

H10607

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-10-7-95
Office No.....	H-10607
LOCALITY	
State	Alaska
General Locality	Southern Stephens Passage
Locality	Eastern Portion of Pybus Bay
1995	
CHIEF OF PARTY CAPT Dean R. Seidel, NOAA	
LIBRARY & ARCHIVES	
DATE	JUN 12 1996

HYDROGRAPHIC TITLE SHEET

H-10607

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-10-7-95

State AlaskaGeneral locality Southern Stephens PassageLocality Eastern Portion of Pybus BayScale 1:10,000Date of survey May 12-18, 1995Instructions dated 2/13/95, Change #1-3/28/95Project No. OPR-0136-RAVessel NOAA Ship RAINIER (2120), Launches ⁽²¹²²⁾ (2123), (2124), (2125), (2126)Chief of party CAPT Dean R. Seidel, NOAASurveyed by LT D.Haines, LT M.Larsen, ENS S.Maenner, ENS E.Christensen,
CST F.Paranada, ST R.BaumSoundings taken by echo sounder, ~~hydrographic~~ ^{Dive} DSF-6000N, MODIII Diver depth guage,
Pneumatic guageGraphic record scaled by RAINIER PersonnelGraphic record checked by RAINIER PersonnelEvaluation by: R. DaviesAutomated plot by HP Design Jet 650CVerification by R. DaviesSoundings in Meters & DecimetersSoundings in ~~RAINIER~~ ~~feet~~ at NEW MLLW

REMARKS: Time in UTC, revisions and marginal notes in black were generated
during office processing. All separates are filed with the
hydrographic data, as a result page numbering may be interrupted
or non-sequential.

All depths listed in this report are referenced to mean lower
low water unless otherwise noted.

JUN 12 1996 *SC**AWOIS and SURF / RUD 6/96*

PROGRESS SKETCH

OPR-0136-RA

134° 00' 00"

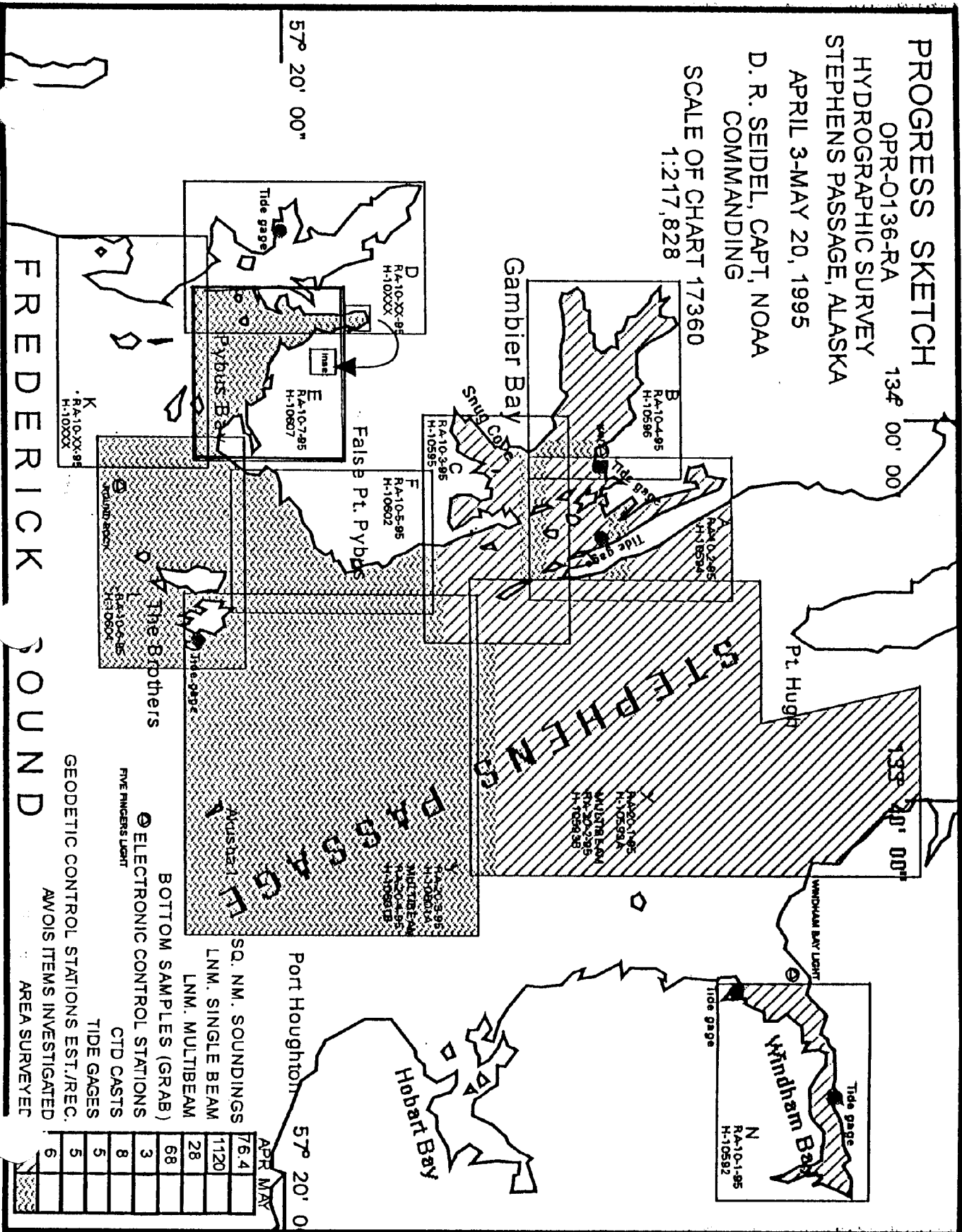
HYDROGRAPHIC SURVEY
STEPHENS PASSAGE, ALASKA

APRIL 3-MAY 20, 1995

D. R. SEIDEL, CAPT, NOAA
COMMANDING

SCALE OF CHART 17360
1:217,828

57° 20' 00"



- ELECTRONIC CONTROL STATIONS
- BOTTOM SAMPLES (GRAB)
- FIVE FINGERS LIGHT
- TIDE GAGES
- CTD CASTS
- GEODETIC CONTROL STATIONS EST./REC.
- AWOIS ITEMS INVESTIGATED
- AREA SURVEYED

	APR	MAY
SQ. NM. SOUNDINGS	76.4	
LNM. SINGLE BEAM	1120	
LNM. MULTIBEAM	28	
BOTTOM SAMPLES (GRAB)	68	
ELECTRONIC CONTROL STATIONS	3	
CTD CASTS	8	
TIDE GAGES	5	
AWOIS ITEMS INVESTIGATED	5	
AREA SURVEYED	6	

FREDERICK SOUND

Port Houghton 57° 20' 00"

Descriptive Report to Accompany Hydrographic Survey H-10607

Field Number RA-10-7-95

Scale 1:10,000

May 1995

NOAA Ship RAINIER

Chief of Party: Captain Dean R. Seidel

A. PROJECT ✓

This basic hydrographic survey was completed in Pybus Bay, Southern Stephens Passage, Alaska, as specified by Project Instructions OPR-O136-RA dated February 13, 1995, and Change no. 1 dated March 28, 1995.

Survey H-10607 corresponds to "sheet E" as defined in the Project Instructions.

This survey will provide contemporary hydrographic survey data for updating existing nautical charts. Requests for hydrographic surveys and updated charts have been received from the United States Coast Guard (USCG), the Southeast Alaska Pilot's Association, the Alaska Department of Transportation, and private interests such as cruise ship lines and local logging and fishing industries.

B. AREA SURVEYED ✓ See Eval Rpt, Section B

The survey area is ^{in the} eastern portion of Pybus Bay, located in Southern Stephens Passage. The survey's eastern limit is bounded by 133° 57.0'W, and the western limit bounded by 134° 06.4'W. The ^{southern limit} northern limit is bounded by 57° 17.8'N, and the ^{northern limit} southern limit is 57° 22.5'N.

C. SURVEY VESSELS ✓

Data were acquired by RAINIER and the five survey launches as noted below:

<u>Vessel</u>	<u>EDP #</u>	<u>Operation</u>
RAINIER	2120	Sound Velocity Cast
RA-2	2122	Hydrography Shoreline Verification
RA-3	2123	Hydrography Shoreline Verification

RA-4	2124	Hydrography Shoreline Verification
RA-5	2125	Hydrography Bottom Samples
RA-6	2126	Hydrography Shoreline Verification

D. AUTOMATED DATA ACQUISITION AND PROCESSING ✓

Data were acquired and processed using HDAPS Programs. A complete listing is included in Appendix VI.*

Data were acquired on RA-2 using Coastal Oceanographics' HYPACK, v5.2, with the following program updates:

<u>HYPACK Program Name</u>	<u>Version</u>	<u>Date Installed</u>
HYSPEED.EXE	3/24/95	4/1/95
IOTEST.EXE	3/17/95	4/1/95

Processing was conducted using the HDAPS HP system. HYPACK (DOS) files were converted to a PC-DAS format using a Visual Basic program, HYPMEN version B1.5, B1.6 (installed 5/3/95), provided by N/CG24. The files were then loaded into HDAPS and processed in the same manner as PC-DAS data.

In addition, the following batch routine, GPSINIT.BAT(3/95), was used to initialize the Ashtech GPS receiver.

Velocity corrections were determined using:

<u>Program Name</u>	<u>Version</u>	<u>Date Installed</u>
VELOCITY	2.11	5 Mar 1995

E. SONAR EQUIPMENT ✓

Sonar equipment was not used on sheet E. Concur

F. SOUNDING EQUIPMENT ✓

The Raytheon DSF-6000N is a dual frequency (100 kHz, 24 kHz), paper trace echo sounder. Serial numbers are included on the headers of the daily Raw Master Printouts.*

* Filed with the hydrographic data

No problems which affect survey data were encountered. All DSF-6000N soundings were acquired using the High + Low, high frequency digitized setting.

G. CORRECTIONS TO ECHO SOUNDINGS ✓

Correctors for the velocity of sound through water were determined from the casts listed below.

<u>Velocity Table #</u>	<u>Cast#</u>	<u>DN</u>	<u>Cast Position</u>	<u>Deepest Depth (m)</u>	<u>Applicable DN</u>	
5	6	122	57°22.6'N 133°44.4'W	381	132	outside survey limits.
7	8	133	57°21.2' N 133°44.5' W	246	133-138	outside survey limits.

The above casts were taken in Stephens Passage, outside the sheet limit. As in Gambier Bay (north of Pybus Bay), very little fresh water drainage was noticed in Pybus Bay. Because there was no major difference in the water columns for Gambier Bay and Stephens Passage, the above casts are considered to be representative of Pybus Bay.

The sound velocity casts were acquired with SBE SEACAT Profiler (S/N 811), calibrated 03/31/95. Velocity correctors were computed using the PC program VELOCITY in accordance with Hydrographic Survey Guideline (HSG) No. 69. A printout of the Sound Velocity Corrector Table used in the HDAPS Post Survey program is included in the "Separates to be Included with Survey Data, IV. Sounding Equipment Calibrations and Corrections". ✱

Static Draft ✓

A transducer depth was determined using FPM Fig 2.2 for vessels 2122-2126 in the spring of 1995. These values were entered into the offset tables for each launch.

Settlement and Squat ✓

Correctors were computed in accordance with Hydrographic Manual Section 4.9.4.2., using FPM Fig. 2.3, and are included with project data for OPR-O136-RA. The data for 2123-2126 was collected in Shilshole Bay, Washington in the Spring of 1995, and for 2122 in Windham Bay, Alaska in April 1995.

✱ Filed with the hydrographic data

Offset Tables ✓

Offset tables contain offsets for the GPS antenna, as well as static draft measurements, and settlement and squat data. Offset tables 2-6 correspond to the number of the vessel. The offset tables were compiled with new measurements in the spring of 1995 and are contained in the "Separates to be Included with Survey Data". *

Heave ✓

The launches are not equipped with heave, pitch and roll sensors.

Bar Check and Lead Lines ✓

Bar check lines were calibrated by RAINIER personnel during the winter inport 1994-1995. Calibration forms are included with project related data for OPR-O136-RA. Bar checks were performed weekly and served as a functional check of the DSF-6000N.

Tide Correctors ✓

Predicted tides for the project were provided on diskette by N/CG241 for the Juneau, Alaska reference station (945-2210).

Tidal correctors that were applied to the predicted tides at Juneau, as listed in table 2 of the West Coast of North and South America Tide tables for this sheet are:

Time Correction		Height Correction	
<u>High</u>	<u>Low</u>	<u>High</u>	<u>Low</u>
0.03	-0.02	-1.9	-0.1

HDAPS listings of the data used in generating tide corrector tables are included in Appendix V of this report.

RAINIER personnel installed a 8200 digital tide gage at The Brothers (945-1785) on April 11, 1995 and Cannery Cove (945-1781) on May 2, 1995. The staff was connected to five benchmarks at each station during all level runs. Opening levels were completed at The Brothers on April 12, 1995, and Cannery Cove on May 2, 1995. Both tide gauges operated continuously during data acquisition. During closing levels at Cannery Cove, the difference agreed to within 0.001m. The difference between opening and closing levels was 0.006m. The section that exceeded 0.003m between opening and closing levels, staff to 1781B, was re-run and closed to within 0.002m. During closing levels at The Brothers, the difference in elevation agreed to within 0.002m. The sections that exceeded 0.003m between opening and closing levels, staff to 1785B and 1785D to 1785E, were re-run and closed to within 0.000m. Although the Cannery Cove gauge was not in operation for the full thirty days, the gauge at The Brothers ran continuously for more than the thirty day

* Filed with the hydrographic data.

period.

The station descriptions, field tide records, and Field Tide Notes (Appendix V)* have been forwarded to N/OES212 in accordance with HSG 50 and FPM 4.3. A request for approved tides was forwarded to N/OES2 in accordance with FPM 4.2.3. *Approved tide note dated August 25, 1995 is attached.*

H. CONTROL STATIONS ✓ *See Eval Rpt, Section II*

A listing of the geodetic stations used to control this survey is included in ~~Appendix III~~ of this report. The horizontal datum for this project is NAD83.

DGPS stations were installed on existing stations INDX and ROUND ROCK. Station INDX is located on top of Five Fingers Light House, and station ROUND ROCK is located on Round Rock Island, which is located in Southern Stephens Passage between the mouth of Pybus Bay and The Brothers Islands. These stations were recovered in accordance with methods stated in Section 5.2.4 of the FPM.

For further information see the "Spring 1995 Horizontal Control Report" that will be submitted at the end of the project.

I. HYDROGRAPHIC POSITION CONTROL ✓ *See Eval Rpt, Section I*

All positions and features were positioned using differential GPS. Serial numbers for Ashtech GPS equipment are annotated on the data printouts.*

Ashtech GPS

Method of Position Control ✓

VHF differential shore stations were established at stations INDX and ROUND ROCK. The difference between the computed location and station ROUND ROCK's published position were recorded by the MONITOR 3.0 program on a PC. Data from a 24-hour period were recorded and examined for signs of multi-path signal reflection, which was not evident. Scatterplot results are included in the "Project related data for OPR-O136-RA". The scatterplot results for station INDX were obtained in the Spring 1993 Project. Personnel familiar with the site noted no changes in surrounding structures or topography.

Calibrations & Systems Check Methods ✓

System checks were performed in accordance with Section 3.4.4 of the FPM. Two observations of position were made from two independent DGPS base stations. The results were transferred to forms which are included in the project data for OPR-O136-RA. An abstract of the system checks is included in the "Separates to be Included with Survey Data, III. Horizontal Position Control and Corrections to Position Data".*

* Filed with the hydrographic data

Problems ✓

None

J. SHORELINE ✓ *See Eval Rpt, Section J.*

Shoreline map DM-10028, DM-10030, and DM-10031 were supplied by N/CG24 in paper and Standard Digital Data Exchange Format (SDDEF). The digital files were projected using OPR-O136 geodetic parameters using program Shore (update 2/6/95), provided by N/CG24, and stored in HYPACK (*.DIG) format. Shoreline was plotted at survey scale on boat sheets and processing sheets and was provided in digital form to the HYPACK boats.

Method of Shoreline Verification ✓

Shoreline verification was conducted near predicted lower low water in accordance with FPM 7.1. Shoreline verification was accomplished by assigning sequential reference numbers and taking detached positions (DPs), as explained later in this section.

Shoreline and DM features verified via visual inspection were assigned sequential reference numbers, described, and recorded in the field using reference forms and corresponding 1:10,000 photocopies of the DM. Reference numbers, descriptions, and heights corrected to MLLW using predicted tides are recorded on the reference form. Corresponding notes were annotated on the photocopies of the DM when deemed necessary. The annotated photocopies of the DM and the reference forms are included with the survey data.

DPs taken during shoreline verification were recorded on the master printouts* and on the DP forms.* These indicate significant DM features and features not found on the DM. Where possible, positions of some DM features were verified during inshore mainscheme hydrography and annotated on the master printouts.*

Detailed 1:10,000 "Bottom Sample and Detached Position Plots" are provided showing all DPs, reference numbers, and notes relating to each feature. The information from these plots was transferred to a final field plot where possible. Where such information would interfere with the legibility of the final plot the appropriate cartographic symbol has been transferred, but height and position number information remains on the plot, which serves as an overlay (FPM 6.1.2.5). Verified DM features were retained and shown in black. Changes to the shoreline features were shown in red, and new features are depicted in black. Field cartographic codes were assigned using the HDAPS DP editor. Heights are recorded in meters and are corrected to predicted MLLW. *There were no changes to the shoreline drawn in red. Field values have been changed after application of actual tides and shown on the smooth sheet.*

* Filed with the hydrographic data.

Changes and New Features

Several changes and new features were found and are depicted on the final field plot. DM islets and rocks were often identified as high points of new or charted ledges or reefs. *Concur*

Disprovals ✓

None.

Recommendations ✓

The hydrographer recommends that the shoreline changes from this survey be used to supersede prior shoreline information compiled on DM-10028, DM-10030, and DM-10031. *Concur*

Charted Features

Charted rocks were either identified as new rocks, high points or extensions of DM rocks. *Concur*

Charted pile in the vicinity of 57°19.5'N, 134°06.0'W was searched for on DN136 and not found (position # 11131). Depths in the shallow bay were around 1m, water visibility was 2m. The item was not found during echosounder operations nor during a twenty minute visual search.

The hydrographer recommends deleting the charted pile at 57°19.5'N, 134°06.0'W. *Concur*

K. CROSSLINES ✓

Crosslines are within 1-2 meter parameter agreement with mainscheme hydrography except in areas of complex bathymetry. Crosslines totaled 6.64 nautical miles, representing 9.2% of total mainscheme hydrography.

L. JUNCTIONS *See Eval Rpt, section L*

This survey junctions with survey H-10604 (1:10,000 1995) at the eastern limit. All other junctions are with non-contemporary surveys. Soundings were found to be in general agreement. Final comparison will be made at Pacific Hydrographic Section (PHS).

M. COMPARISON WITH PRIOR SURVEYS *See Eval Rpt, Section M*

Charted soundings originated from the following prior surveys: H-2002 (1:²⁰80,000, 1889, USC&GS), H-4511A (1:20,000, 1925 USC&GS), and H-4511B WD (1:20,000, 1925-²⁶, USC&GS). Soundings from the prior surveys were in general agreement with the present survey. However, the present survey, due to much greater sounding density, revealed

numerous shoal soundings not found during the prior surveys. There were no instances where prior survey soundings were shoaler in a corresponding area. *Do not concur*

Final comparison will be made at Pacific Hydrographic Section (PHS).

N. ITEM INVESTIGATIONS ✓

No AWOIS items were assigned to H-10607. *Concur*

O. COMPARISON WITH THE CHART *See Eval Rpt, Section O.*

This survey was compared to NOS chart 17363, 11th edition, April 27, 1991, 1:40,000, (NAD83), and charted soundings were found to be in general agreement.

Non-sounding charted features are discussed in Section J, Shoreline. Final comparisons to be made at PHS.

Dangers to Navigation ✓ *See Eval Rpt, Section O.*

39 dangers to navigation within the limits of survey H-10607 were reported to the Seventeenth Coast Guard District on June 12, 1995. Copies of the correspondence can be found in Appendix I of this report.

P. ADEQUACY OF SURVEY ✓

Survey H-10607 is complete and adequate to supersede charted depths and features in their common areas. *(With the transfer of two prior survey soundings.)* *Concur*

Q. AIDS TO NAVIGATION ✓

None.

R. STATISTICS ✓

# Selected Soundings	11076
NM Hydrography	138.8
Velocity Casts	2
Detached Positions	61
Bottom Samples	24
Tide Stations	2
NM ² Hydrography	9.3

S. MISCELLANEOUS ✓

Bottom samples were collected in accordance with Project Instructions. Samples have been stored and shipped to the Smithsonian Institution in accordance with Section 4.7.1 of the Hydrographic Manual.

No tidal current predictions are available within the sheet limits. However, tidal currents in the northern arm of the sheet reached velocities of 2-3 knots. Current direction was northerly on the flooding tides and southerly on the ebbing tides.

No unusual magnetic variations were noted.

T. RECOMMENDATIONS ✓


None

U. REFERRAL TO REPORTS ✓


The following supplemental reports contain additional information relevant to this survey:

<u>Title</u>	<u>Date Sent</u>	<u>Office</u>
Spring 1995 Horizontal Control Report for OPR-O136-RA.	June 1995	N/CG245
Spring 1995 Coast Pilot Report for OPR-O136-RA.	June 1995	N/CG245
Project related data for OPR-O136-RA.	Incremental	N/CG245
Secchi Disk Observations for OPR-O136	June 1995	N/CG311

Respectfully Submitted,


Eric J. Christensen
Ensign, NOAA

Approved and Forwarded,


Dean R. Seidel
Captain, NOAA
Commanding Officer

CONTROL STATIONS as of 29 Mar 1995 ✓

No	Type	Latitude	Longitude	H	Cart	Freq	Vel	Code	MM/DD/YY	Station Name
100	F	057°33'42.067	133°32'35.061	19	250	0.0	0.0	0.0	04/03/95	WINNHAM BAY LIGHT(GPS STATION)
101	F	057°16'13.398	133°37'53.480	30	250	0.0	0.0	0.0	04/03/95	INDX(GPS STATION),1993
102	F	057°28'37.036	133°50'16.968	6	250	0.0	0.0	0.0	04/12/95	KAN 1924(GPS STATION)
103	F	057°15'35.178	133°56'12.978	21	250	0.0	0.0	0.0	05/09/95	ROUND ROCK(GPS STATION),1917



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Office of NOAA Corps Operations
Pacific Marine Center
1801 Fairview Avenue East
Seattle, Washington 98102-3767

NOAA Ship RAINIER

June 12, 1995

**ADVANCE
INFORMATION**

Director
DMAHTC
ATTN: MCNM
6500 Brookes lane
Washington, DC 20315-0030

Dear Sir:

While conducting hydrographic survey operations in Southern Stephens Passage, Alaska, NOAA Ship RAINIER discovered thirty-nine dangers to navigation. They have been reported to DMAHTCNAVWARN and the Seventeenth Coast Guard District. A copy of the correspondence describing the dangers is enclosed.

Sincerely,

A handwritten signature in black ink, appearing to read "Dean R. Seidel".

Dean R. Seidel
Captain, NOAA
Commanding Officer

Enclosures



R XXXXXXXX JUN 95
 FM NOAA S RAINIER
 TO CCGD SEVENTEEN JUNEAU AK
 DMAHTCCNAVWARN WASHINGTON DC//MCNM//
 INFO NOAA MOP SEATTLE WA
 ACCT CM-VCAA

ADVANCE
 INFORMATION

BT

UNCLAS

NOAA SHIP RAINIER HAS LOCATED 39 DANGERS TO NAVIGATION IN
 SOUTHERN STEPHENS PASSAGE, ALASKA (PROJECT OPR-0136-RA)
 WITHIN THE LIMITS OF HYDROGRAPHIC SURVEY H-10607. THE
 FOLLOWING INFORMATION IS PROVIDED FOR PUBLICATION IN LOCAL
 NOTICE TO MARINERS:

DEPTHS ARE REDUCED TO MLLW BASED ON PREDICTED TIDES.

CHARTS AFFECTED: 17360 29TH ED JUL 9/94 1:217,828 (NAD83)
 17363 11TH ED APR 27/91 1:40,000 (NAD83)

ITEM	DANGER	DEPTH	LATITUDE	LONGITUDE	DEPTH(m)	FIX
A.	SHOAL	COVERS 2 fms	57/18/39.5N	133/57/04.5W	3 ¹	3651+3 ✓
B.	SHOAL	COVERS 5 fms	57/18/23.4N	133/57/22.4W	9 ²	3672+7 ✓
C.	SHOAL	COVERS 6 1/2 fms	57/17/51.0N	133/57/59.5W	12 ⁰	2034+4 ✓
D.	SHOAL	COVERS 7 fms	57/17/52.5N	133/59/24.4W	13 ⁰	2140+2 ✓
E.	SHOAL	COVERS 3/4 fms	57/17/53.3N	133/59/46.6W	1 ⁴	2309+1 ✓
F.	ROCK	AWASH	57/17/54.4N	133/59/52.0W	0 ³	3726 ✓
G.	SHOAL	COVERS 5 1/2 fms	57/18/05.3N	133/59/50.5W	10 ⁴	2160+2 ✓
H.	SHOAL	COVERS 2 1/2 fms	57/18/22.8N	133/59/42.8W	4 ⁹	2170+3 ✓
I.	SHOAL	COVERS 3 fms	57/18/03.9N	134/00/11.9W	5 ⁵	2190+2 ✓
J.	SHOAL	UNCOVERS 1 ft	57/18/05.3N	134/00/42.8W	(0 ³)	3756 ✓
K.	SHOAL	COVERS 1 1/4 fms	57/18/29.8N	134/00/30.3W	2 ⁷	2096+7 ✓
L.	SHOAL	COVERS 7 fms	57/18/40.3N	134/00/23.4W	12 ⁹	3471+7 ✓
M.	SHOAL	COVERS 4 fms	57/18/00.3N	134/01/15.9W	7 ⁶	2204+6 ✓
N.	SHOAL	COVERS 1 3/4 fms	57/18/02.3N	134/01/05.9W	3 ³	2216+3 ✓
O.	ROCK	AWASH	57/18/26.1N	134/01/04.0W	0 ⁴ 0 ⁴	3746 ✓
P.	ROCK	COVERS 1 1/2 fms	57/18/29.7N	134/01/25.7W	3 ¹	7888+3 ✓
Q.	SHOAL	COVERS 4 3/4 fms	57/18/37.4N	134/01/38.1W	9 ⁰	2283+2 ✓
R.	SHOAL	COVERS 3 3/4 fm	57/19/05.0N	134/01/21.1W	7 ²	2059+2 ✓
S.	ROCK	AWASH	57/19/11.5N	134/01/01.6W	0 ¹ 1/2	2041 ✓
T.	SHOAL	COVERS 10 3/4 fm	57/18/29.5N	134/03/13.2W	19 ⁰	1698+7 ✓
U.	SHOAL	COVERS 6 fm	57/19/27.0N	134/02/31.8W	11 ⁰	1769+4 ✓
V.	SHOAL	COVERS 2 1/4 fm	57/20/20.6N	134/03/53.8W	4 ³	1547+0 ✓
W.	SHOAL	COVERS 4 1/4 fm	57/21/17.4N	134/04/42.2W	7 ¹	8339+2 ✓

X.	SHOAL	COVERS 6 3/4 fms	57/21/33.1N	134/04/55.7W
Y.	SHOALING NORTH OF 57/21/48.0 N			
Z.	REEF	COVERS 1 ft	57/20/27.5N	134/05/10.6W
AA.	ROCK	AWASH	57/19/37.3N	134/05/30.4W
AB.	SHOAL	COVERS 10 fm	57/19/12.4N	134/04/58.1W
AC.	SHOAL	COVERS 9 1/2 fms	57/18/49.2N	134/04/39.9W
AD.	SHOAL	COVERS 2 1/2 fms	57/18/48.9N	134/04/29.6W
AE.	SHOAL	COVERS 3 1/2 fms	57/18/29.5N	134/04/03.9W
AF.	SHOAL	COVERS 1/4 fms	57/17/45.5N	134/05/12.8W
AG.	SHOAL	COVERS 1/4 fms	57/18/13.3N	134/05/33.9W
AH.	SHOAL	COVERS 9 1/2 fms	57/18/41.9N	134/04/48.6W
AI.	ROCK	AWASH	57/18/32.1N	134/05/47.3W
AJ.	SHOAL	COVERS 5 fms	57/18/56.2N	134/05/18.1W
AK.	SHOAL	COVERS 2 fms	57/18/48.8N	134/06/14.3W
AL.	SHOAL	COVERS 3 1/4 fms	57/19/13.6N	134/05/51.2W
AM.	SHOAL	COVERS 3/4 fms	57/19/12.5N	134/06/18.9W

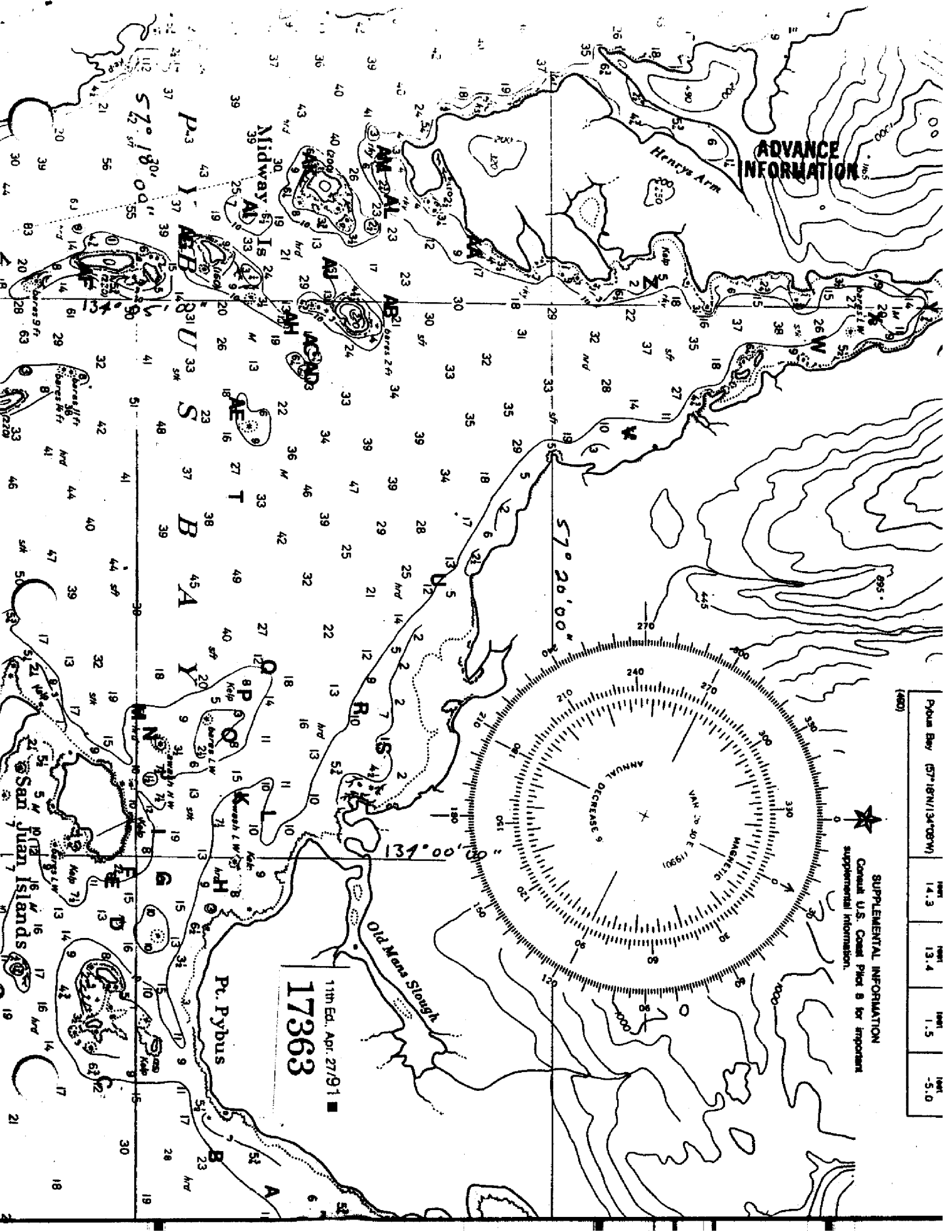
12 ⁶	1840+6
0 ³	8072+0 (Foul Net)
18 ⁵	11132+0 ✓
17 ⁷	10973+0 ✓
4 ⁷	11048+1 ✓
6 ⁴	8283+4 REUSE GPS
0 ⁹	11502+1 ✓
0 ⁹	10003+0
17 ⁶	2394+0
0 ³	3412+2 ✓
9 ³ 16	8520+3
4 ⁴ 44	8414+2
6 ³	8536+2
1 ⁷	2368+2 ✓
	11127+0 ✓

**ADVANCE
INFORMATION**

THIS IS ADVANCE INFORMATION SUBJECT TO OFFICE REVIEW.
 QUESTIONS CONCERNING THIS MESSAGE SHOULD BE DIRECTED TO THE
 CHIEF, PACIFIC HYDROGRAPHIC SECTION AT (206)526-6835. A
 LETTER WITH ATTACHED CHARTLET WILL BE MAILED TO CONFIRM
 THIS MESSAGE.
 BT

ADVANCE INFORMATION

POUSE BAY (57°18'N/134°03'W)				
14.3	13.4	1.5	1.5	
SUPPLEMENTAL INFORMATION				
Consult U.S. Coast Pilot 9 for important supplemental information.				
17363				
11th Ed., Apr. 27/91				





UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
OFFICE OF CHARTING AND GEODETIC SERVICES
Seattle, Washington 98115-0070

**ADVANCE
INFORMATION**

June 22, 1995

Commander
Seventeenth Coast Guard District
P.O. Box 25517
Juneau, AK 99802

Dear Sir:

Three additional dangers to navigation has been identified by Pacific Hydrographic Section regarding Project OPR-O136-RA (NOAA Ship RAINIER, May, 1995) within the limits of hydrographic survey H-10607. The attached information is provided for publication in the Local Notice to Mariners for the Seventeenth Coast Guard District. A copy of the chart showing the area in which the dangers exist is also attached.

Sincerely,

Kathryn Timmons
Commander, NOAA
Chief, Pacific Hydrographic Section

Enclosures

cc: DMAHTC
N/CG221
PMC



Hydrographic Survey Registry Number: H-10607

**ADVANCE
INFORMATION**

Survey Title: State: Alaska
Locality: Southern Stephens Passage
Sublocality: Eastern Portion of Pybus Bay

Project Number: OPR-O136-RA

Survey Date: May 12 - May 18, 1995

Features are reduced to Mean Lower Low Water using predicted tides.

Charts Affected: 17360 29th Edition/July 9, 1994 1:217,828 NAD83
17363 11th Edition/April 27, 1991 1:40,000 NAD83

<u>DANGER TO NAVIGATION</u>	<u>LATITUDE(N)</u>	<u>LONGITUDE(W)</u>
A. Shoal, covers 7 1/4 fms	57°18'02.6"	133°59'30.4"
B. Shoal, covers 1 1/4 fms	57°18'18.4"	134°00'55.3"
C. Rock, covers 1/4 fm	57°18'26.1"	134°01'04.0"

Questions concerning this report should be directed to the Chief, Pacific Hydrographic Section at (206) 526-6835.

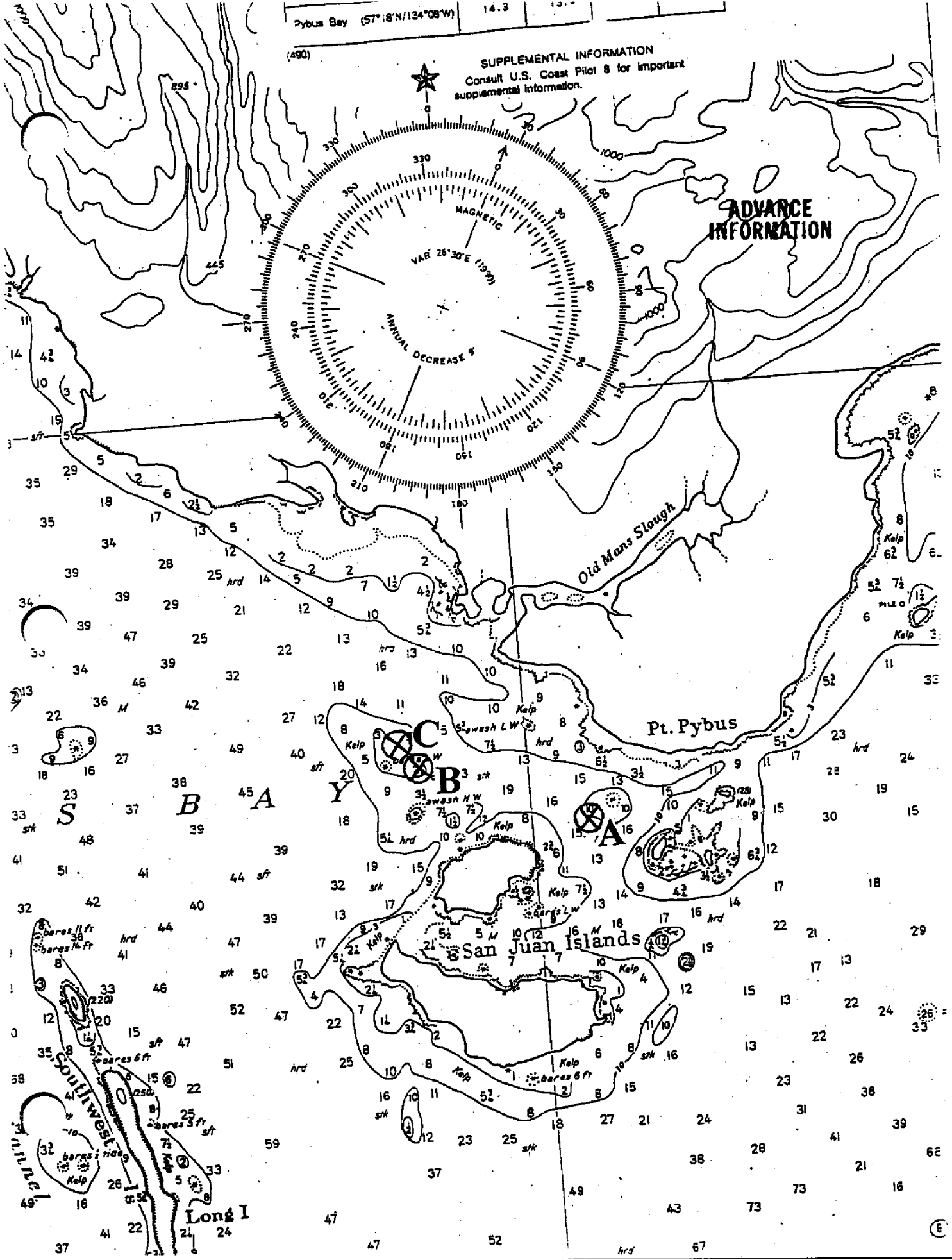
Pybus Bay (57°18'N/134°08'W) 14.3 13.0

(490)
SUPPLEMENTAL INFORMATION
Consult U.S. Coast Pilot 8 for important
supplemental information.



MAGNETIC
VAR 26°30'E (1970)
ANNUAL DECREASE 9'

ADVANCE
INFORMATION



(E)



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
OFFICE OF CHARTING AND GEODETIC SERVICES
Seattle, Washington 98115-0070

February 27, 1996

**ADVANCE
INFORMATION**

Commander (OAN)
Seventeenth Coast Guard District
P.O Box 25517
Juneau, AK 99802

Dear Sir:

During office review of hydrographic survey H-10607, Alaska, Southern Stephens Passage, Eastern Portion of Pybus Bay, two shoal soundings and a rock were found and are considered potential dangers to navigation affecting the following charts.

<u>Chart</u>	<u>Edition/date</u>	<u>Datum</u>
17363	11th, 4/27/91	NAD 83
17360	29th, 7/9/94	NAD 83

It is recommended that the enclosed Report of Dangers to Navigation be included in the Local Notice to Mariners.

Questions concerning this report should be directed to the Pacific Hydrographic Branch at (206) 526-6853.

Sincerely,

Kathy A. Timmons
Commander, NOAA
Chief, Pacific Hydrographic Branch

Enclosure

cc: DMA/HTC
NCS/261



REPORT OF DANGERS TO NAVIGATION

Hydrographic Survey Registry Number: H-10607

Survey Title: State: ALASKA
 Locality: SOUTHERN STEPHENS PASSAGE
 Sublocality: EASTERN PORTION OF PYBUS BAY

Project Number: OPR-O136-RA, NOAA Ship Rainier

Survey Date: May 12 - May 18, 1995

Features are reduced to Mean Lower Low Water using approved tides.

Charts affected: 17363 11th Edition/April 27, 1991, scale 1:40,000, NAD 83
 17360 29th Edition/July 9, 1994, scale 1:217,828, NAD 83

<u>DANGER TO NAVIGATION</u>	<u>LATITUDE(N)</u>	<u>LONGITUDE(W)</u>
Rock covers 1 ft	57/17/54.8	133/58/13.3
Shoal, covers 3 fms	57/19/02.1	134/00/56.3
Shoal, covers 1 1/4 fms	57/20/24.1	134/05/06.1

Questions concerning this report should be directed to the Chief, Pacific Hydrographic Branch at (206)526-6853.

APPROVAL SHEET

for

H-10607

RA-10-7-95

Standard procedures were followed in accordance with the Hydrographic Manual, Fourth Edition; the Hydrographic Survey Guidelines; and the Field Procedures Manual in producing this survey. The data were examined daily during acquisition and processing.

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



Dean R. Seidel
Captain, NOAA
Commanding Officer



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Office of Ocean and Earth Sciences
Silver Spring, Maryland 20910

TIDE NOTE FOR HYDROGRAPHIC SURVEY

ORIGINAL

DATE: August 25, 1995

HYDROGRAPHIC SECTION: Pacific

HYDROGRAPHIC PROJECT: OPR-0136

HYDROGRAPHIC SHEET: H-10607

LOCALITY: Eastern Portion of Pybus Bay, Stephens Passage, Alaska

TIME PERIOD: May 12 - 18, 1995

TIDE STATION USED: 945-1781 Cannery Cove, Pybus Bay, AK
Lat. 57° 18.4'N Lon. 133° 8.0'W

PLANE OF REFERENCE (MEAN LOWER LOW WATER): -2.29 ft.

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 13.6 ft.

TIDE STATION USED: 945-1785 The Brothers, Stephens Passage, AK
Lat. 57° 17.7'N Lon. 133° 47.8'W

PLANE OF REFERENCE (MEAN LOWER LOW WATER): -3.04 ft.

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 14.0 ft.

TIDE STATION USED: 945-0460 Ketchikan, AK
Lat. 55° 20.0'N Lon. 131° 37.5'W

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 6.23 ft.

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 14.5 ft.

page 1 of 2 for H-10607



REMARKS: RECOMMENDED ZONING

1. West of $134^{\circ} 0.0'W$, times and heights are direct on Cannery Cove, AK (945-1781). If data are needed beyond May 18, 1995 at 19:00 GMT, use Ketchikan, AK (945-0460) and apply a +20 minute time correction and a X0.93 ratio to heights.
2. East of $134^{\circ} 0.0'W$, times and heights are direct on The Brothers, AK (945-1785). If data are needed beyond May 18, 1995 at 19:00 GMT, use Ketchikan, AK (945-0460) and apply a +20 minute time correction and a X0.96 ratio to heights.

Notes: 1. Times are tabulated in Greenwich Mean Time.

2. Data for Cannery Cove, AK (945-1781), The Brothers, AK (945-1785) and Ketchikan, AK (945-0460) are temporarily stored in files #745-1781, #745-1785, and #745-0460 respectively.


CHIEF, DATUMS SECTION

H-10607

GEOGRAPHIC NAMES

Name on Survey	A ON CHART NO. 17363, 17360 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										
	A	B	C	D	E	F	G	H	K		
ADMIRALTY ISLAND	X		X							1	
ALASKA (title)	X		X							2	
MIDWAY ISLANDS	X		X							3	
OLD MANS SLOUGH	X		X							4	
PYBUS BAY	X		X							5	
PYBUS, POINT	X		X							6	
SAN JUAN ISLANDS	X		X							7	
										8	
										9	
										10	
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										24	
										25	

Approved

Clara C. Coy
Chief Geographer

JAN 17 1996

HYDROGRAPHIC SURVEY STATISTICS

H-10607

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT
SMOOTH SHEET		1	SMOOTH OVERLAYS: POS., ARC, EXCESS		
DESCRIPTIVE REPORT		1	FIELD SHEETS AND OTHER OVERLAYS		
DESCRIPTION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR-GRAMS	PRINTOUTS	ABSTRACTS/SOURCE DOCUMENTS
ACCORDION FILES	2				
ENVELOPES					
VOLUMES					
CAHIERS					
BOXES				1	

SHORELINE DATA

SHORELINE MAPS (List):

PHOTOBATHYMETRIC MAPS (List):

NOTES TO THE HYDROGRAPHER (List):

SPECIAL REPORTS (List):

NAUTICAL CHARTS (List):

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS		
	VERIFICATION	EVALUATION	TOTALS
SOUNDINGS SOUNDINGS ON SHEET			11076
POSITIONS REVISED			
SOUNDINGS REVISED			
CONTROL STATIONS REVISED			
	TIME-HOURS		
	VERIFICATION	EVALUATION	TOTALS
PRE-PROCESSING EXAMINATION			
VERIFICATION OF CONTROL			
VERIFICATION OF POSITIONS			
VERIFICATION OF SOUNDINGS			
VERIFICATION OF JUNCTIONS			
APPLICATION OF PHOTOBATHYMETRY			
SHORELINE APPLICATION/VERIFICATION			
COMPILATION OF SMOOTH SHEET	144		144
COMPARISON WITH PRIOR SURVEYS AND CHARTS			
EVALUATION OF SIDE SCAN SONAR RECORDS			
EVALUATION OF WIRE DRAGS AND SWEEPS			
EVALUATION REPORT		18	18
GEOGRAPHIC NAMES			
OTHER*			
*USE OTHER SIDE OF FORM FOR REMARKS	TOTALS		
	144	18	162
Pre-processing Examination by	Beginning Date	Ending Date	
Verification of Field Data by	Time (Hours)	Ending Date	
Verification Check by	Time (Hours)	Ending Date	
Evaluation and Analysis by	Time (Hours)	Ending Date	
Inspection by	Time (Hours)	Ending Date	

EVALUATION REPORT H-10607

A. PROJECT

The hydrographer's report contains a complete discussion of the Project information.

B. AREA SURVEYED

This survey was conducted in Southern Stephens Passage, Alaska and includes the eastern portion of Pybus Bay. Depths range from 0 to 132 meters. The bottom consists primarily of mud, sand and pebbles.

C. SURVEY VESSELS

The hydrographer's report contains information relating to survey vessels.

D. AUTOMATED DATA ACQUISITION AND PROCESSING

Survey data were processed using the same Hydrographic Data Acquisition/Processing System (HDAPS) software used by the hydrographer; the Hydrographic Processing System (HPS) and AutoCad, Versions 12 and 13.

At the time of the survey certification the format for the transmission of digital data had not been finally approved. In the interim, digital data for this survey exists in the standard HPS format which is a database format using the .dbf extension. In addition, the sounding plot, created with the .dbf data and enhanced using the AutoCad system, is filed both in the AutoCad drawing format, i.e., .dwg; and in the more universally recognized graphics transfer format, .dxf. Copies of these data files will be retained at PHS until data transfer protocols are developed and approved.

The drawing files necessarily contain information which is not part of the HPS data set such as geographic name text, line-type, and minor symbolization. In addition, those soundings deleted from the drawing for clarity purposes, remain unrevised in the HPS digital files to preserve the integrity of the original hydrographic data set. Cartographic codes used to describe the digital data are those authorized by Hydrographic Survey Guideline No. 75.

The field sheet parameters have been revised to center the hydrography on the office plot. Data is plotted using a Modified Transverse Mercator projection and are depicted on a single sheet.

E. SONAR EQUIPMENT

Side scan sonar was not used on survey H-10607.

F. SOUNDING EQUIPMENT

Sounding equipment is discussed in the hydrographer's report.

G. CORRECTIONS TO SOUNDINGS

Predicted tides for Juneau, Alaska were used for the reduction of soundings during field processing. Approved hourly heights zoned direct from The Brothers, Cannery Wharf and Ketchikan, Alaska, gages 945-1785, 945-1791 and 945-0460, were used during office processing. Soundings have been corrected for dynamic draft, actual tides and sound velocity. The offset values and velocity correctors are adequate.

H. CONTROL STATIONS

Sections H and I of the hydrographer's report contain adequate discussions of horizontal control and hydrographic positioning.

The positions of the horizontal control stations used during hydrography are published values based on NAD 83. The smooth sheet is annotated with a NAD 27 adjustment tick based on values determined with NGS program NADCON. Geographic positions based on NAD 27 may be plotted on the smooth sheet utilizing the NAD 83 projection by applying the following corrections.

Latitude: -1.222 seconds (-37.810 meters)
Longitude: 6.234 seconds (104.013 meters)

The year of establishment of control stations originate with the horizontal control records for this survey.

I. HYDROGRAPHIC POSITION CONTROL

Differential GPS(DGPS) was used to control this survey. NAD 83 is used as the horizontal datum for plotting and position computations. A horizontal dilution of precision (HDOP) not to exceed 3.75 was computed for survey operations. No positions exceeded the limits in terms of horizontal dilution of precision (HDOP).

J. SHORELINE

The following shoreline maps were compiled on NAD 83 and apply to this survey.

<u>Map Number</u>	<u>Date of Photography</u>	<u>Scale</u>
DM-10028	May 1989	1:20,000
DM-10030	May 1989	1:20,000
DM-10031	May 1989	1:20,000

The shoreline drawn on the smooth sheet originates from a 1:10,000 scale digital file provided by the Coastal Mapping Program. These file have been merged with the survey file during ACAD processing. Changes along the shoreline and new features in the area were noted on this survey. Some of the islets and rocks depicted on the map were identified in the field as part of reefs, high point or extensions of the newly located ledges. The configuration of ledges and reefs were updated to conform to the present hydrography. These revisions have been adequately depicted on the ACAD generated smooth sheet. There were no revisions to the mean high water line.

K. CROSSLINES

Crosslines are adequately discussed in the hydrographer's report.

L. JUNCTIONS

Survey H-10607 junctions with the following surveys.

<u>Survey</u>	<u>Year</u>	<u>Scale</u>	<u>Area</u>
H-10604	1995	1:10,000	East

The junction with H-10604 is complete. Soundings and depth curves within the common area are in good agreement.

M. COMPARISON WITH PRIOR SURVEYS

H-1996(1889-92) 1:80,000
H-2002(1889) 1:40,000
H-4511A(1925-26) 1:20,000

Surveys H-1996, H-2002 and H-4511A cover the entire area of the present survey. Present survey depths are generally shoaler with an average difference of 1 fathom (2.0 meters). These differences can be attributed to greater sounding coverage, relative accuracy of the data acquisition techniques and natural accretion and erosional processes. All features and critical depths originating from the above listed prior surveys were adequately addressed during survey operations.

Survey H-10607 is adequate to supersede the prior surveys within the common area.

H-4511B WD(1925-26) 1:20,000

The above wire-drag survey covers the entire area of the present survey. All depths were adequately investigated and should be superseded by this survey, except for the following.

<u>Sounding</u>	<u>Latitude(N)</u>	<u>Longitude(W)</u>
11.2 meters(6 fm)	57/18/37	134/03/58
11.6 meters(6 1/4 fm)	57/18/52	134/04/30

These soundings have been brought forward to the present survey.

N. ITEM INVESTIGATIONS

There were no AWOIS items which were within the survey limits.

O. COMPARISON WITH CHART

Survey H-10607 was compared with the following chart.

<u>Chart</u>	<u>Edition</u>	<u>Date</u>	<u>Scale</u>	<u>Datum</u>
17363	11th	April 27, 1991	1:40,000	NAD83

A. Hydrography

Charted hydrography originates with the prior surveys mentioned in section M. The prior surveys are discussed in section M and require no further discussion.

Survey H-10607 is adequate to supersede charted hydrography within the common area.

b. Dangers to Navigation

Thirty-nine dangers to navigation were reported to the USCG, DMAHTC and N/CG 221 on June 12, 1995. Six additional dangers to navigation were found during office processing. Copies of these letters are attached.

P. ADEQUACY OF SURVEY

Except as noted in section M, hydrography is adequate to:

- a. delineate the bottom configuration, determine least depth, and draw the standard curves;
- b. reveal there are no significant discrepancies or anomalies requiring further investigations; and
- c. show the survey was properly controlled and soundings are correctly plotted.

The hydrographic records and reports received for processing are adequate and conform to

the requirements of the Hydrographic Manual, 4th Edition, revised through Change No. 3, the Hydrographic Survey Guidelines, and the Field Procedures Manual, April 1994 Edition.

Q. AIDS TO NAVIGATION

There are no floating aids or fixed aids to navigation located within the survey area.

There are no charted landmarks or features that would be of landmark value within the survey area.

R. STATISTICS

Statistics are itemized in the hydrographer's report.

S. MISCELLANEOUS

No additional miscellaneous items were noted during office processing.

T. RECOMMENDATIONS

This is a good hydrographic survey. Additional field work is recommended on a low priority basis to investigate the features mentioned in section M.

U. REFERRAL TO REPORTS

Referral to reports is discussed in the hydrographer's report.

Charles R. Davies
C.R. Davies
Cartographer

APPROVAL SHEET
H-10607

Initial Approvals:

The completed survey has been inspected with regard to survey coverage, delineation of the depth curves, development of critical depths, cartographic symbolization, comparison with prior surveys and verification or disproval of charted data. The digital data have been completed and all revisions and processing have been entered in the magnetic tape record for this survey. Final control, position, and sounding printouts have been made and are included with the survey records. The survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.

Bruce A. Olmstead Date: 3/18/96
Bruce A. Olmstead
Senior Cartographer, Cartographic Section
Pacific Hydrographic Branch

I have reviewed the smooth sheet, accompanying data, and reports. This survey and accompanying digital data meet or exceed NOS requirements and standards for products in support of nautical charting except where noted in the Evaluation Report.

Kathy Timmons Date: 3/25/96
Kathy Timmons
Commander, NOAA
Chief, Pacific Hydrographic Branch

Final Approval

Approved:

Andrew A. Armstrong III Date: July 3, 1996
Andrew A. Armstrong III
Captain, NOAA
Chief Hydrographic Surveys Division

