYS

The only prior survey for this survey is H-2149 (1892) and consists of three reconnaissance lines. These lines are parallel to the shore and extend up the north arm of Boca de Quadra. ✓

The shoreline varies from the U.S.G.S. Quadrangles used (see Section H). However, if certain prominent shore features are aligned, surrounding sounding agreement is fair. It is recommended that survey H-10064 be used to update the next chart edition. ✓

L. COMPARISONS WITH THE CHART

Comparisons were made to NOS Chart 17427, 4th edition, July 7, 1979. All sounding data for the chart comes from Survey H-2149 (1892). As mentioned in Section K, the prior survey consisted of three reconnaissance lines. It is strongly recommended that Survey H-10064 be used to update the chart. ✓

M. ADEQUACY OF SURVEY

Survey H-10064 is complete and adequate to supercede all prior surveys for charting. ✓

N. AIDS TO NAVIGATION

No aids to navigation, floating or fixed, were located in the survey area. ✓

O. STATISTICS

<u>Launch</u>	<u>Linear/Nautical Miles of Hydrography</u>	<u>Square Miles</u>	<u>Positions</u>
2123	11.3		105 102
2124	14.1		161 157 ✓
2125	0.0		22 23
2126	<u>27.0</u>		<u>153 150</u>
Total	52.4	2.8	441 432

Launch 2125 collected ²⁰ bottom samples.

P. MISCELLANEOUS

There were no dangers to navigation reported in the survey area.

R. AUTOMATIC DATA PROCESSING

Data acquisition and processing were accomplished per instructions in the Hydrographic Manual (Fourth Edition), Manual of Automated Hydrographic Surveys, the PMC OORDER, Hydrographic Survey Guidelines and the Hydrographic Data Requirements for 1982.

Soundings and positions were taken by an ASI Logger and a Hydroplot system using range azimuth program FA181. There are daily master tapes and corresponding corrector tapes which include the TRA for the launches and electronic control baseline correctors for Mini-Ranger consoles and R/T units and all depth corrections. Velocity tapes were generated from Nansen cast data. The following is a list of all computer programs and version dates used for data acquisition or processing:

	<u>PDP 8/e Programs</u>	<u>Version Date</u>
FA181	Range-Azimuth Hydrolog	02/23/78
RK201	Grid, Signal and Lattice Plot	04/18/75
RK212	Visual Station Table Load	04/01/74
RK216	Range Azimuth Non-Real Time Plot	02/09/81
RK300	Utility Computations	10/21/80
RK330	Reformat and Data Check	05/04/76
PM360	Electronic Corrector Abstract	02/02/76
RK407	Geodetic Inverse/Direct Computation	09/25/78
AM500	Predicted Tide Generator	11/10/72
RK530	Layer Corrections for Velocity	05/10/76
RK561	H/R Geodetic Calibration	02/19/75
AM602	Elinore-Line Oriented Editor	05/20/75
AM603	Tape Consolidator	10/10/72
RK606	Tape Duplicator	08/22/74
	Focal	1969
	Nansen Cast Calculations	08/15/79

The HP97 and HP9815A programmable calculators were used to compute geographic positions of electronic control stations and visual signals for calibrations.

S. REFERRAL TO REPORTS

The following reports contain information related to this survey:

Echo Sounding Report	OPR-0361-RA-82
Electronic Control Report	OPR-0361-RA-82
Horizontal Control Report	OPR-0361-RA-82
Coast Pilot Report	OPR-0361-RA-82

Respectfully submitted,

Richard B. Koehler

Richard B. Koehler
ENS, NOAA

FIELD TIDE NOTE

Field tide reduction of soundings for Survey H-10064 was based on predicted tides from Ketchikan, Alaska. Corrections were obtained from Preliminary Tidal Zoning OPR-0361-RA-82. The predicted tides were derived using program AM500. The reference station, Ketchikan, Alaska (945-0460), Lat. $55^{\circ}19.5'N$, Long. $131^{\circ}37.5'W$, was leveled on October 2 and November 30, 1982. These levels agreed with the historical records.

Two subordinate tide stations provided data for survey H-10064. The Kestrel Tide Gage (945-0305), Lat. $55^{\circ}07.1'N$, Long. $130^{\circ}47.9'W$, was installed on September 28, and removed on November 20, 1982. Initial and final levels for this gage were run on September 28 and November 17, 1982. The staff value of the zero line on the tide record was +5.0 feet and the time meridian for records annotation was 0° (UTC). The gage operated very well the entire period.

The Boca de Quadra, Northeast Arm Tide Gage (945-0398), Lat. $55^{\circ}18.7'N$, Long. $130^{\circ}29.5'W$, was installed on November 3 and removed on November 20, 1982. Initial and final levels for this gage were run on November 3 and 18, 1982. The staff value of the zero line on the tide record was +1.7 feet and the time meridian for records annotation was 0° (UTC).

Both the Kestrel and Boca gages operated very well.

H-10064

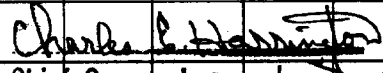
GEOGRAPHIC NAMES

Name on Survey

A ON CHART NO. 17427
 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 (title)																					1	
BACTRIAN POINT (title)																						2
BOCA DE QUADRA	X																					3
																						4
																						5
																						6
																						7
																						8
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																						24
																						25

Approved:


 Chief Geographer - N/C62x5

9 SEPT 1983

VELOCITY CORRECTOR TAPE LISTING
OPR-0361-RA-82
BOCA DE QUADRA, ALASKA

ALL SHEETS

TABLE NO. 8
UNIT - FATHOMS

000045	0	0000	0008	001	000000	000000
000120	0	0001				
000215	0	0002				
000290	0	0003				
000365	0	0004				
000445	0	0005				
000525	0	0006				
000610	0	0007				
000690	0	0008				
000785	0	0009				
000880	0	0010				
000980	0	0011				
001070	0	0012				
001350	0	0014				
001540	0	0016				
001720	0	0018				
001910	0	0020				
002095	0	0022				
002270	0	0024				
999999	0	0026				

TC/TI TAPE LISTING
RA-10-10-82 (H-10064)

LAUNCH - 2123(RA-3)
FATHØ S/N 1071

181117 0 000~~3~~ 0008 313 212300 000000
231000 0 000~~3~~

LAUNCH - 2124(RA-4)
FATHØ S/N 1042

221937 0 0003 0008 313 212400 000000
214317 0 0000 0000 322 000000 000000
215111 0 0003 0008 322 000000 000000
224000 0 0003

LAUNCH - 2125(RA-5)
FATHØ S/N 1070

191655 0 0000 0000 313 212500 000000
201000 0 0000 0000 322 000000 000000

LAUNCH - 2126(RA-6)
FATHØ S/N 1046

190500 0 0003 0008 312 212600 000000
232800 0 0003 0008 314 000000 000000

MASTER STATION LIST
OPR-0361-RA-82
BOCA DE QUADRA, ALASKA

FINAL VERSION

163 1 55 07 02352 130 44 02064 139 0000 000000
/ALDER 1933 NGS COMPUTER LISTING

~~164 3 55 03 12018 130 42 45623 250 0000 000000
/FACE 1933 NGS COMPUTER LISTING~~

165 4 55 07 20242 130 42 26153 250 0000 000000
/SPLIT 1933 NGS COMPUTER LISTING

166 4 55 06 31330 130 42 51666 139 0000 000000
/SLIME 1933 NGS COMPUTER LISTING

167 4 55 04 56348 130 42 55496 250 0000 000000
/ORDER 1933 NGS COMPUTER LISTING

168 4 55 03 54575 130 42 17941 139 0000 000000
/HAM 1933 NGS COMPUTER LISTING

169 4 50 03 34436 130 42 01622 250 0000 000000
/EGG 1933 NGS COMPUTER LISTING

170 4 55 03 05483 130 41 42922 139 0000 000000
/PONT 1933 NGS COMPUTER LISTING

171 2 55 02 39504 130 41 36367 139 0000 000000
/SPITS 1933 NGS COMPUTER LISTING

172 5 55 02 07253 130 41 56668 139 0000 000000
/BREAK 1933 NGS COMPUTER LISTING

173 5 55 02 52042 130 42 15852 250 0000 000000
/DU 1933 NGS COMPUTER LISTING

174 5 5003 06118 130 42 24353 139 0000 000000
/DRILL 1933 NGS COMPUTER LISTING

175 3 55 03 54216 130 42 52362 139 0000 000000
/SOAP 1933 NGS COMPUTER LISTING

176 0 55 04 20711 130 43 01719 139 0000 000000
/AND 1933 NGS COMPUTER LISTING

~~177 3 55 04 32506 130 43 08141 139 0000 000000
/BIG 1933 NGS COMPUTER LISTING~~

~~196 3 55 09 42399 130 49 12231 250 0300 000000~~
~~/BADGER~~

197 4 55 11 13972 130 48 59779 250 0000 000000
/KAY

198 3 55 09 19260 130 49 50353 250 0000 000000
/PEGLEG

199 1 55 07 05753 130 41 16127 139 0000 000000
/PIRKKO

201 4 55 01 26576 131 03 29334 139 0016 000000
/BLACK ROCK LIGHT 1929 NGS COMPUTER LISTING

202 0 55 05 18432 131 03 04294 250 0010 000000
/SLATE ISLANDS LIGHT

203 0 55 07 32707 130 38 53128 250 0000 000000
/GEORGE

204 3 55 08 05238 130 37 18095 139 0000 000000
/MARTEN

205 6 55 07 59034 130 34 31700 250 0000 000000
/HARVEY

~~206 6 55 06 46485 130 39 08001 250 0200 000000~~
~~/JUNE~~

207 0 55 11 028⁵⁷~~60~~ 130 39 0783²~~7~~ 250 0000 000000
/CAROLINE, 1982

208 4 55 09 45306 130 40 1831⁵~~4~~ 250 0000 000000
/BOCA, 1982

209 7 55 12 2033⁸~~0~~ 130 35 5624⁶~~4~~ 250 0000 000000
/DE, 1982

210 4 55 14 2814²~~0~~ 130 33 1249⁹~~0~~ 250 0000 000000
/QUADRA, 1982

211 3 55 16 5926⁴~~2~~ 130 32 0941²⁵~~0~~ 250 0000 000000
/JUDY, 1982

~~212 3 55 18 14303 130 31 02646 250 0300 000000~~
~~/ROSIE~~

~~213 4 55 18 41682 130 29 27054 250 0000 000000~~
~~/BILLY~~

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2123

SHEET : RA-10-10-82

TIME	DAY	PATTERN 1	PATTERN 2
181117	313	00000	+95578
231000		00000	+00000

FOR RANGE AZIMUTH HYDRO DISREGARD PATTERN 2 CORRECTORS.

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2124

SHEET : RA-10-10-82

TIME	DAY	PATTERN 1	PATTERN 2
221937	313	+0000 ²	-74343
234500		+00000	+00000
173309	314	+0000 ²	-30073
000430	315	+0000 ²	-07331
002500		+00000	+00000
175808	320	+0000 ²	-55202
191000		+00000	+00000
181656	321	+0000 ²	-20000
192000		+00000	+00000
200447	322	+0000 ²	-20000
214317		+00002	-76518
215111		+00002	-75194
224000		+00000	+00000

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2125

SHEET : RA-10-10-82

TIME	DAY	PATTERN 1	PATTERN 2
191655	313	+00004	-74510
204014	321	+00000	-10354
212758		+00004	-68137
173649	322	+00004	-35074
201000		+00000	+00000

FOR RANGE AZIMUTH B.S. OR D. PS DISREGARD PATTERN 2 CORRECTORS.

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2126

SHEET : RA-10-10-82

TIME	DAY	PATTERN 1	PATTERN 2
190500 234800	312	+00001 +00000	-97425 +00000
214620 233000	313	+00001 +00000	+98447 +00000
225900 232800	314	+00001 +00000	-68044 +00000

FOR RANGE AZIMUTH HYDRO DISREGARD PATTERN 2 CORRECTORS.

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

**OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA**

SHEET NO.	DATE	PROJ. NO.		YEAR	CHECKED BY		DATE CHECKED				
		DPR-0361-RA-82			H-10064						
		RA-10-10-82									
SHEET NO.	DATE	SAMPLE POSITION		DEPTH (Fathoms)	WEIGHT OF SAM- PLER	AP. PROX. PENE- TRATION	LENGTH OF CORE	COLOR OF SEDI- MENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, color/venues, depth cutler, stat. no., type of bottom tellaf i.e., slope, plain, disposition, etc.)	OBS. INIT.
		LATITUDE	LONGITUDE								
2125		35°N	130°W								
5110	30 3/8 11/9/82	10°31.64	39°53.45	37.0	45#			br	fne S, fine P		SJL
5111	"	10°28.01	38°56.74	78.2	"			br	M		
5112	"	10°50.27	39°26.62	69.5	"			br	M		
5113	"	10°46.66	38°35.93	85.3	"			br	M		
5114	"	11°06.97	38°52.21	68.6	"			br	M		
5115	"	11°04.03	38°01.12	53.8	"			br	M		
5116	"	11°27.58	38°21.70	87.3	"			gn	M, brk Sh		
5117	"	11°20.66	37°35.37	80.0	"			br	M		
5118	"	11°45.48	37°52.58	57.5	"			br	M, Sh		
5119	"	11°36.38	37°02.23	72.0	"			gn, bk	M		SJL
5120	30 321 11/17/82	13°46.97	34°01.07	80.3	"	2"		gn	M, spk S		JJ
5121	"	12°21.83	36°04.89	74.9	"	"		gn	M, crs P, S		
5122	"	12°44.14	35°34.12	95.0	"	"		gn	M, S, crs P		
5123	"	13°05.48	35°04.26	53.2	"	"		gn	P, G, S		
5124	"	13°24.03	35°21.90	80.8	"	"		gn	G, S		
5128	30 322 11/18/82	13°53.72	34°51.80	20.3	"	"		spk	S, G, P, St		
5129	"	13°32.11	35°20.53	66.1	"	1/2"		spk	S, 2 ml Sh	Small sample	JJ

Use one line per sample if necessary.

APPROVAL SHEET

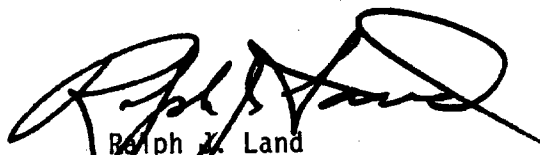
DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SURVEY

H-10064

RA-10-10-82

In producing this sheet, standard procedures were observed in accordance with the Hydrographic Manual, PMC OPORDER, Hydrographic Survey Guideline, 1982 Data Requirements Letter, and the Instruction Manual for Automated Hydrographic Surveys. The data was examined daily during the execution of the survey.

The boatsheet and the accompanying records have been examined by me, and are considered complete and adequate for charting purposes, and are approved.



Ralph J. Land
Captain, NOAA
Commanding

HYDROGRAPHIC SURVEY STATISTICS

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET		1	BOAT SHEETS & PRELIMINARY OVERLAYS	1
DESCRIPTIVE REPORT		1	SMOOTH OVERLAYS: POS. ARC, EXCESS	6

DESCRIP-TION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES						
CAHIERS						
VOLUMES						
BOXES			1			

T-SHEET PRINTS (List)

SPECIAL REPORTS (List)

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS		
	PRE-VERIFICATION	VERIFICATION	TOTALS
POSITIONS ON SHEET			432
POSITIONS CHECKED		432	
POSITIONS REVISED		0	
SOUNDINGS REVISED		11	
SOUNDINGS ERRONEOUSLY SPACED		0	
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED		0	
	TIME - HOURS		
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)	01	Ver/Eval	01
VERIFICATION OF CONTROL		02/01	03
VERIFICATION OF POSITIONS		08/01	09
VERIFICATION OF SOUNDINGS		25/01	26
COMPILATION OF SMOOTH SHEET		17/03	20
APPLICATION OF TOPOGRAPHY		00/00	00
APPLICATION OF PHOTOBATHYMETRY		00/00	00
JUNCTIONS		04/01	05
COMPARISON WITH PRIOR SURVEYS & CHARTS		00/02	02
VERIFIER'S REPORT		02/09	11
OTHER			
TOTALS	01	58/18	77

Pre-Verification by
James I. Stringham

Verification by
R. Davies, J. Shafner

Verification Check by
J. S. Green, J. Stringham

Marine Center Inspection by

Quality Control Inspection by

Requirements Evaluation by

Evaluated by
K. M. Scott

Beginning Date
4-4-83

Beginning Date
8-9-83

Time (Hours)
12

Time (Hours)

Time (Hours)

Time (Hours)

Ending Date
4-4-83

Ending Date
12-15-83

Date
12-28-83

Date

Date

Date

PACIFIC MARINE CENTER
EVALUATION REPORT

REGISTRY NO: H-10064

FIELD NO: RA-10-10-82

Alaska, Boca de Quadra, Six Miles N.E. of Bactrian Point

SURVEYED: November 8-18, 1982

SCALE: 1:10,000

PROJECT NO: OPR-0361-RA-82

SOUNDINGS: Ross Finline Fathometer

CONTROL: Mini-Ranger-
Range/Azimuth

Chief of Party..... CAPT R. J. Land

Surveyed By..... LT J. O'Clock, LT S. Ludwig,
ENS R. Koehler, ENS J. Judson,
ENS B. Postle, ENS W. Logue

Automated Plot By..... PMC Xynetics Plotter

Verified By..... R. Davies and J. Shofner

Evaluated By..... K. M. Scott

1. INTRODUCTION

H-10064 is a navigable area survey accomplished by the NOAA Ship RAINIER's launches in accordance with Project Instructions OPR-0361-RA-82 dated June 2, 1982, Change No. 1 dated July 28, 1982, and Change No. 2 dated August 23, 1982.

Predicted tides based on the Ketchikan gage with time and range adjustments were utilized during shipboard processing. Tide correctors used for the reduction of final soundings are computed from approved hourly heights zoned direct from the NE Arm Boca De Quadra gage (945-0398). (See appended Tide Note).

The electronic correctors were revised during verification to reflect the mean of baseline correctors applicable to the appropriate Mini-Ranger transponder units. Correctors applied to field data are included in the smooth printouts.

2. CONTROL AND SHORELINE

Geodetic positions for control stations governing hydrography are primarily field positions computed from published positions of previously established stations referenced to NA 1927 datum.

In accordance with Hydrographic Guidelines number 17, shoreline is not shown on the smooth sheet because of conflict with the U.S.G.S. Quads and the charted shoreline.

3. HYDROGRAPHY

Crosslines incorporated within this survey are in good agreement. Discrepancies are attributed to the nature of the bottom.

The bottom configuration, development of shoal soundings, determination of least depths, and delineation of standard depth curves are adequate.

4. CONDITION OF SURVEY

The hydrographic records and reports are adequate and conform to the requirements of the Hydrographic Manual of July 4, 1976.

5. JUNCTIONS

H-10064 joins H-10065 (1:10,000) 1982 to the north and H-10063 (1:10,000) 1982 to the south. Soundings, depth curves, and junction notes are inked in agreement.

6. COMPARISONS WITH PRIOR SURVEYS

H-2149 (1:20,000) 1892

Prior survey soundings are comparable indicating a very stable bottom.

Differences in methods of shoreline delineation, sounding acquisition and datum adjustments account for any differences. Two rocks located at approximately latitude 55°13'01"N, longitude 130°34'49"W are confirmed by the present survey as is the ledge at latitude 55°12'27"N, longitude 130°37'12"W.

There are no presurvey review items within the survey limits.

H-10064 is adequate to supersede all prior survey data within the common area.

7. COMPARISON WITH CHART

17427, 4th Ed., July 7, 1979

a. Hydrography - Charted information originates with the prior survey discussed previously.

The appended chartlet shows the survey area.

There have been no dangers to navigation identified or reports submitted by the ship or PMC processing for this survey.

H-10064 is adequate to supersede charted hydrography within the common area.

b. Controlling Depths - There are no controlling depths within the limits of the survey.

c. Aids to Navigation - There are no aids to navigation within the limits of the survey.

8. COMPLIANCE WITH PROJECT INSTRUCTIONS

H-10064 (RA-10-10-82) adequately complies with the project instructions as amended and noted in section 1 of this report.

9. ADDITIONAL FIELD WORK

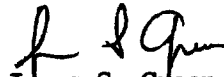
This is a good navigable area survey. No additional field work is required.

Respectfully submitted,



Karol M. Scott
Cartographer
December 15, 1983

This survey has been verified and evaluated. I have examined the survey and it meets Charting and Geodetic Services survey standards and requirements for use in nautical charting except as noted in the Evaluation Report. The survey is recommended for approval.



James S. Green
Supervisory Cartographer

DATE: February 8, 1983

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

Tide Station Used (NOAA Form 77-12): 945-0398 NE Arm Boca De Quadra, Alaska

Period: November 8-18, 1982

HYDROGRAPHIC SHEET: H-10064

OPR: 0361

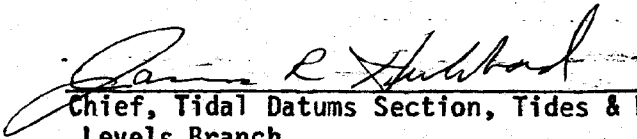
Locality: Boca De Quadra, Alaska

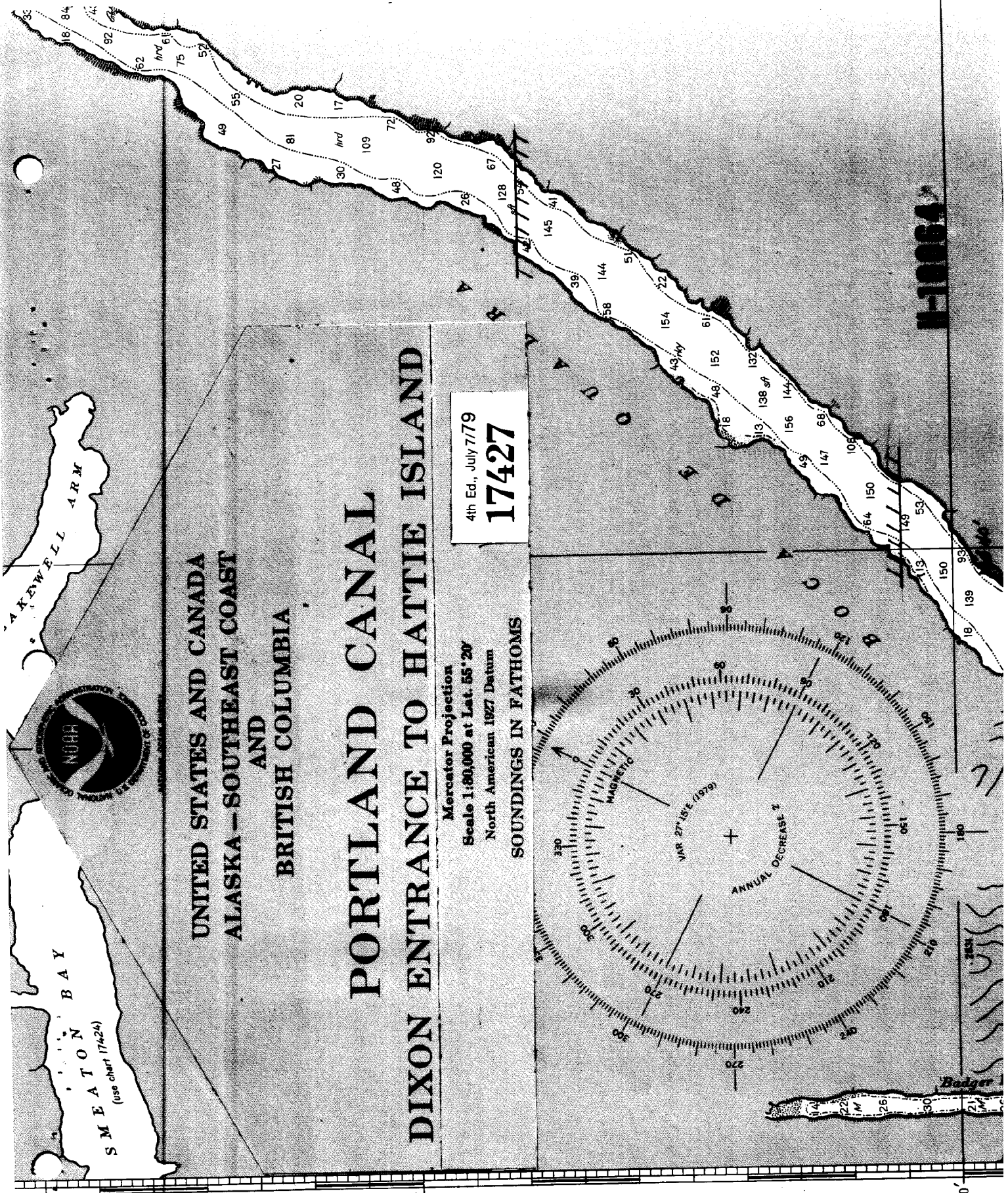
Plane of reference (mean lower low water): 5.8 ft.

Height of Mean High Water above Plane of Reference is 14.2 ft.

REMARKS: Recommended Zoning:

Zone Direct


Chief, Tidal Datums Section, Tides & Water
Levels Branch



AKENWELL ARM



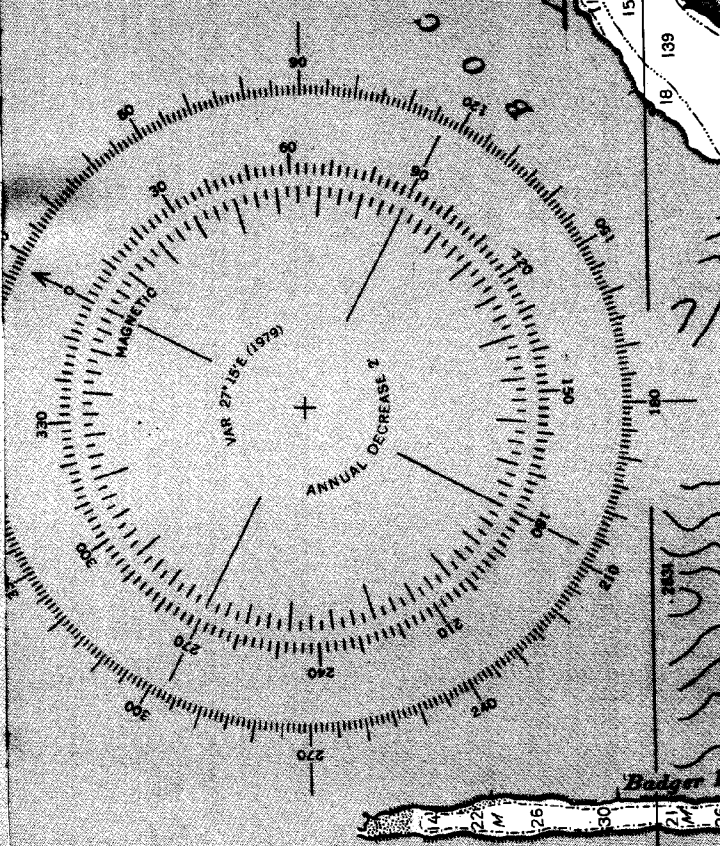
SMEATON BAY
(use chart 17424)

UNITED STATES AND CANADA
ALASKA - SOUTHEAST COAST
AND
BRITISH COLUMBIA

PORTLAND CANAL
DIXON ENTRANCE TO HATTIE ISLAND

4th Ed., July 779
17427

Mercator Projection
Scale 1:80,000 at Lat. $55^{\circ}20'$
North American 1927 Datum
SOUNDINGS IN FATHOMS



H-10084

Bodger

15'

10'

ATTACHMENT TO DESCRIPTIVE REPORT FOR H-10064

I have reviewed the smooth sheet, accompanying data, and reports of this hydrographic survey. Except as noted in the Evaluation Report, 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.

M. Austin 1/27/84
Chief, Nautical Chart Branch (Date)

CLEARANCE:

N/MOP2:LWOrdock

SIGNATURE AND DATE:

Larry W. Ordock 1/28/84

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. The above recommendations are forwarded with my concurrence.

Charles K. Tanaka 2/2/84
Director, Pacific Marine Center (Date)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10064

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
17427	6/13/84	J. Baily	Full Part Before After Verification Review Inspection Signed Via Drawing No. 12 Exam. for critical corrs. Revised and added sndgs. 10fm and 50fm depth curves.
17420	11/30/84	J. Baily	Full Part Before After Verification Review Inspection Signed Via Drawing No. 32 Exam. for critical corrs. thru Draws. 17427 #12. No corr.
17427	10/26/89	Armaoan	Full Part Before After Verification Review Inspection Signed Via Drawing No. full application of sndgs. from 53.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
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			Full Part Before After Verification Review Inspection Signed Via Drawing No.

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

Hydrographic Index No. 110K

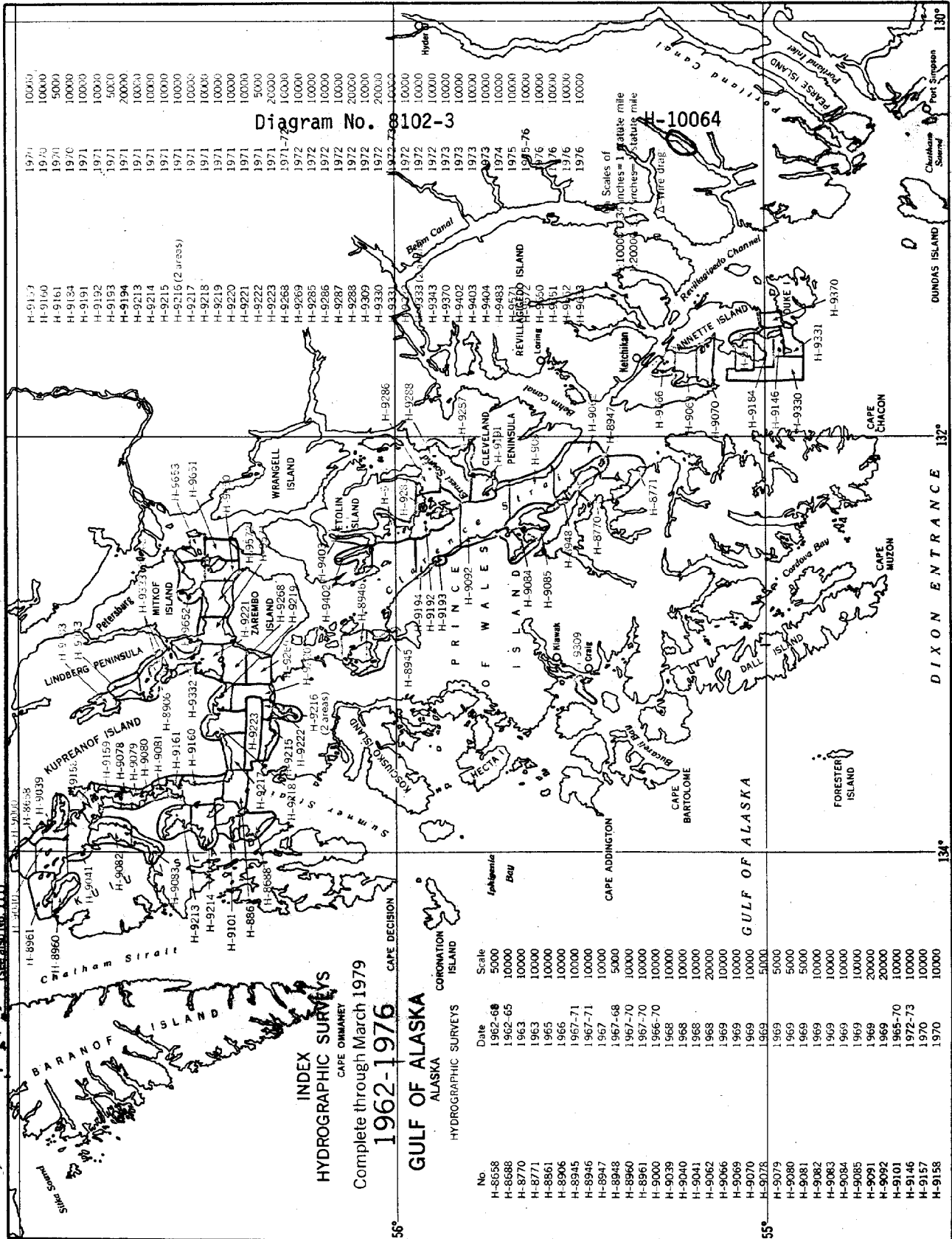


Diagram No. 8102-3

INDEX
HYDROGRAPHIC SURVEYS
Complete through March 1979
CAPE ORMANEY
1962-1976

GULF OF ALASKA
ALASKA
HYDROGRAPHIC SURVEYS

No.	Date	Scale
H-8558	1962-68	5000
H-8588	1962-65	10000
H-8770	1963	10000
H-8771	1963	10000
H-8861	1965	10000
H-8906	1966	10000
H-8945	1967-71	10000
H-8946	1967-71	10000
H-8947	1967	10000
H-8948	1967-68	5000
H-8960	1967-70	10000
H-8961	1967-70	10000
H-9000	1966-70	10000
H-9039	1968	10000
H-9040	1968	10000
H-9041	1968	10000
H-9062	1968	20000
H-9066	1969	10000
H-9069	1969	10000
H-9070	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-9084	1969	10000
H-9085	1969	10000
H-9091	1969	20000
H-9092	1969	20000
H-9101	1965-70	10000
H-9146	1972-73	10000
H-9157	1970	10000
H-9158	1970	10000

(see also No. 111)