10159

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 Hydrographic

Field No. RA-10-3-84

Office No. H-10159

LOCALITY

State Alaska

General Locality Behm Canal

Locality Behm Narrows to Anchor Pass

1984

CHIEF OF PARTY
CDR J.P. Vandermeulen

LIBRARY & ARCHIVES

DATE January 28, 1986

☆U.S. GOV. PRINTING OFFICE: 1980—766-230

10159

A-5
CHTS
17422 } TO SIGN OFF SEE
17420 } "RECORD OF APPLICATION TO CHTS"
16016-m

NOAA FORM 77-28 (11-72)

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

REGISTER NO.

H-10159

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 10-3-84

State: Alaska

General locality: Behm Canal

Locality: Behm Narrows to Anchor Pass

Scale: 1:10,000 Date of survey: 26 Sept. to 16 Oct.1984

Instructions dated: August 9, 1984 Project No.: OPR-0168-RA-84

Vessel: NOAA Ship RAINIER (S221), Launches 2123, 2124, 2125, 2126

Chief of party: CDR J. P. Vandermeulen, NOAA

Surveyed by: LT T. Rulon, LTJG S. Konrad, ENS D. LaReau, ENS T. Porta, ENS C. Wilson, ENS J. Griffin, ENS M. Pickett

Soundings taken by echo sounder, ~~hand lead, pole~~: XXXXXXXXXXXX

Graphic record scaled by: RAINIER Survey Department

Graphic record checked by: RAINIER Survey Department

~~Protracted~~ Verification by: P. Niland Automated plot by: PMC Xynetics Plotter

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

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

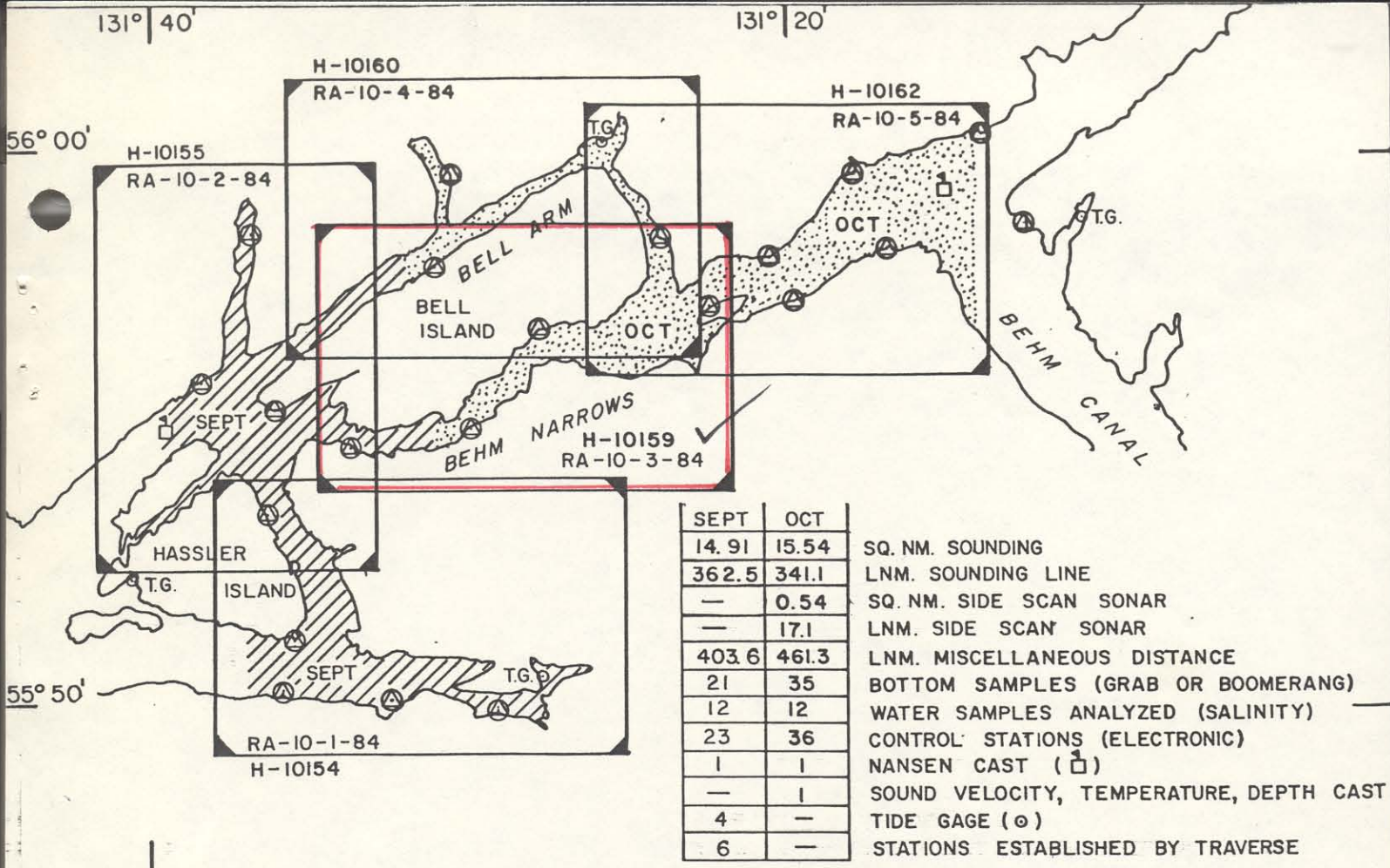
REMARKS: All times are in UTC. Separates are filed with the hydrographic data.

Comments in black ink are by the evaluator.

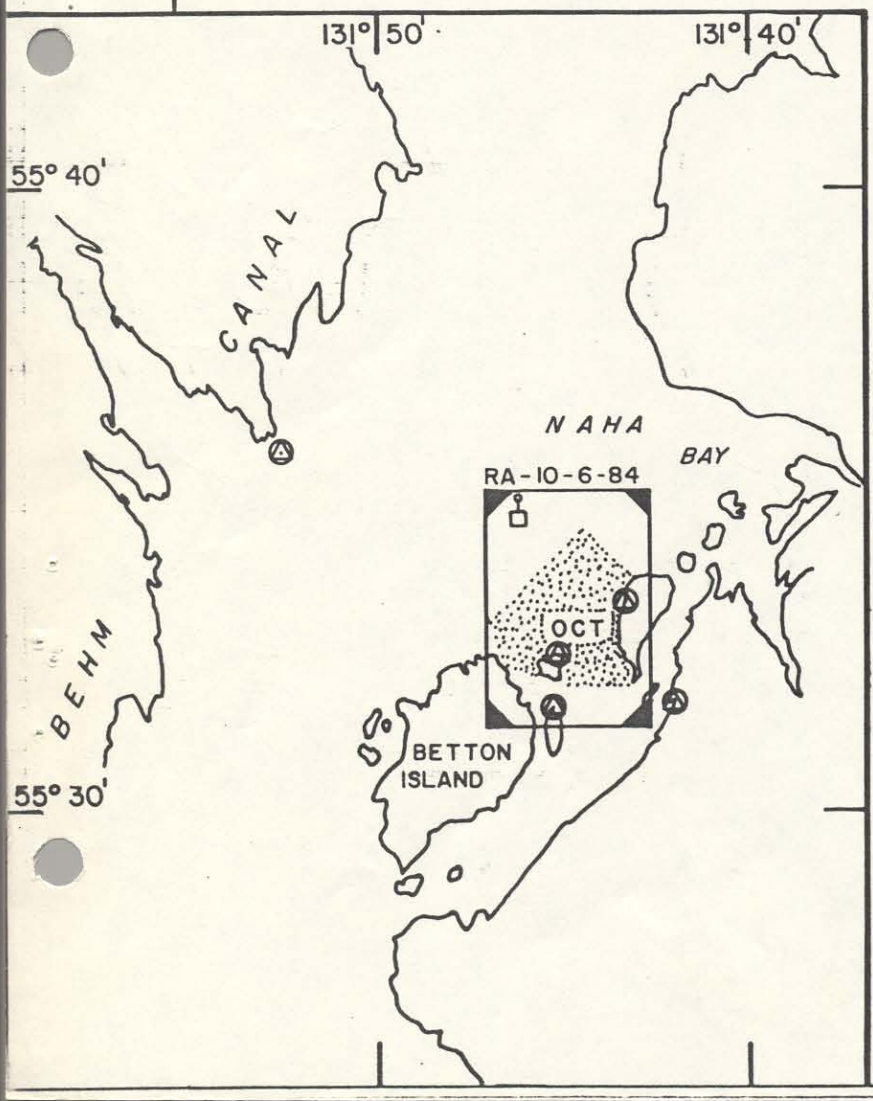
AWOIS/SURF ✓ AAA 1/29/96

SC 4-2-97

☆ U.S. GOVERNMENT PRINTING OFFICE: 1978-665-010-1174



SEPT	OCT	
14.91	15.54	SQ. NM. SOUNDING
362.5	341.1	LNM. SOUNDING LINE
—	0.54	SQ. NM. SIDE SCAN SONAR
—	17.1	LNM. SIDE SCAN SONAR
403.6	461.3	LNM. MISCELLANEOUS DISTANCE
21	35	BOTTOM SAMPLES (GRAB OR BOOMERANG)
12	12	WATER SAMPLES ANALYZED (SALINITY)
23	36	CONTROL STATIONS (ELECTRONIC)
1	1	NANSEN CAST (⏃)
—	1	SOUND VELOCITY, TEMPERATURE, DEPTH CAST
4	—	TIDE GAGE (⊙)
6	—	STATIONS ESTABLISHED BY TRAVERSE



PROGRESS SKETCH

OPR-0168-RA-84

HYDROGRAPHIC SURVEY

BEHM NARROWS, ALASKA

SEPT. 4 - OCT. 30, 1984.

NOAA SHIP RAINIER

JOHN P. VANDERMEULEN, CDR., NOAA
COMD'G

FROM CHART 17420

A. PROJECT

This basic hydrographic survey, sheet RA-10-3-84, registry number H-10159, was accomplished in accordance with Project Instructions OPR-0168-RA-84, Behm Narrows, Alaska dated 9 August 1984, and Change No. 1, dated 17 August 1984.

B. AREA SURVEYED

This survey, conducted from 26 September to 16 October 1984, includes the Behm Narrows area from Hassler Pass to Anchor Pass, Alaska. The project area is bounded by latitudes 55/57/36 N and 55/54/24 N, and longitudes 131/34/00 W and 131/22/42 W.

C. SOUNDING VESSELS

Sounding data for this survey were obtained by vessels RA-3 (2123), RA-4 (2124), and RA-5 (2125). Bottom samples were obtained by 2125 and the RAINIER (2120). No unusual sounding vessel configurations occurred during hydrographic data collection.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

Survey launches were equipped with Raytheon DSF-6000N dual beam echo sounders and depths on this survey ranged from 0 fathoms to 103 fathoms.

VESSEL		SOUNDING EQUIPMENT	SERIAL NO
RA-3	(2123)	Raytheon DSF-6000N	A119N
RA-4	(2124)	Raytheon DSF-6000N	A117N
RA-5	(2125)	Raytheon DSF-6000N	A123N

The DSF-6000N echo sounders were operated primarily in the dual beam high frequency digitized mode. In order to ensure that high and low frequency beams were tracking the steep contours of the bottom close to shore the launches were operated at low speeds (700-1500 rpm). The high and low frequency gain controls and the phase controls were operated manually because the high frequency beam could not track the bottom when these controls were in the automatic mode. Nevertheless, approximately 5 percent of the time the high frequency trace could not track the bottom. When this

occurred the depth values were scanned from the low frequency beam trace. There were no discrepancies at the junctions of the high and low frequency beams data as the two traces were in close agreeement at the points of changeover. In depths of over 100 fms the 6DB+ boost was used when needed.

All soundings were taken from the launches under Mini-Ranger Range-Range or Range-Azimuth control. Since the echo sounding transducers on launches are directly below the Mini-Ranger R/T units the ANDIST associated with these survey data is 0.0 meters. The final field sheets were plotted with this ANDIST value.

Bar checks were conducted at least once daily for both beams of the DSF-6000N echo sounder as per the Provisional Operating and Processing Instructions for the DSF-6000N Echo Sounder. All bar checks were performed within the survey area. The bar checks were used to confirm proper system function, and bar check data were combined with velocity data to determine launch TRA correctors. The TRA for the wide and narrow beams were within 0.1 fathom of each other. These TRA calculations resulted in a 0.3 fathom TRA for launch 2123, 2125, 2126 and a 0.2 fathom for launches 2124. ~~and 2125~~. The 0.2 fathom TRA differs from the historical value of 0.3 fathoms when using the Ross echo sounder. This difference is due to an apparent instrument error of 0.1 fathom. The smooth field sheet was plotted with a TRA of 0.3 fathoms for ~~all launches~~.
The smooth sheet was plotted using 0.3 fathoms TRA corrector for Vessels 2123 2125, 2126. A 0.2 fathom TRA corrector was used for Vessel 2124.
Velocity corrections were derived from two Nansen casts taken during the survey as listed below. A final table of velocity corrections was created averaging both Nansen casts. However, the smooth field sheet was plotted with a preliminary velocity correction table based only on the first Nansen cast. Printouts of velocity tables are included in the separates following the text.

VELOCITY CASTS

CAST NUMBER	DATE	LATITUDE	LONGITUDE
1 (Nansen)	18 SEPT (262)	55-55-00N	131-39-36W
2 (Nansen)	10 OCTOBER (284)	55-59-12N	131-15-42W

TC/TI tapes were made in accordance with PMC OPORDER, Appendix Q. Printouts of the TC/TI tapes are included in the separates following the text. For further information and

details relating to correction to echo soundings see Corrections to Echo Soundings Report OPR-0168-RA-84.

E. HYDROGRAPHIC SHEETS ✓

One 1:10,000 scale field sheet designated RA-10-3-84 was prepared on the RAINIER using the PDP 8/e Hydroplot system which produces modified transverse Mercator projections. Three 1:2,500 scale expansion sheets were prepared of areas of extensive hydrographic development. The smooth field sheet was plotted by AST Barnes. A list of parameters used to define the field sheets are provided in the separates following the text.

All data and accompanying field records will be sent to the Pacific Marine Center in Seattle, Washington for verification.

F. CONTROL STATIONS ✓

Geodetic control for survey H-10159 consisted of recovering existing Third order stations. See the Horizontal Control Report, OPR-0168-RA-84 for details. The following stations were recovered:

Sir 1891	Ply 1891	Sue 1891
Cut 1891	Rid 1891	~~Vow 2 1929~~
Anchor 1930	Tip 2 1929	Cla 1930
Cub 2 1929	Elsie 1930	Pro 1891
Am 1891	Bat 2 1929	Was 1891
~~Dye 1891~~	~~Tug 1891~~	~~Pot 1891~~
Gad 2 1929	Woo 1891	

One new station was established during field operations - Station Loosa

G. HYDROGRAPHIC POSITION CONTROL ✓

Range/Range and Range/Azimuth were the methods used for hydrographic positioning. Motorola Mini-Ranger III and Wild Theodolites were the instruments used. The following tables summarize the serial numbers and locations of all mobile and shore positioning equipment.

WILD THEODOLITE S/N

T-1: 14055, 65516
T-2: 57259, 73226, 68648, 75599

MINI-RANGER MOBILE EQUIPMENT

VESSEL	CONSOLE	R/T S/N	DATES
2123	720	713370	273-277
	711	B1405	277-286
2124	B0269	B1388	290
2125	715	911615	270-276

A suspected failure in the R/T for system 720 on JD 277 caused it to be replaced by system 711 which was in vessel 2126 at the time. Subsequent testing of system 720 by electronics technicians revealed no failures, so no data was affected by the problem.

MINI-RANGER SHORE EQUIPMENT

CODE	TRANSPONDER S/N	CODE	TRANSPONDER S/N
A	1645	0	C1789
E	911721	1	C1883
F	911711		

The following table summarizes the locations and dates for all Mini-Ranger mobile equipment.

JULIAN DATES

STA	270	271	272	273	274	275	276	277	278	286	290
124	1										
127		E		E			A				
131								0			
134						A		E			
135						E					
136				E			A				
137			0			A					F
139		E		E							
140			1			E		F			
141							F	F	0		
143							A	0	0		
158										A	
159										1	

CALIBRATIONS AND PERFORMANCE

Mini-Ranger calibrations and systems checks were performed in accordance with PMC OPORDER, Appendices M and S. Initial baseline calibrations for this project were conducted on the Homer Spit, Homer, Alaska on 25 August 1984. Ending baseline calibrations were conducted at Lake Union, Seattle, Washington on 7 November 1984.

Only initial correctors were used to plot the smooth field sheet. The initial calibrations also determined the minimum signal strength cut off values for each system. For more information regarding systems checks and calibrations, refer to the Electronic Control Report, OPR-0168-RA-84. The smooth sheet was plotted using the average of the initial and final baseline calibration correctors. Daily static calibrations for each code used were performed at Third-order Class I stations along the water's edge in the project area. This satisfied the requirement for weekly critical and daily non-critical systems checks

Bottom samples obtained by the RAINIER on JD 252 were positioned via radar fixes.

Mini-Ranger performance was generally very good. All transponders were set up on Third-order, Class I (or better) geodetic stations.

H. SHORELINE ✓

Shoreline was applied to the smooth field sheet from enlargements of 1:20,000 scale registered shoreline manuscripts TP-01159 and TP-01160. Field edit was not conducted. Rocks, ledges, and new features located by the hydrographer are shown in red on the smooth field sheet. Reference numbers for shoreline verification were used by the hydrographer.

I. CROSSLINES ✓

A total of 10.9 nautical miles of crosslines were run during the survey, representing 8.2% of the mainscheme mileage. Agreement of soundings at crossings was good, generally within 1 to 2 fathoms with an occasional 5 fathom difference in areas of steep bottom gradients.

J. JUNCTIONS ✓

This survey junctions to the west with RA-10-2S-84, H-10155; to the north with RA-10-4E-84, H-10160; and to the east with RA-10-5W-84, H-10163. All sounding comparisons were within 2 fathoms and contour lines continued in a smooth line with no abrupt changes. concur

K. COMPARISON WITH PRIOR SURVEYS ✓

H-10159 was compared to the 1:20,000 scale survey H-5103(1930). The following significant differences are noted: see Evan Report Section 6

	OLD DEPTH	NEW DEPTH	Prior POSITION	PREVIOUSLY CHARTED?
1*	8.5	2.8	55/57/33 N 131/23/23 W	NO
2	17	14/13.8	55/54/37 N 131/33/08 W	YES
3	70	49	55/56/43 N 131/26/28 W	NO
4	60	43	55/56/59 N 131/23/18	NO

* This sounding area was expanded to a scale of 1:2,500.

Two dive investigations were conducted on significant peaks in the survey area. The least depths were obtained by leadline. These areas were also expanded to the larger scale:

1	9	9.1 RLL	55/57/00 N 131/23/07 W	YES
2	7	7.74	55/55/05 N 131/31/07	YES

The 50 fathom curve has moved at least 100 meters further offshore to the west of Claude Point as a result of the shoaler depths identified as items 3 and 4 in section k above.

There were no AWOIS items in the survey area. concur

L. COMPARISON WITH THE CHART ✓

H-10159 was compared to the following:

Chart Number	Scale	Edition	Date
17422	1:79,000	6th	15 August 1981

Present charted soundings originate with the prior surveys discussed im section K. see Evm Report section 7

There were no dangers to navigation identified or reports submitted by the ship for this survey. concur

M. ADEQUACY OF SURVEY ✓

This survey is complete and adequate to supercede all prior surveys for charting purposes. concur

N. AIDS TO NAVIGATION ✓

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

O. STATISTICS ✓

Sounding Vessel	Linear Nautical Miles of Hydro	Square Nautical Miles of Hydro	Number of Positions
2123	40.8		~~459~~ 594
2124	1.5		380
2125	51.2		~~654~~ 424
2120			3
TOTALS	93.5	6.72	~~1146~~ 1051

Bottom Samples: 6

Velocity Casts: 2

Tide Stations: 2

P. MISCELLANEOUS ✓

No anomalous currents were observed or reported during this survey.

No Loran-C data were collected.

Bottom samples were sent to the Smithsonian Institute.

At times of higher high tides many of the geodetic stations used for positioning control were covered, limiting the times available for running hydrography.

Q. RECOMMENDATIONS ✓

This survey is complete and no additional field work is recommended. concur

R. AUTOMATED DATA PROCESSING ✓

Data aquisition and processing were accomplished in accordance with the Hydrographic Manual (Fourth Edition), Manual of Automated Hydrographic Surveys, the PMC OPORDER, Hydrographic Survey Guidelines, and the Hydrographic Data Requirements for 1984.

Soundings and positions were taken by ASI Loggers and Hydroplot systems. Hyperbolic Range/Range Hydroplot program RK 112 and Range/Azimuth program RK 116 were used in conjunction with the Hydroplot system.

There are daily master tapes and corresponding corrector tapes which include the TRA for the sounding vessels, 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 aquisition or processing:

Number	Description	Version
RK 112	Hyperbolioc, R/R Hydroplot	4/23/84
RK 116	Range-Azimuth Hydroplot	4/28/84
RK 201	Grid, Signal, and Lattice Plot	4/18/75
RK 211	Range/Range Non-Real Time Plot	2/13/84
RK 212	Visual Station Table Load	4/01/74
RK 216	Range/Azimuth Non-Real Time Plot	2/24/84
RK 300	Utility Computations	10/21/80
RK 330	Reformat and Data Check	5/04/76
AM 360	Electronic Corrector Abstract	2/02/76
RK 407	Geodetic Inverse/Direct Computation	9/25/78
RK 500	Predicted Tide Generator	11/10/72
RK 530	Layer Corrections for Velocity	5/10/76
RK 561	H/R Geodetic Calibration	12/01/82
AM 602	Elinore-Line Oriented Editor	12/08/82
AM 606	Tape Duplicator	8/22/74
AM 607	Self-Starting Binary Loader	8/10/80
RK 610	Binary Tape Duplicator	12/01/82
RK 612	Line Printer List	3/22/78
RK 900	Plot Test Tape Generator for AM902	5/07/76
RK 901	Core Check	3/01/72
AM 902	Real Time Checkout	11/10/72
DA 903	Diagnostic-Instruction Timer	2/27/76
RK 905	Hydroplot Controller Checkout	3/18/81
RK 935	Hydroplot Hardware Tests	3/15/82
RK 950	Hardware Tests (Documentation Only)	6/02/75

The HP9815A and HP97 programmable calculators were used to compute the geographical positions of control stations.

S. REFERENCES TO OTHER REPORTS

The following reports contain information related to this survey:

Echo Sounding Report	OPR-0168-RA-84
Electronic Control Report	OPR-0168-RA-84
Horizontal Control Report	OPR-0168-RA-84
Coast Pilot Report	OPR-0168-RA-84

Respectfully Submitted,

Clifford C. Wilson
Ensign, NOAA

APPROVAL SHEET

DESCRIPTIVE REPORT TO ACCOMPANY

HYDROGRAPHIC SURVEY

RA-10-3-84

H-10159

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

John P. Vandermeulen
Commander, NOAA
Commanding Officer

MASTER STATION LIST
OPR-Ø168-RA-84
BEHM NARROWS, ALASKA

RA-10-3-84
H-10159

FINAL VERSION

121 1 55 54 53635 131 34 52021 139 0001 000000
/SIR 1891 NGS LISTING

124 1 55 55 26071 131 35 31640 250 0003 000000
/SUE 1891 NGS LISTING

125 1 55 55 08141 131 33 58369 139 0002 000000
/WAS 1891 NGS LISTING

127 1 55 54 59842 131 30 02181 250 0002 000000
/RID 1891 NGS LISTING

131 1 55 56 42860 131 27 46962 250 0003 000000
/AM 1891 NGS LISTING

132 1 55 57 58605 131 23 39401 139 0001 000000
/ANCHOR 1930 NGS LISTING

134 1 55 56 16492 131 23 39507 250 0001 000000
/CLA 1930 NGS LISTING

135 1 55 57 37569 131 23 14807 250 0002 000000
/CUB 2 1929 NGS LISTING

136 1 55 54 42062 131 31 42114 250 0001 000000
/CUT 1891 NGS LISTING

137 1 55 57 37871 131 24 20246 250 0001 000000
/ELSIE 1930 NGS LISTING

139 1 55 54 41165 131 33 35927 250 0003 000000
/PLY 1891 NGS LISTING

140 1 55 56 46308 131 25 53719 250 0001 000000
/PRO 1891 NGS LISTING

141 1 55 56 08614 131 26 07539 250 0003 000000
/TIP 2 1929 NGS LISTING

143 1 55 55 56027 131 29 05237 250 0003 000000
/BAT 2 1929 NGS LISTING

147 1 55 55 16389 131 30 14353 139 0001 000000
/VOW 2 1929 NGS LISTING

150 55 58 32517 131 24 05414 250 0001 000000
154 1 55 57 24259 131 21 21654 250 0001 000000
/GAD 2 1929 NGS LISTING

158 1 55 57 13921 131 22 31272 250 0002 000000
/WOO 1891 NGS LISTING

~~159 1 55 57 45597 131 22 54315 139 0002 000000~~
/DYE 1891 NGS LISTING

~~160 1 55 58 03481 131 20 35070 139 0002 000000~~
/TUG 1891 NGS LISTING

~~165 1 55 54 54333 131 33 01611 139 0001 000000~~
/POT 1891 NGS LISTING

FIELD TIDE NOTE
RA-10-3-84
H-10159

Field tide reduction of soundings was based on predicted tides from Ketchikan, Alaska (945-0460). Corrections were obtained from Preliminary Tidal Zoning OPR-0168-RA-84. The predicted tides were derived using program AM500.

Two Bristol Bubbler tide gages were installed at two locations in the project area. Location and period of operation are as follows:

SITE	LOCATION	PERIOD
Convenient Cove	55/52.1 N 131/41.3 W	Sept.4 - Oct.17, 1984
Fitzgibbon Cove	55/59.0 N 131/10.5 W	Sept.5 - Oct.17, 1984

CONVENIENT COVE

Gage (S/N 63A2921) was installed and began operation September 4, 1984. The staff was also installed and leveled September 4. Excellent records were obtained with no interuptions. The marigram reads 6.0 ft greater than the staff.

FITZGIBBON COVE

Gage (S/N 736620) was installed and began operation Sept. 5, 1984. The staff was also installed and leveled Sept. 5. Good records were obtained with the exception of a loss of 5 days from 1330 October 6 to 1800 October 11 when the marigram paper jammed. The ship was unable to check the gage during this period because of an extended in-port due to weather. No hydro was run during this period. The marigram reads 6.9 ft less than the staff.

LEVELS

The reference station at Ketchikan was leveled September 10, 1984. Final levels were run October 19, 1984. Initial and final levels compared very well.

Final levels on the subordinate stations showed no signifigant movement of the tidal staffs.

DATE: 1/4/85

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

Marine Center: Pacific

OPR: 0168

Hydrographic Sheet: H-10159

Locality: Behm Narrows, Alaska

Time Period: September 26 - October 16, 1984

Tide Station Used: 945 0807 Convenient Cove, Alaska

Plane of Reference (Mean Lower Low Water): 14.58 ft.

Height of Mean High Water Above Plane of Reference: 14.8 ft.

Remarks: Recommended Zoning:

Zone Direct

James R. Hubbard
Chief, Tidal Datums Section

NOAA FORM 76-155
(11-72)

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

GEOGRAPHIC NAMES

SURVEY NUMBER

H-10159

** Name on Survey	A ON CHART NO. 17420	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 *	
ANCHOR PASS	X								X	1
BEHM NARROWS	X								X	2
BELL ISLAND HOT SPRINGS	X								X	3
BELL ISLAND	X								X	4
BELL [illegible]			X						X	5
CLAUDE POINT	X								X	6
COW CREEK			X						X	7
CURLEW POINT	X								X	8
ELSIE POINT	X								X	9
BEHM CANAL (title)			X						X	10
POINT LEES	X								X	11
REVILLAGIGEDO ISLAND	X								X	12
ALASKA (title)										13
SHORT BAY										14
* DICTIONARY OF ALASKA PLACE NAMES; Geological Survey Professional Paper 567;										15
1967; reprinted in 1971 with minor revisions.										16
										17
										18
					Approved:					19
										20
					Chas E. Harrington					21
					Chief Geographer - N/CG2x5					22
					5 FEB. 1985					23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

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

U.S. DEPARTMENT OF COMMERCE

HYDROGRAPHIC SURVEY STATISTICS

REGISTRY NUMBER: H-10159

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET		SMOOTH OVERLAYS: POS., ARC, EXCESS	6
DESCRIPTIVE REPORT		FIELD SHEETS AND OTHER OVERLAYS	5

DESCRIPTION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR-GRAMS	PRINTOUTS	ABSTRACTS/ SOURCE DOCUMENTS	
ACCORDION FILES	1					
ENVELOPES						
VOLUMES	1					
CAHIERS						
BOXES						

SHORELINE DATA

SHORELINE MAPS (List): TP-00159, TP-01160

PHOTOBATHYMETRIC MAPS (List):

NOTES TO THE HYDROGRAPHER (List):

SPECIAL REPORTS (List):

NAUTICAL CHARTS (List): Enlargement of Chart 17422

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS VERIFICATION	AMOUNTS EVALUATION	AMOUNTS TOTALS
POSITIONS ON SHEET			1146
POSITIONS REVISED			
SOUNDINGS REVISED			
CONTROL STATIONS REVISED			

	TIME-HOURS VERIFICATION	TIME-HOURS EVALUATION	TIME-HOURS TOTALS
PRE-PROCESSING EXAMINATION			
VERIFICATION OF CONTROL			
VERIFICATION OF POSITIONS	34.5		
VERIFICATION OF SOUNDINGS	102.0		
VERIFICATION OF JUNCTIONS			
APPLICATION OF PHOTOBATHYMETRY			
SHORELINE APPLICATION/VERIFICATION			
COMPILATION OF SMOOTH SHEET	29.0		29.0
COMPARISON WITH PRIOR SURVEYS AND CHARTS		10.0	10.0
EVALUATION OF SIDE SCAN SONAR RECORDS			
EVALUATION OF WIRE DRAGS AND SWEEPS			
EVALUATION REPORT		20.0	20.0
GEOGRAPHIC NAMES			
OTHER* Digitizing			
*USE OTHER SIDE OF FORM FOR REMARKS — TOTALS	165.5		

Pre-processing Examination by M. Kenny, G. Kay	*Beginning Date* 3/6/85	*Ending Date* 3/6/85
Verification of Field Data by P. Niland, R. Mueller	*Time (Hours)* 155	*Ending Date* 10/23/85
Verification Check by B. Olmstead, J. Green	*Time (Hours)* 41.5	*Ending Date* 11/8/85
Evaluation and Analysis by C. Davies	*Time (Hours)* 22.5	*Ending Date* 11/8/85
Inspection by D. Hill	*Time (Hours)* 2	*Ending Date* 11/15/85

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

PACIFIC MARINE CENTER
EVALUATION REPORT
H-10159

1. INTRODUCTION

H-10159 was accomplished by the NOAA Ship RAINIER in accordance with the following project instructions:

OPR-0168-RA-84, dated August 9, 1984
Change No. 1, dated August 17, 1984

This is a basic hydrographic survey of northwestern Behm Canal, in southeastern Alaska. Centered on Behm Narrows between Bell Island to the north, and Revillagigedo Island to the south the survey extends from Anchor Pass between Elsie Point and Point Lees west to longitude 131°34'00"W. The survey area is heavily wooded down to the shoreline which is typically rocky and boulder strewn with a few fringing ledges. The mean lower low waterline has not been developed in most areas due to the steep sloping bottom topography. Offshore the bottom deepens rapidly to depths in excess of 100 fathoms. Bottom characteristics are generally mud.

Predicted tides based on the Ketchikan, Alaska gage were used during field processing. Tide correctors used for the reduction of final soundings reflect approved hourly heights and are zoned direct from one temporary tide gage, Convenient Cove, Alaska.

The electronic correctors have been revised during office processing to incorporate the results of the initial and final baseline calibrations. The field sheet parameters have been revised to center the hydrography on the smooth sheet and to change the projection to polyconic. The revised data is listed in the smooth position/sounding printout.

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

2. CONTROL AND SHORELINE

All horizontal control stations used for controlling hydrography were established in accordance with Third Order Class I or better geodetic standards. The smooth sheet was plotted using published NGS coordinates for existing stations and field positions for newly established stations based on the North American Datum of 1927.

Hydrographic positioning was conducted using Motorola Mini-Ranger III, configured in both range-range and range-azimuth modes. Visual hydrography was also conducted on this survey. Baseline calibrations were performed before and after completing the survey. Daily system checks to confirm the baseline values were conducted using the static calibration method.

All remaining information affecting the positioning and station control of this survey is contained in Section F and G of the Descriptive Report, the Horizontal Control and Electronic Control Report for OPR-0168-RA-84.

The applicable shoreline manuscript is TP-01159. This map is registered Class III and originates from photography dated June, 1982.

3. HYDROGRAPHY

Crossline soundings are in good agreement. The bottom configuration and least depths were adequately determined. Generally, all standard depth curves are complete and satisfactory, except in areas that are on steep slopes near the shoreline.

4. CONDITION OF SURVEY

The hydrographic records and reports are adequate and conform to the requirements of the Hydrographic Manual except as noted in the Preprocessing Examination Report, dated March 6, 1985, and the following:

a. The delineation of ledges as portrayed on the final field sheet differed from those found on the Class III manuscript. If these changes were noted during hydrography, the changes should have been depicted on the field sheet in red ink and the changes explained in section H of the Descriptive Report (Hydrographic Manual 1.6.2, 4.5.8 and 5.3.4.H and Project Instructions 4.2.1).

b. A sufficient number of bottom samples were not taken on H-10159. Frequencies of bottom samples in various depths of water are specified in section 1.6.5 of the Hydrographic Manual.

5. JUNCTIONS

H-10159 joins H-10155 to the west, H-10160 to the south and H-10163 to the east. The junctions have been adequately effected and the soundings and depths curves are inked in agreement.

6. COMPARISON WITH PRIOR SURVEYS

H-5103 (1930) 1:20,000

The present survey soundings compare within ±1 to 3 fathoms of the prior survey soundings except as noted in the hydrographer's report. These differences are attributed to the relative accuracy of the data acquisition techniques and datum adjustments. H-10159 is adequate to supersede the prior information within the limits of hydrography.

7. COMPARISON WITH CHART

Chart 17422, 6th Edition, August 15, 1981, scale 1:79,000

a. Hydrography - Charted information originates with the prior surveys discussed in section 6 of this report and other miscellaneous sources. Offshore of the ten-fathom curve, the charted soundings are in excellent agreement. Inshore of the ten-fathom curve the charted soundings compare well with the current survey soundings, considering that the charted soundings are offset for cartographic clarity.

An islet charted at latitude 55°56'01.5"N longitude 131°28'00"W was not investigated by the hydrographer and does not appear in the present survey records. However, the islet also does not appear on TP-01159. The existence of the islet at the charted location is considered doubtful. Approximately 100 meters south the present survey indicates a shoal uncovering 0.4 fathom at MLLW. Although the hydrographer does not describe this feature or relate it to the charted islet it is believed that the present shoal is adequate to supersede the islet as the only feature in this area which lies detached from the shoreline. It is recommended that the area be revised in accordance with the smooth sheet.

H-10159 is adequate to supersede charted hydrography within the common area.

The area covered by H-10159 was examined for dangers to navigation. No dangers were found by the ship or during office processing.

b. Controlling Depths - There are no controlling depths within the limits of H-10159.

c. Aids to Navigation - There are no aids to navigation within the limits of H-10159.

The geographic names shown on the smooth sheet originated from the chart.

8. COMPLIANCE WITH INSTRUCTIONS

H-10159 adequately complies with the project instructions except where noted in section 4, Condition of Survey.

9. ADDITIONAL FIELD WORK

This is a good hydrographic survey and no additional field work is recommended at this time.

Respectfully submitted,

Charles R. Davies

C.R. Davies
Cartographer

This survey has been verified and evaluated; it meets Charting and Geodetic Services standards and requirements for use in nautical charting. The survey is recommended for approval.

Dennis Hill
Chief, Hydrographic Section

ATTACHMENT TO DESCRIPTIVE REPORT FOR H-10159

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.

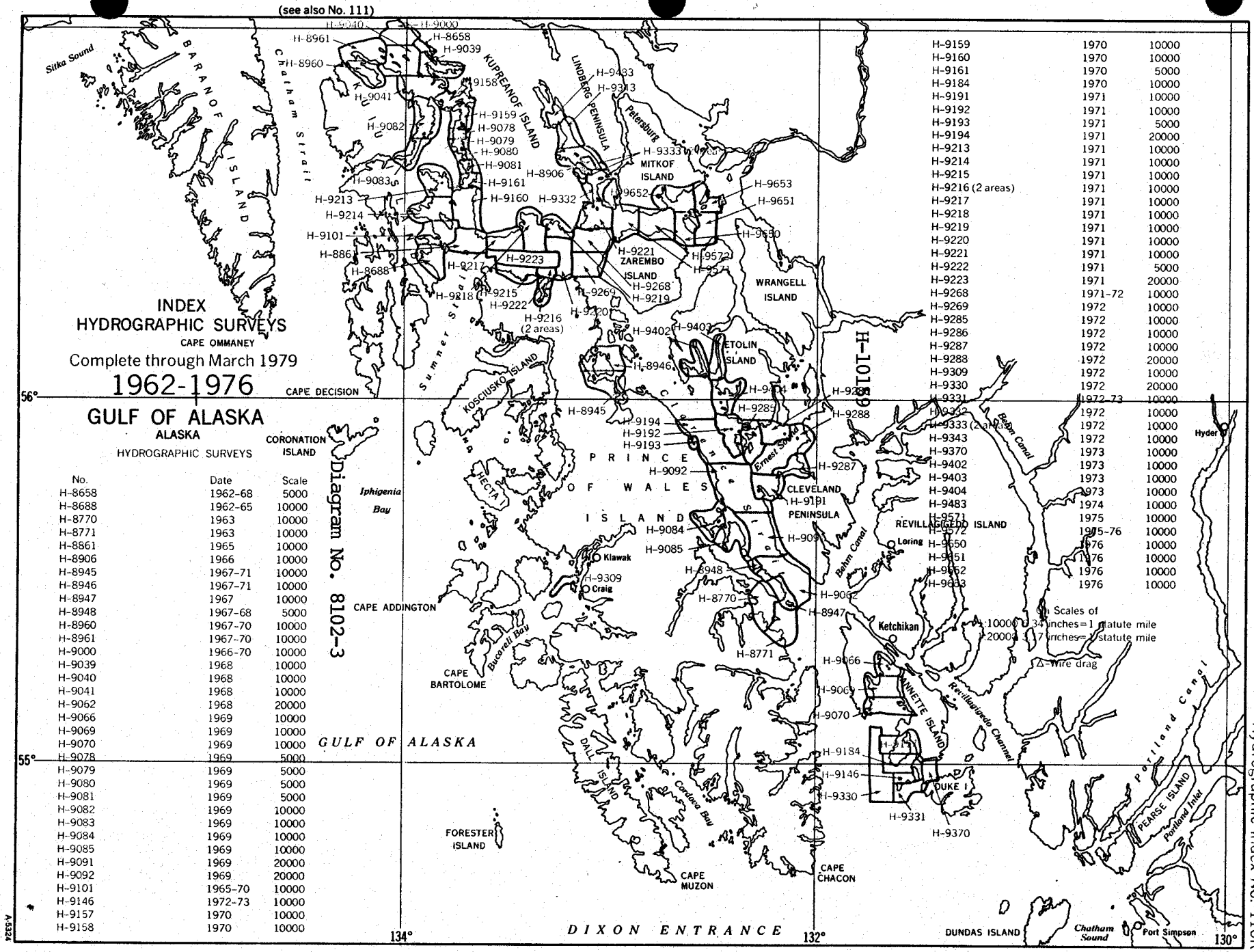
David N. Yeager 12-6-85
Chief, Nautical Chart Branch (Date)

CLEARANCE: SIGNATURE AND DATE:

N/MOP2:LWMordock Larry W. Mordock 12-6-85

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.

Robert L. Haught 12-6-85
Director, Pacific Marine Center (Date)



No.	Date	Scale
H-8658	1962-68	5000
H-8688	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
H-9159	1970	10000
H-9160	1970	10000
H-9161	1970	5000
H-9184	1970	10000
H-9191	1971	10000
H-9192	1971	10000
H-9193	1971	5000
H-9194	1971	20000
H-9213	1971	10000
H-9214	1971	10000
H-9215	1971	10000
H-9216 (2 areas)	1971	10000
H-9217	1971	10000
H-9218	1971	10000
H-9219	1971	10000
H-9220	1971	10000
H-9221	1971	10000
H-9222	1971	5000
H-9223	1971	20000
H-9268	1971-72	10000
H-9269	1972	10000
H-9285	1972	10000
H-9286	1972	10000
H-9287	1972	10000
H-9288	1972	20000
H-9309	1972	10000
H-9330	1972	20000
H-9331	1972-73	10000
H-9332	1972	10000
H-9333 (2 areas)	1972	10000
H-9343	1972	10000
H-9370	1973	10000
H-9402	1973	10000
H-9403	1973	10000
H-9404	1973	10000
H-9483	1974	10000
H-9571	1975	10000
H-9572	1975-76	10000
H-9650	1976	10000
H-9651	1976	10000
H-9652	1976	10000
H-9653	1976	10000

A-5324

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

Hydrographic Index No. 110K

NOAA FORM 75-96
(10-83)

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

MARINE CHART BRANCH

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10159

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
17422	3/24/89	ALMACEN	Full ~~Part Before~~ After Marine Center Approval Signed Via full application of
			Drawing No. soundings from SS.
17420	4/5/89	ALMAOEN	Full ~~Part Before~~ After Marine Center Approval Signed Via full application of
			Drawing No. soundings thru SS & 17422.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
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			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.

SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED.

appd To Stds 1-28-86 [illegible]