

H10791

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey Hydrographic
Field No. RA-10-35-97
Registry No. H-10791

LOCALITY

State Alaska
General Locality Northwest Prince William Sound
Sublocality Northern Portion of Lone Island
to Perry Island and the Dutch Group

1997

CHIEF OF PARTY
CAPT Alan D. Anderson, NOAA

LIBRARY & ARCHIVES

DATE NOV. 9, 1998

HYDROGRAPHIC TITLE SHEET

H-10791

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-10-35-97

State Alaska

General locality Northwest Prince William Sound

Locality Northern Portion of Lone Island to Perry Island and the Dutch Group

Scale 1:10,000 Date of survey October 14-29, 1997

Instructions dated August 27, 1997 * Project No. OPR-P125-RA

Vessel RA-2(2122), RA-4(2124), RA-5(2125), RA-6(2126)

Chief of party CAPT Alan D. Anderson, NOAA

Surveyed by CAPT A. Anderson, LT G. Noll, LCDR D. Kruth, LT S. Lemke, LT K. Bailey,
SST S. Baum, SST N. Quanbeck, ST K. Callahan

Soundings taken by echo sounder, hand lead, pole DSF-6000N, Knudsen 320M

Graphic record scaled by RAINIER Personnel

Graphic record checked by RAINIER Personnel

Evaluation by: I. Almacen Automated plot by HP Design Jet 650C

~~Produced by~~ Verification by M. Bigelow, D. Doles, E. Domingo, R. Mayor

Soundings in fathoms ~~xxx~~ at ~~MLLW~~ and tenths

REMARKS: All times 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.
*Change #1 dated October 1, 1997

SURE/AWDIS 11/3/98
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Descriptive Report to Accompany Hydrographic Survey H-10791

Field Number RA-10-35-97

Scale 1:10,000

October 1997

NOAA Ship RAINIER

Chief of Party: Captain Alan D. Anderson, NOAA

A. PROJECT ✓

This basic hydrographic survey is 70% complete in Northwest Prince William Sound as specified by Project Instructions OPR-P125-RA dated August 27, 1997 and change number 1 dated ~~September~~ ^{September} 24, 1997. Survey H-10791 corresponds to sheet Z as defined in the sheet layout. This survey will provide data to supersede surveys performed in 1912. Requests for hydrographic surveys and updated charts in this area have been received from the Defense Mapping Agency, the U.S. Coast Guard, the Southwest Alaska Pilot's Association, cruise ship lines, and local fishermen.

B. AREA SURVEYED (See EVAL RPT., Sec. B)

The official survey area is The ~~Vicinity~~ ^{vicinity} of Lone Island, ^{to Barry Island} but the scope of work for 1997 expanded to include the vicinity of the Dutch Group. The field season ended before this additional area could be finished. Hence, it is 70% complete. A chartlet included with this report highlight areas where additional work is needed. Also, tides at this time of the year were not conducive for accurate shoreline verification. Hence, no shoreline verification was attempted in the vicinity of The Dutch Group. ^{Multi}beam hydrography was collected at 1:40,000 in the deeper waters that divide Lone Island and The Dutch Group and appears on sheet H-10782. The Vicinity of The Dutch Group's northern limit is latitude 60° 46' 43" N, the southern limit is 60° 43' 45" N, the western limit is 147° 51' 05" W and the eastern limit is 147° 46' 52" W. The Vicinity of North Lone Island's northern limit is latitude 60° 43' 04" N, the southern limit is 60° 40' 56" N, the western limit is 147° 51' 09" W and the eastern limit is 147° 42' 54" W. Data acquisition was conducted from October 14 to October 29, 1997 (DN 287 - DN 302).

C. SURVEY VESSELS ✓

Data were acquired by RAINIER survey launches RA-2, RA-4, RA-5, RA-6, as noted in the Survey Information Summary printout appended to this report.

D. AUTOMATED DATA ACQUISITION AND PROCESSING ✓

All data were acquired and preliminary processing was accomplished using the Hydrographic Data Acquisition and Processing System (HDAPS). This is the final HDAPS survey. Using the sounding and shoreline data in MapInfo facilitated charted and prior survey comparisons. Final Detached Positions and Soundings based on predicted tides were saved in MapInfo 4.1 format. A complete listing of software for HDAPS is included in Appendix VI. *

E. SONAR EQUIPMENT ✓

Neither Side Scan Sonar nor multi-beam echo sounder equipment were used on this survey. As stated in Section B, Hydro Chart II data was collected on H-10782 in areas too deep to be surveyed with the DSF 6000N fathometer. *Concur.*

* Filed with the hydrographic data.

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.* No new problems, which affect survey data, were encountered. DSF-6000N soundings generally were acquired in meters using the High + Low, high frequency digitized setting, but in depths over 300 meters, low frequency was scanned in place of the high when the fathometer lost its high frequency trace.

G. CORRECTIONS TO ECHO SOUNDINGS ✓

Three sound velocity casts were acquired ^{for this} within the survey limits as shown in the appended Survey Information Summary report. The sound velocity casts were acquired with SBE SEACAT Profiler (S/N 219), calibrated December 15, 1996. Velocity correctors were computed using the PC programs SEACAT and VELOCITY, version 3.3 (1997), in accordance with Field Procedures Manual (FPM) section 2.4.3. Printouts of the sound velocity profile, data, and correctors used in field processing are included in the "Separates to be Included with Survey Data, IV.* Sounding Equipment Calibrations and Corrections". * *Cast # 4 & 5 were taken outside of the survey limits.*

A static transducer depth was determined using FPM Fig 2.2 for vessels 2122, 2124, 2125 and 2126 in the spring of 1997. The static draft and offsets for RAINIER, 2120 were collected in 1995. 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-P125-RA-97. The data for vessel 2122 were collected in Shilshole Bay, Washington in March 1997. The data for 2124 and 2126 were collected at the same location in 1996. The data for vessel 2125 were collected in Young Bay, Alaska in March 1997. All offset tables contain offsets for the GPS antenna, as well as static draft measurements, and settlement and squat data. Offset tables 1-6 correspond to the last digit of the vessel number. The offset tables are included with project data for OPR-P125-RA-97.* The launches are not equipped with heave, roll and pitch sensors. *Coast.*

The Coastal and Estuarine Oceanography Branch (N/OES334) through N/CS31 provided predicted tides for the project on diskette for the Cordova, Alaska reference station (945-4050). HDAPS listings of the data used in generating tidal correctors are included in Appendix V of this report.* Tidal correctors as provided in the project instructions for H-10791 are shown on the appended Survey Information Summary report.

Valdez, Alaska (945-4240) and Cordova, Alaska (945-4050) are the primary control stations for datum determination at all subordinate stations. RAINIER personnel installed Sutron 8200 tide gages at Herring Point (945-4691) on September 2, 1997 and Point Perry (945-4729) on September 30, 1997. RAINIER personnel removed Sutron 8200 tide gages at Herring Point (945-4691) and Perry Point (945-4729) on October 31, 1997. Perry Point is the main gage and should be used for final reduction. *Approved Tide Note dated February 5, 1998 is attached.* Refer to the Field Tide Notes and supporting data in Appendix V for individual gage performance and level closure information.* This information has been forwarded to N/OES212 in accordance with HSG 50 and FPM 4.3. A request for approved tides was forwarded to N/OES23 in accordance with FPM 4.2.3.

H. CONTROL STATIONS (See EVAL RPT., Sec. H)

The horizontal datum for this project is NAD 83. Station ROCK, recovered in 1996 and checked in 1997, was used to verify and establish local geodetic control for this survey. See the OPR-P125-RA-97 Horizontal Control Report for more information. *List of control stations used for this survey is included in this report.*

I. HYDROGRAPHIC POSITION CONTROL (See EVAL RPT., Sec. I)

* Filed with the hydrographic data.

All soundings were positioned using differential GPS. Primary hydrographic control was based on the USCG beacons located at the Kenai Peninsula and Cape Hinchinbrook. Stations on Kodiak Island and Potato Point were also received in this area. A VHF differential reference station at ROCK and repeated on a second VHF frequency by the ship was used when possible.

Launch-to-launch DGPS performance checks were performed in accordance with Section 3.4.4 of the FPM. Two observations of position were made from two different DGPS base stations while the launches were rafted together with their GPS antennae within 2-3 meters of each other. RAINIER also used SHIPDIM, version 2.2R (April 1996) with a Trimble Centurion P-code receiver and an Ashtech sensor (both differentially-corrected) to monitor the performance of the USCG Beacon. Periodic comparisons and occasional performance checks were logged with the SHIPDIM system. Some outliers were noted, but none indicated systematic or continuous errors in the beacons. The SHIPDIM OUTLIER.SUM results are included in the project data for OPR-P125-RA-97.

J. SHORELINE (*See EVAL RPT., Sec. J*)

The shoreline manuscript from Coastal Mapping survey CM-92012 was supplied by N/CS341 in Standard Digital Data Exchange Format (SDDEF). The digital files from DM-10189 and DM-10190 were projected to the survey grid with OPR-P125-RA-97 geodetic parameters using program Shore version 2.0, provided by N/CS32, and plotted on the survey using HDAPS.

Limited shoreline verification was conducted in accordance with the Project Instructions except in the vicinity of The Dutch Group. Tides and rough sea conditions during this time of the year were not conducive for accurate shoreline verification. For this survey the general limit of safe navigation of a survey launch is 5-50 meters offshore of apparent low tide, generally 3-10 meters of depth at Mean Lower Low Water, except in areas of steep bathymetry. Features shown on the SHORELINE NOTES layer in the MapInfo workspace inshore of the NALL are the hydrographer's representation of the shoreline while slowly transiting along the shore, and are intended to aid chart compilation.

Shoreline manuscript and field features were compared to an enlargement of chart 16705 BSB version. This raster image was registered in MapInfo and plotted at survey scale by RAINIER personnel for HDAPS sounding comparison. There was general agreement between the charted and manuscript shoreline and what the hydrographer found on this survey. *Concur.*

Charted shoreline features that were not found on the manuscript were verified by field positions when offshore of the NALL. Discrepancies between charted and field shoreline should thus be resolved in favor of the manuscript shoreline and field work as shown on the final field Detached Position and Bottom Sample plot. *Concur.* *Shoreline verification in the areas of Lone Island and Perry Island have been analyzed during office processing and shown on the smooth sheet as warranted. There was no shoreline verification around the Dutch Group. However, contemporary shoreline manuscript data has been portrayed on the smooth sheet.* The table below lists detached positions acquired by RAINIER. These include offshore-charted features, manuscript shoreline features, repositioned, and new shoreline features.

***Depths based on predicted tides.*

Fix	Feature	Vessel	Day	Depth ^{**} m	Depth ^{**} m	Longitude	Latitude
20414	NEWROCK * (3)	2122	289	-0.38	-0.7	147:44:08.999	60:41:32.057
20668	CHARTED ROCK (part of ledge)	2122	289	-0.87	-1.6	147:44:18.713	60:41:47.036
20671	NEWROCK * Cov 2'	2122	289	0.49	0.9	147:44:50.970	60:41:54.580
40010	NEWROCK * (0)	2124	288	0.00	0	147:45:01.176	60:41:54.847
40244	NEWROCK * (2)	2124	289	-0.33	-0.6	147:45:02.117	60:42:01.632
40245	CHARTED ROCK * (2)	2124	289	-0.22	-0.4	147:44:27.246	60:42:14.126
60197	NEWROCK NEAR CHARTED ROCKS * (5)	2126	288	-0.66	-1.2	147:49:46.662	60:41:39.863
60203	CHARTED ROCK IS AN ISLET - DM SHORELINE SUPPORT	2126	288	-2.52	-4.6	147:50:09.969	60:41:20.887
60204	ISLET LIMITS (see #60203) ✓	2126	288	2.41	4.4	147:50:12.793	60:41:19.227
60487	NEWROCK * (3)	2126	289	-0.49	-0.9	147:50:53.760	60:42:11.054
60489	CHARTED AND DM ROCK ARE SAME FEATURE * (2)	2126	289	-0.98	-1.8	147:49:50.057	60:41:36.582
60500	TWO DM ROCKS NEAR CHARTED ROCK (#60489) * (?)	2126	289	-1.04	-1.9	147:49:46.668	60:41:36.428
40612	NEWROCK * (5)	2124	294	-0.82	-1.5	147:47:26.753	60:46:42.582

Seven (?) new rocks were located during this survey.

K. CROSSLINES ✓

Crosslines agreed within one to two meters with mainscheme hydrography, except in areas of steep bathymetry. There were a total of 17.4 nautical miles of crosslines, comprising 10.2% of mainscheme hydrography.

L. JUNCTIONS (See EVAL RPT., Sec. L)

This survey junctions with the following 1997 surveys: H-10785, 1:10,000 on the west, H-10786, 1:10,000 on the south, and H-10782, 1:40,000 multibeam survey in between Lone Island and The Dutch Group. Soundings on these 1997 surveys were found to agree within one to two meters. In addition, this survey junctions with the following contemporary surveys: H-10517, 1:20,000, 1993 on the north, and H-10519, 1:20,000, 1994 on the east. Soundings on these contemporary surveys were found to agree within one to two meters. A multibeam holiday exists at LAT 60° 42' 20" N, where H-10782 junctions with the southern half of H-10791. Although the area is sufficiently deep to present no danger to navigation, the hydrographer suggests performing another line of multibeam in this area as time permits. Final comparisons will be made at the Pacific Hydrographic Branch (PHB) after reduction to final vertical datum.

** longitude 147/46/00 w to longitude 147/51/00 w.*

M. COMPARISON WITH PRIOR SURVEYS (See EVAL RPT., Sec. M)

Prior survey H-3408, 1:20,000, 1912 covers this survey. H3383 has sparse coverage near this survey area, and was not compared to this survey in the field. The prior soundings agreed within one to two meters with the present survey, except where shoaler depths were found during this survey with denser sounding coverage. Final comparisons will be done at PHB after reduction to final sounding datum using tidal information collected concurrently with this survey.

N. ITEM INVESTIGATIONS ✓

Awois Item #52380, a 18.2M (9.75FM) shoal from H-10519, Latitude 60° 42' 43" N, Longitude 147° 43' 42" W was investigated using 25, 10 and 5 meter line spacing over a 500M by 200M area. A 13.5 M (7.25FM) depth was found at Latitude 60° 42' 44.243" N, Longitude 147° 43' 27.6" W. Inclement weather and time constraints precluded diving on this shoal. This shoal is included in the dangers to navigation
→ 7.1 fathoms (based on actual tides) Chart the 7-fathom sounding from this recent survey.

listed in Section O.

O. COMPARISON WITH THE CHART (See EVAL RPT., Sec. O)

Charts 16700, 1:200,000, 25th edition, 9/21/96 and 16705, 1:80,000, 16th edition, 8/24/96 are the largest scale charts covering the survey area. Comparison of soundings is described in Section M. Non-sounding features are discussed in Section J. Hydrography was collected in the charted foul areas immediately north of Lone Island and south of the Dutch Group. The hydrographer recommends that the foul limits be retained in these areas due to their rocky and shoal nature. Final sounding comparisons will be made at PHB after reduction to final vertical datum. ** The present survey has defined the charted foul areas. These foul areas should be shown on the chart with the hydrographic data as found by this survey.*

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

(12)
The following dangers to navigation were reported to the Seventeenth Coast Guard District on November 20, 1997. Copies of the correspondence can be found in Appendix I of this report. *are included in*

FEATURE	DEPTH (FM)	LATITUDE (N)	LONGITUDE (W)	FIX	DEPTH (M)
Shoal ✓	8 3/4 ✓	60 41 56.167	147 43 54.672	20247+9	16.1
Shoal ✓	6 1/2 ✓	60 42 8.606	147 44 6.501	40336+8	12.3
Shoal Rk ✓	1 ✓	60 42 2.49	147 44 41.203	40393+3	1.9
Shoal ✓	7 1/4 ✓	60 42 44.243	147 43 44.276	20468+3	13.5
Shoal ✓	5 1/4 ✓	60 41 17.126	147 45 29.951	40323+2	9.8
Shoal Rock ✓	4 ✓	60 41 11.358	147 49 47.573	20578+3	7.4
Shoal Rock ✓	2 1/4 ✓	60 41 45.024	147 50 30.219	20630+3	4.2
Shoal ✓	3 1/2 ✓	60 46 25.142	147 48 31.94	40459+1	6.5
Shoal ✓	7 1/2 ✓	60 46 30.006	147 48 11.774	60637+6	13.8
Shoal Rock ✓	2 1/2 ✓	60 44 49.651	147 49 2.583	41455+4	1.3
Shoal ✓	3 1/4 ✓	60 44 25.009	147 49 7.986	41125+5	6.2
Submerged rock Rock wash	* 4+2 ✓	60 42 1.632	147 45 2.117	40244+0	-0.6

P. ADEQUACY OF SURVEY (See EVAL RPT., Sec. P)

The area of survey H-10791, in the vicinity of Lone Island is complete and adequate to supersede prior soundings and features in their common areas. The area in the vicinity of the Dutch Group is approximately 70% complete and requires bottom sampling. A chartlet accompanying this report outlines the areas that need more work. These areas may be found under the MapInfo workspace "Zchartlet.WOR", in the table "Holidays". *With the exception of the required shoreline verification and bottom sampling, the hydrography conducted in the vicinity of the Dutch Group offshore of the NALL line is considered adequate to supersede the 1913 prior surveys within the common area of coverage.*

Q. AIDS TO NAVIGATION ✓

No navigational aids exist within the survey area. *Concur.*

R. STATISTICS ✓

Refer to the Survey Information Summary attached to this report.

S. MISCELLANEOUS ✓

Bottom samples were collected and sent to the Smithsonian in accordance with Project Instructions. No unusual tidal currents or magnetic variations were found during this survey. *No bottom sampling was conducted in the vicinity of Dutch Group.*

T. RECOMMENDATIONS (See EVAL RPT., Sec. T)


(No hydrographers' recommendations.)

U. REFERRAL TO REPORTS ✓

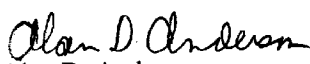
The following supplemental reports contain additional information relevant to this survey:

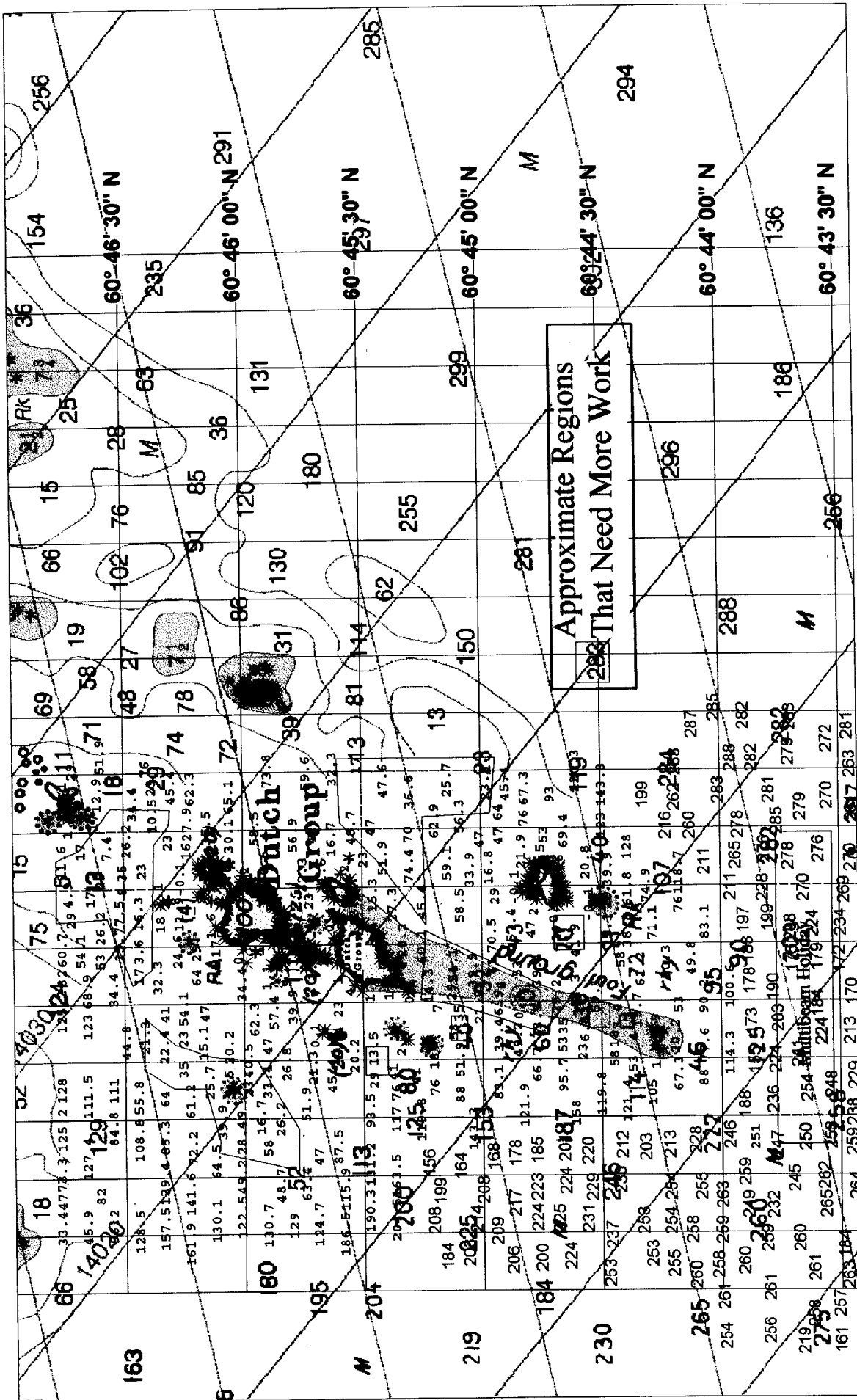
<u>Title</u>	<u>Date Sent</u>	<u>Office</u>
OPR-P125-RA Horizontal Control Report	December, 1997	N/CS34
OPR-P125-RA 1997 Coast Pilot Report	December, 1997	N/CS26
Project related data for OPR-P125-RA	Incremental	N/CS34

Respectfully Submitted,


For Robert S. Baum
Survey Technician
NOAA Ship Rainier

Approved and Forwarded,


Alan D. Anderson
Captain, NOAA
Commanding Officer



Approximate Regions
That Need More Work

the Passage

Survey Information Summary

Project: Project Name:

Instructions Dated: Project Change Info:

Change #	Dated
1	9/24/97

Sheet Letter: Registry Number:

Sheet Number:

Survey Title:

Data Acquisition Dates: From: To:

Vessel Usage Summary

VESNO	MS	SPLITS	DEV	XL	S/L	DP	BS	DIVE
2122	5	2	5	1	3	3		
2124	7	7	10	5	2	5		
2125			1				2	
2126	4	3	3	2	3	6		

Sound Velocity Cast Information

Launch Table #	Ship Table #	Cast DN	Max Depth	Position	Applicable DN
5		293	963	60/39/07	293-297
				147/44/49	
4		277	979	60/35/09	277-292
				147/44/27	
6		300	597.7	60/43/45	298-302
				147/50/30	

Tide Zone Information

Zone #	Time Corr.	Height Corr.
PWS53		X0.96

Tide Gage Information

Tide Gage #	Gage Name	Installed	Removed
945-4691	HERRING POINT	9/2/97	10/31/97
945-4729	POINT PERRY	9/30/97	10/31/97

Statistics Summary

Type	Total:
BS	17
DEV	132.91
DP	19
MS	170.46
S/L	5.34
SPLIT	99.84
XL	17.42

Percent XL:

SQNM:

CONTROL STATIONS as of 9 Dec 1997 ✓

No	Type	Latitude	Longitude	H	Cart	Freq	Vel Code	MM/DD/YY	Station Name
1		060:14:18.000	146:38:48.000	0	0	0.0	0.0	04/06/96	CAPE HINCHINBROOK USCG BECON
2		060:27:20.117	148:39:54.333	0	0	0.0	0.0	10/01/97	DGN DGPS
3		060:03:23.000	146:41:48.000	0	0	0.0	0.0	03/01/96	POTATO POINT USCG BEACON
4		060:39:17.513	147:58:26.500	18	0	0.0	0.0	00/00/00	ROCK



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

Commander (mon)
 Seventeenth Coast Guard District
 Post Office Box 25517
 Juneau, Alaska 99802-5517

NOAA Ship RAINIER
 November 21, 1997

**ADVANCE
 INFORMATION**

Dear CDR Hamblett:

The following dangers to navigation should be included in the Local Notice to Mariners. These features were positioned by the NOAA Ship RAINIER while conducting hydrographic surveys in western Prince William Sound, Alaska. The dangers are shown graphically on the two attached chartlets. They affect chart 16705, 16TH ED., 1996, 1:80,000, and chart 16700, 25TH ED, 1996, 1:200,000. All positions are on the NAD 83 datum and depths have been corrected to Mean Lower Low Water using predicted tides.

Feature Type	Depth (fm)	Latitude (N)	Longitude (W)	Position Number	Depth Meters	Survey Number
Rock	5.75	60:37:04.7	148:09:57.4	19077	10.9	H-10773
Rock	5.25	60:36:55.3	148:09:54.5	35885	9.6	H-10773
Rock	3.75	60:37:52.5	148:10:37.7	35886	7.2	H-10773
Shoal	3.25	60:31:18.0	148:13:57.4	40345+4	6.2	H-10774
Shoal	6.25	60:31:32.7	148:05:13.0	20631+5	11.7	H-10776
Shoal	8.25	60:32:01.1	148:04:03.8	40422+0	15.4	H-10776
Rock Awash	-0.25	60:31:49.7	148:20:14.6	2153	-0.3	H-10777
Rock Awash	-1.5	60:31:42.6	148:20:33.4	2183	-2.6	H-10777
Shoal	3.25	60:28:41.3	148:14:16.1	60296+3	5.9	H-10779
Shoal	6.5	60:44:17.0	147:56:55.0	20132+6	11.9	H-10785
Rock	2.5	60:44:29.0	147:56:10.7	20285+3	4.5	H-10785
Shoal	4.25	60:43:13.1	147:55:48.2	20325+5	7.7	H-10785
Rock	0.75	60:45:53.9	147:55:18.2	41053+0	1.7	H-10785
Rock	2.5	60:45:18.4	147:54:42.9	41130+3	5	H-10785
Rock	0.75	60:42:33.2	147:52:07.9	41231+0	1.5	H-10785
Shoal	5.5	60:43:43.8	147:56:17.1	41232+0	10.3	H-10785
Rock	3.5	60:43:48.5	147:56:23.9	60262+3	6.6	H-10785
Shoal	5.5	60:43:29.7	147:55:56.3	60350+3	10.1	H-10785
Rock	0.25	60:42:56.0	147:55:48.4	60485+0	0.8	H-10785
Rock	3.75	60:39:23.2	147:46:35.0	16246	7	H-10786
Rock	1.5	60:40:37.2	147:44:57.2	18846	3.3	H-10786
Rock	2.5	60:40:28.4	147:44:50.5	18944	4.6	H-10786
Shoal	8.5	60:40:14.5	147:46:59.1	19596	15.7	H-10786
Rock Awash	0	60:40:09.9	147:53:47.9	20248	0.2	H-10786
Rock	2.5	60:41:05.1	147:45:45.7	21266	4.8	H-10786
Shoal	7.25	60:40:50.5	147:50:44.1	21310	13.7	H-10786
Rock	5.25	60:39:45.0	147:51:14.9	54206	9.5	H-10786



Feature Type	Depth (fm)	Latitude (N)	Longitude (W)	Position Number	Depth Meters	Survey Number
Rock	0.75	60:39:55.5	147:53:18.5	55197	1.7	H-10786
Rock Awash	-0.25	60:39:06.9	147:55:54.7	58138	-0.3	H-10786
Rock	6.5	60:39:18.9	147:55:12.0	58193	12.3	H-10786
Shoal	5.5	60:39:57.9	147:54:08.2	59548	10.4	H-10786
Rock	1.5	60:40:18.9	147:54:26.2	60113	2.7	H-10786
Shoal	6.25	60:40:10.4	147:54:42.7	90005	11.4	H-10786
Shoal	4.5	60:40:03.5	147:55:29.7	90007	8.6	H-10786
Rock	2.25	60:39:27.0	147:53:18.3	90010	4	H-10786
Rock	2.5	60:39:53.9	147:51:28.5	90011	4.5	H-10786
Rock	2.5	60:40:33.8	147:46:14.5	90013	4.6	H-10786
Shoal	3.5	60:32:46.5	148:21:55.1	20055+8	6.6	H-10787
Rock	1.25	60:34:32.2	148:26:08.8	61567+1	2.2	H-10787
Shoal	3.25	60:30:56.7	148:22:32.8	61679+3	5.8	H-10787
Shoal	8.75	60:41:56.2	147:43:54.7	20247+9	16.1	H-10791
Shoal	7.25	60:42:44.2	147:43:44.3	20468+3	13.5	H-10791
Rock	4	60:41:11.4	147:49:47.6	20578+3	7.4	H-10791
Rock	2.25	60:41:45.0	147:50:30.2	20630+3	4.2	H-10791
Rock Awash	-0.25	60:42:01.6	147:45:02.1	40244+0	-0.6	H-10791
Shoal	5.25	60:41:17.1	147:45:30.0	40323+2	9.8	H-10791
Shoal	6.5	60:42:08.6	147:44:06.5	40336+8	12.3	H-10791
Rock	1	60:42:02.5	147:44:41.2	40393+3	1.9	H-10791
Shoal	3.5	60:46:25.1	147:48:31.9	40459+1	6.5	H-10791
Shoal	3.25	60:44:25.0	147:49:08.0	41125+5	6.2	H-10791
Rock	0.5	60:44:49.6	147:49:02.6	41455+4	1.3	H-10791
Shoal	7.5	60:46:30.0	147:48:11.8	60637+6	13.8	H-10791

H-10791

This is advance information subject to office review. Questions concerning this letter should be directed to the Chief, Pacific Hydrographic Branch, (206) 526-6835. Refer to survey project OPR-P125-RA-97 and Danger to Navigation message RA-7-97. More information on current RAINIER survey projects may be obtained by e-mail; contact the Field Operations Officer at FOO.RAINIER@NOAA.GOV.

Sincerely,



Alan D. Anderson
 Captain, NOAA
 Commanding Officer

Attachment

cc: NIMA
 PMC
 N/CS261
 N/CS34

Notice to Mariners Information
Chart 16705

16th Edition, 1996

Prince William Sound, Western Part

NOAA SHIP RAINIER

November 1997

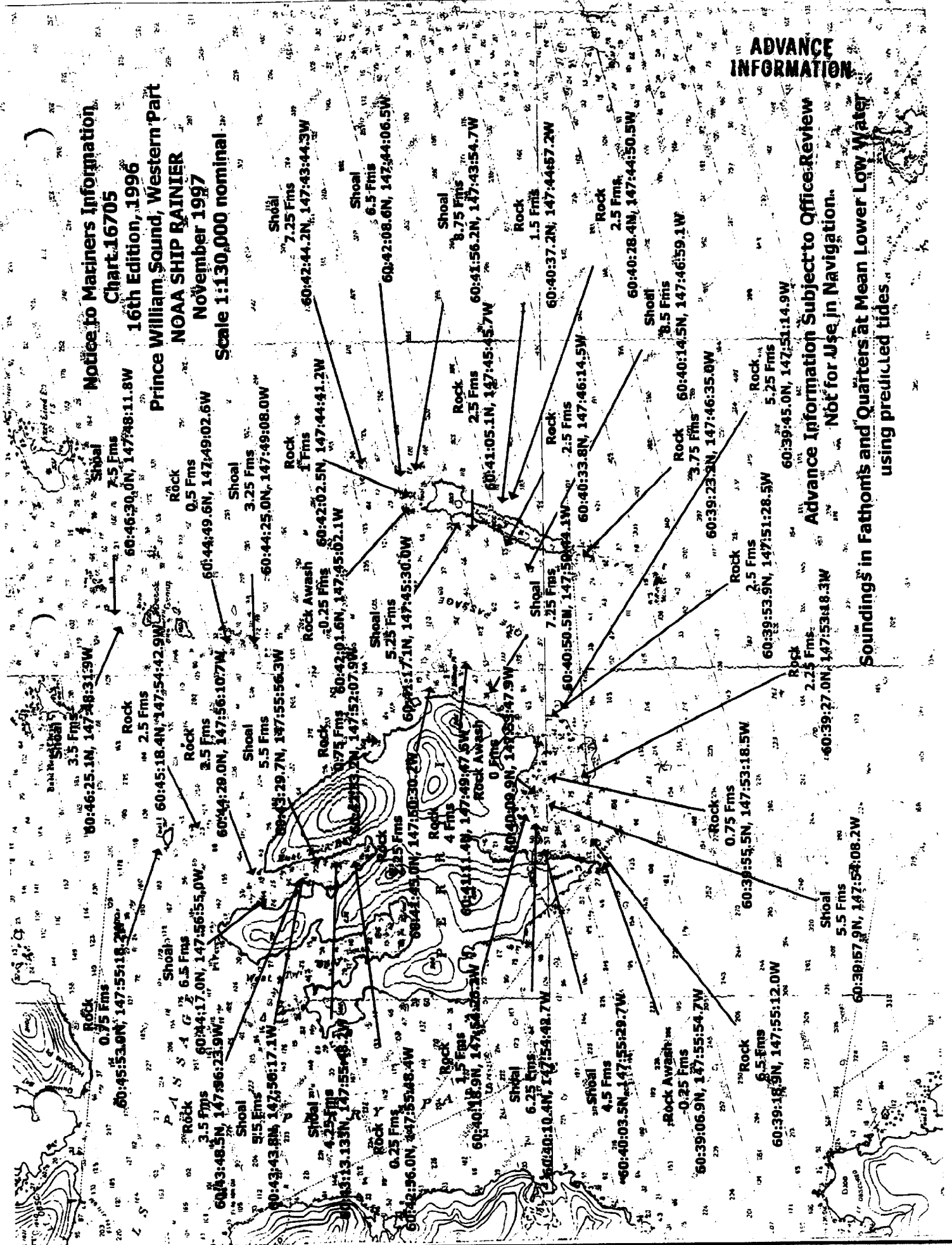
Scale 1:130,000 nominal

**ADVANCE
INFORMATION**

Advance Information Subject to Office Review

Not for Use in Navigation.

**Soundings in Fathoms and Quarters at Mean Lower Low Water
using predicted tides**



**ADVANCE
INFORMATION**

Author: FOO Rainier at Rainier
 Date: 11/21/97 11:32 AM
 Priority: Normal
 TO: akcgnav@alaska.net at RDC
 CC: dhill@pachydro.noaa.gov at RDC
 CC: ktimmons@pachydro.noaa.gov at RDC
 CC: navinfontet@nima.mil at RDC
 CC: Lynn [NDS-NCG22] Preston at RDC
 CC: Chief Survey Technician Rainier
 CC: CO Rainier
 Subject: Dangers to Navigation for Prince William Sound 1997

----- Message Contents -----

The following dangers to navigation should be included in the Local Notice to Mariners. These features were positioned by the NOAA Ship RAINIER while conducting hydrographic surveys in western Prince William Sound, Alaska. The dangers are shown graphically on two chartlets in the hard copy version of this message forwarded separately. They affect chart 16705, 16TH ED., 1996, 1:80,000, and chart 16700, 25TH ED, 1996, 1:200,000. All positions are on the NAD 83 datum and depths have been corrected to Mean Lower Low Water using predicted tides.

Feature Type	Depth Fathoms	Latitude (N)	Longitude (W)	Position Number	Depth Meters	Survey Number
Rock	5.75	60:37:04.7	148:09:57.4	19077	10.9	H-10773
Rock	5.25	60:36:55.3	148:09:54.5	35885	9.6	H-10773
Rock	3.75	60:37:52.5	148:10:37.7	35886	7.2	H-10773
Shoal	3.25	60:31:18.0	148:13:57.4	40345+4	6.2	H-10774
Shoal	6.25	60:31:32.7	148:05:13.0	20631+5	11.7	H-10776
Shoal	8.25	60:32:01.1	148:04:03.8	40422+0	15.4	H-10776
Rock Awash	-0.25	60:31:49.7	148:20:14.6	2153	-0.3	H-10777
Rock Awash	-1.5	60:31:42.6	148:20:33.4	2183	-2.6	H-10777
Shoal	3.25	60:28:41.3	148:14:16.1	60296+3	5.9	H-10779
Shoal	6.5	60:44:17.0	147:56:55.0	20132+6	11.9	H-10785
Rock	2.5	60:44:29.0	147:56:10.7	20285+3	4.5	H-10785
Shoal	4.25	60:43:13.1	147:55:48.2	20325+5	7.7	H-10785
Rock	0.75	60:45:53.9	147:55:18.2	41053+0	1.7	H-10785
Rock	2.5	60:45:18.4	147:54:42.9	41130+3	5.0	H-10785
Rock	0.75	60:42:33.2	147:52:07.9	41231+0	1.5	H-10785
Shoal	5.5	60:43:43.8	147:56:17.1	41232+0	10.3	H-10785
Rock	3.5	60:43:48.5	147:56:23.9	60262+3	6.6	H-10785
Shoal	5.5	60:43:29.7	147:55:56.3	60350+3	10.1	H-10785
Rock	0.25	60:42:56.0	147:55:48.4	60485+0	0.8	H-10785
Rock	3.75	60:39:23.2	147:46:35.0	16246	7.0	H-10786
Rock	1.5	60:40:37.2	147:44:57.2	18846	3.3	H-10786
Rock	2.5	60:40:28.4	147:44:50.5	18944	4.6	H-10786
Shoal	8.5	60:40:14.5	147:46:59.1	19596	15.7	H-10786
Rock Awash	0	60:40:09.9	147:53:47.9	20248	0.2	H-10786
Rock	2.5	60:41:05.1	147:45:45.7	21266	4.8	H-10786
Shoal	7.25	60:40:50.5	147:50:44.1	21310	13.7	H-10786
Rock	5.25	60:39:45.0	147:51:14.9	54206	9.5	H-10786
Rock	0.75	60:39:55.5	147:53:18.5	55197	1.7	H-10786
Rock Awash	-0.25	60:39:06.9	147:55:54.7	58138	-0.3	H-10786

Rock	6.5	60:39:18.9	147:55:12.0	58193	12.3	H-10786
Shoal	5.5	60:39:57.9	147:54:08.2	59548	10.4	H-10786
Rock	1.5	60:40:18.9	147:54:26.2	60113	2.7	H-10786
Shoal	6.25	60:40:10.4	147:54:42.7	90005	11.4	H-10786
Shoal	4.5	60:40:03.5	147:55:29.7	90007	8.6	H-10786
Rock	2.25	60:39:27.0	147:53:18.3	90010	4.0	H-10786
Rock	2.5	60:39:53.9	147:51:28.5	90011	4.5	H-10786
Rock	2.5	60:40:33.8	147:46:14.5	90013	4.6	H-10786
Shoal	3.5	60:32:46.5	148:21:55.1	20055+8	6.6	H-10787
Rock	1.25	60:34:32.2	148:26:08.8	61567+1	2.2	H-10787
Shoal	3.25	60:30:56.7	148:22:32.8	61679+3	5.8	H-10787
Shoal	8.75	60:41:56.2	147:43:54.7	20247+9	16.1	H-10791
Shoal	7.25	60:42:44.2	147:43:44.3	20468+3	13.5	H-10791
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Rock	2.25	60:41:45.0	147:50:30.2	20630+3	4.2	H-10791
Rock Awash	-0.25	60:42:01.6	147:45:02.1	40244+0	-0.6	H-10791
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Rock	0.5	60:44:49.6	147:49:02.6	41455+4	1.3	H-10791
Shoal	7.5	60:46:30.0	147:48:11.8	60637+6	13.8	H-10791

H-10791

This is advance information subject to office review. Questions concerning this letter should be directed to the Chief, Pacific Hydrographic Branch, (206) 526-6835. Refer to survey project OPR-P125-RA-97 and Danger to Navigation message RA-7-97. More information on current RAINIER survey projects may be obtained by e-mail; contact the Field Operations Officer at FOO.RAINIER@NOAA.GOV. Hard copy (letter) is being sent November 21, 1997 by regular mail.

/S/ Captain Alan D. Anderson, NOAA
Commanding Officer, NOAA Ship RAINIER



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
OFFICE OF COAST SURVEY
Pacific Hydrographic Branch
Seattle, Washington 98115-0070

September 1, 1998

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

Dear Sir:

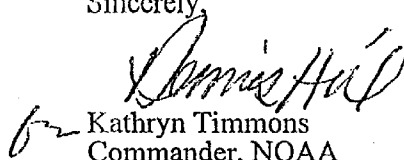
During office review of hydrographic survey H-10791, Alaska, Northwest Prince William Sound, Northern Portion of Lone Island to Perry Island and the Dutch Group, eight (8) additional dangers to navigation have been identified and affects the following chart.

<u>Chart</u>	<u>Edition/Date</u>	<u>Scale</u>	<u>Datum</u>
16705	17th/Sept. 27, 1997	1:80,000	NAD 83

The attached information is provided for publication in the Local Notice to Mariners.

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

Sincerely,


Kathryn Timmons
Commander, NOAA
Chief, Pacific Hydrographic Branch

Enclosures

cc: NIMA
N/CS261



REPORT OF DANGERS TO NAVIGATION

Hydrographic Survey Registry Number: H-10791

Survey Title: State: ALASKA
Locality: NW PRINCE WILLIAM SOUND
Sublocality: NORTHERN PORTION OF LONE ISLAND
AND PERRY ISLAND AND THE DUTCH
GROUP

Project Number: OPR-P125-RA, NOAA Ship RAINIER

Survey Date: October 14-29, 1997

Soundings are reduced to Mean Lower Low Water using approved tides and are positioned on NAD 83.

Chart affected: 16705, 17th Edition/Sept. 27, 1997, scale 1:80,000, NAD 83

<u>DANGER TO NAVIGATION</u>	<u>LATITUDE(N)</u>	<u>LONGITUDE(W)</u>
Rock Awash	60/42/11.0	147/50/53.7
Shoal, covers 6-3/4 fathoms	60/41/06.7	147/44/32.8
Shoal, covers 4 fathoms	60/44/37.6	147/48/20.4
Shoal, covers 6-3/4 fathoms	60/45/10.2	147/49/03.3
Shoal, covers 5-1/2 fathoms	60/45/36.6	147/47/39.7
Shoal, covers 10 fathoms	60/46/16.9	147/47/39.6
Shoal, covers 10 fathoms	60/46/21.5	147/47/21.4
Shoal, covers 7-1/2 fathoms	60/46/33.1	147/47/38.1

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

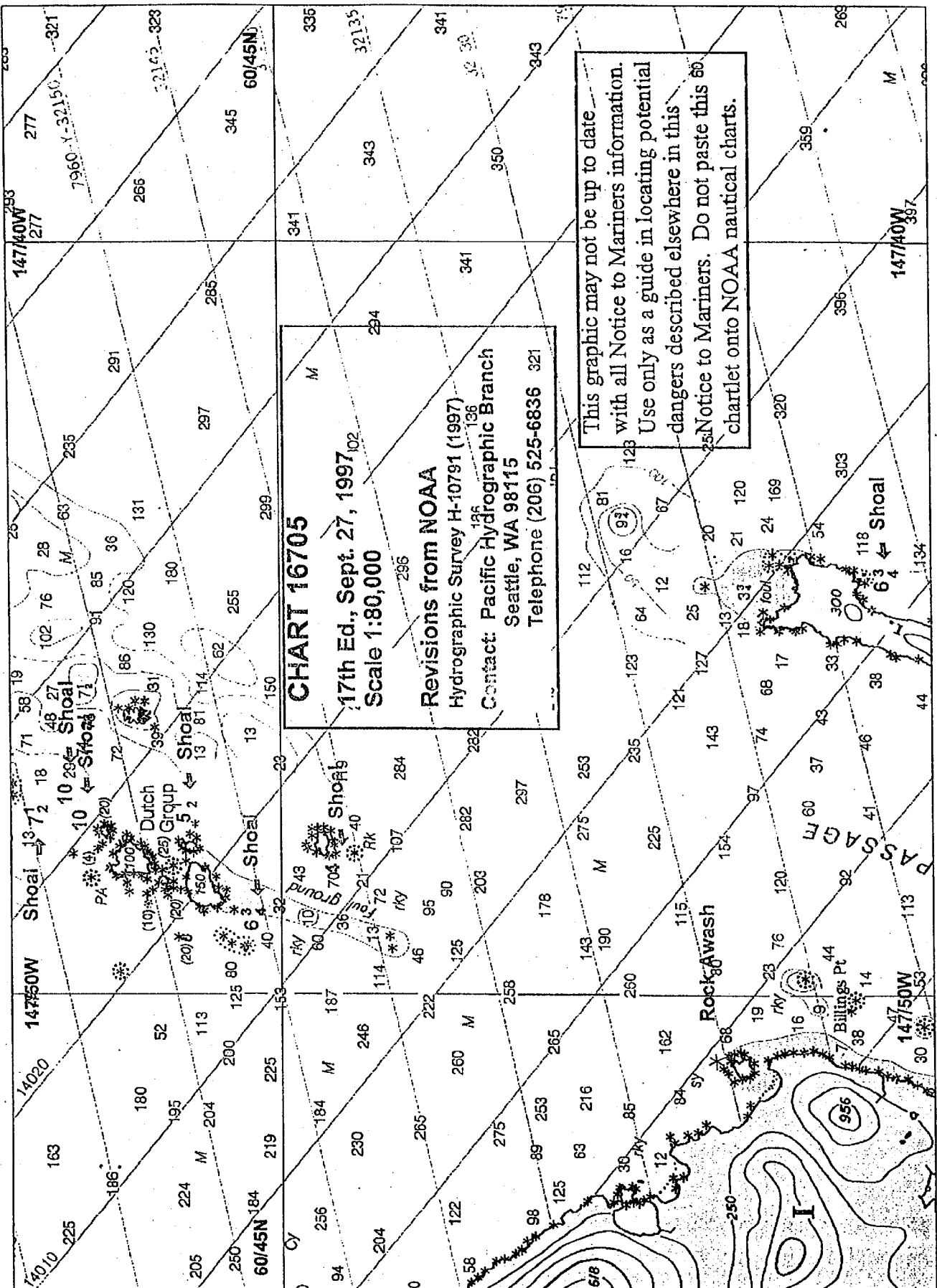
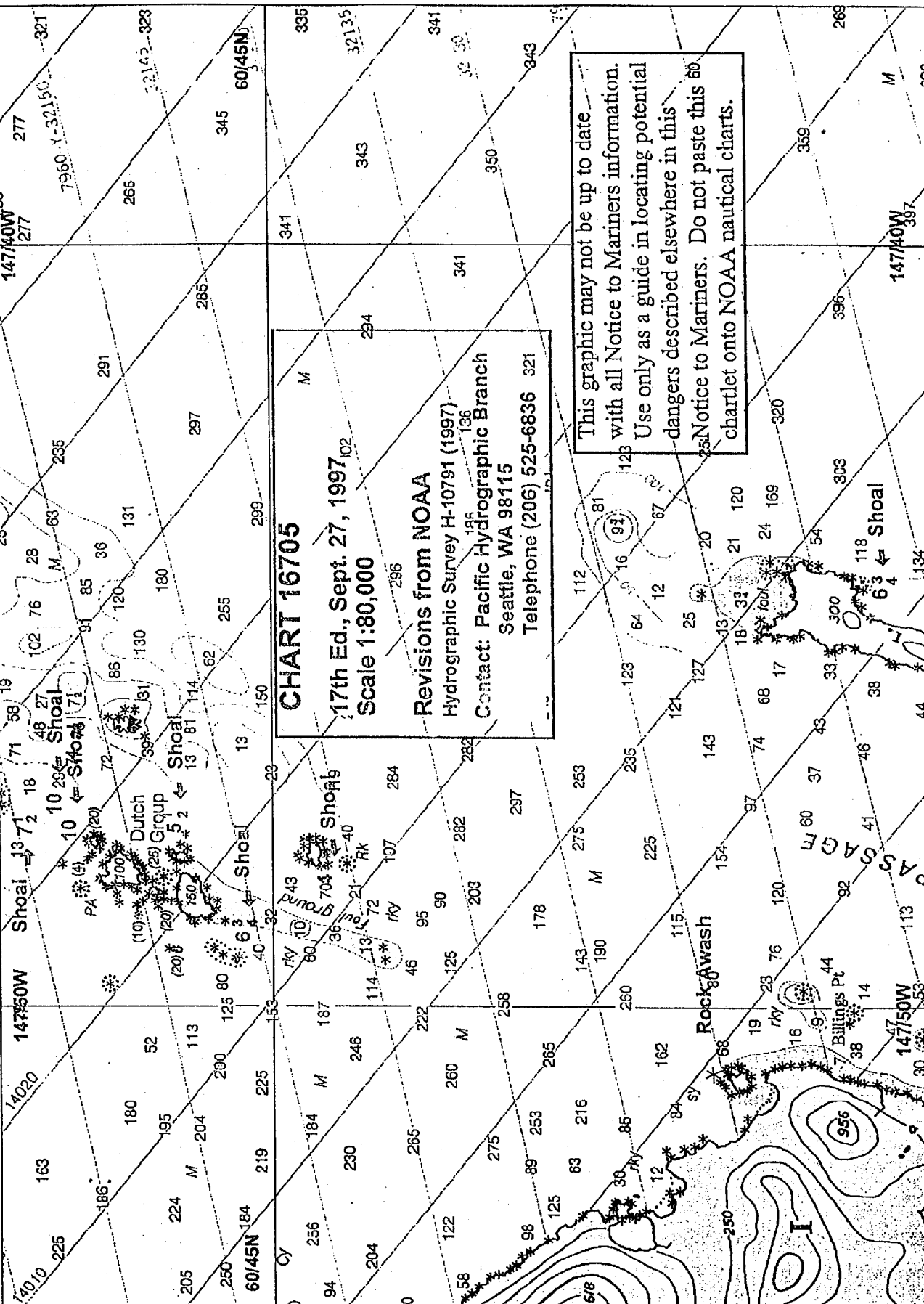


CHART 16705
 17th Ed., Sept. 27, 1997
 Scale 1:80,000

Revisions from NOAA
 Hydrographic Survey H-10791 (1997)
 Contact: Pacific Hydrographic Branch
 Seattle, WA 98115
 Telephone (206) 525-6836

This graphic may not be up to date with all Notice to Mariners information. Use only as a guide in locating potential dangers described elsewhere in this Notice to Mariners. Do not paste this chartlet onto NOAA nautical charts.



APPROVAL SHEET

for

H-10791

Standard field surveying and processing procedures were followed in producing this examination in accordance with the Hydrographic Manual, Fourth Edition; the Hydrographic Survey Guidelines; and the Field Procedures Manual, as updated for 1994.

The digital data and supporting records have been reviewed by me, are considered complete and adequate for charting purposes, and are approved. All records are forwarded for final review and processing to N/CS34, Pacific Hydrographic Branch.

DATE: December 4, 1997

Approved and Forwarded,

Alan D. Anderson

Alan D. Anderson
Captain, NOAA
Commanding Officer
NOAA Ship RAINIER



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: February 5, 1998

HYDROGRAPHIC BRANCH: Pacific

HYDROGRAPHIC PROJECT: OPR-P125-RA-97

HYDROGRAPHIC SHEET: H-10791

LOCALITY: Northwest Prince William Sound, AK

TIME PERIOD: Oct 14 - Oct 29, 1997

TIDE STATION USED: 945-4691 Herring Point, Knight Island Passage
Lat. 60° 28.5'N Lon. 147° 47.5'W

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 3.326 meters

TIDE STATION USED: 945-4729 Pt. Perry, Perry Island
Lat. 60° 45.1'N Lon. 147° 57.8'W

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 3.386 meters

TIDE STATION USED: 945-4794 Applegate Island
Lat. 60° 37.4'N Lon. 148° 09.9'W

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 3.385 meters

REMARKS: RECOMMENDED ZONING

Use zone(s) identified as: PWS52 & PWS53
Refer to attachments for zoning information.

Note 1: Provided time series data are tabulated in metric units (Meters), relative to MLLW and on Greenwich Mean Time.

Note 2: Use tide data from the appropriate station for each zone according to the order in which they are listed in the "Tidezone" corrector files. For example, tide station one (TS1) would be the first choice for an applicable zone followed by TS2, etc. when data are not available. All zones within a survey sheet may not have the same order of applicable tide stations.

[Signature]

CHIEF, OPERATIONAL ANALYSIS BRANCH



Final tide zone node point locations for OPR P125-RA-97,
H-10791.

Format: Longitude in decimal degrees (negative value denotes
Longitude West),
Latitude in decimal degrees
Tide Station (in recommended order of use)
Average Time Correction (in minutes)
Range Correction

	Tide Station Order	AVG Time Correction	Range Correction
Zone PWS52			
-147.93198 60.657934	945-4729	0	0.99
-147.957558 60.686216	945-4794	0	0.98
-147.848006 60.693887	945-4691	0	1.00
-147.48158 60.72734			
-147.456957 60.723688			
-147.422995 60.72893			
-147.385582 60.690765			
-147.416199 60.672546			
-147.441099 60.63539			
-147.474131 60.622033			
-147.560712 60.570642			
-148.101183 60.592465			
-147.93198 60.657934			
Zone PWS53			
-147.456957 60.723688	945-4729	0	1.00
-147.422995 60.72893	945-4691	0	1.01
-147.627905 60.861773	945-4794	0	0.99
-147.739465 60.996829			
-147.946651 60.91491			
-148.128793 60.798672			
-148.149283 60.748856			
-148.000248 60.724243			
-147.957558 60.686216			
-147.848006 60.693887			
-147.48158 60.72734			
-147.456957 60.723688			

GEOGRAPHIC NAMES

H-10791

Name on Survey	<div style="display: flex; justify-content: space-between;"> A REPORT NO. 16703 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 </div>										
	A	B	C	D	E	F	G	H	K		
ALASKA (title)	X		X							1	
BILLINGS POINT	X		X							2	
DUTCH GROUP	X		X							3	
LONE ISLAND	X		X							4	
LONE PASSAGE	X		X							5	
PERRY ISLAND	X		X							6	
PRINCE WILLIAM SOUND (title)	X									7	
										8	
										9	
										10	
										11	
										12	
										13	
										14	
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										23	
										24	
										25	

Approved

Pennington Kenesburg
APR - 1 1998

NOAA FORM 77-27(H) (9-83)			U.S. DEPARTMENT OF COMMERCE		REGISTRY NUMBER	
HYDROGRAPHIC SURVEY STATISTICS					H-10791	
RECORDS ACCOMPANYING SURVEY: To be completed when survey is processed.						
RECORD DESCRIPTION			AMOUNT		RECORD DESCRIPTION	
SMOOTH SHEET			1		SMOOTH OVERLAYS: POS., ARC, EXCESS	
DESCRIPTIVE REPORT			1		FIELD SHEETS AND OTHER OVERLAYS	
DESCRIP-TION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR-GRAMS	PRINTOUTS	ABSTRACTS/SOURCE DOCUMENTS	
ACCORDION FILES	1					
ENVELOPES						
VOLUMES						
CAHIERS						
BOXES						
SHORELINE DATA						
SHORELINE MAPS (List):			DM-10189 & DM-10190			
PHOTOBATHYMETRIC MAPS (List):			None			
NOTES TO THE HYDROGRAPHER (List):			None			
SPECIAL REPORTS (List):			None			
NAUTICAL CHARTS (List):			16705, 17th Edition, September 27, 1997			
OFFICE PROCESSING ACTIVITIES						
<i>The following statistics will be submitted with the cartographer's report on the survey</i>						
PROCESSING ACTIVITY				AMOUNTS		
				VERIFICATION	EVALUATION	TOTALS
POSITIONS ON SHEET						
POSITIONS REVISED						
SOUNDINGS REVISED (Selected)						18,950
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				122.0		122.0
COMPARISON WITH PRIOR SURVEYS AND CHARTS					12.0	12.0
EVALUATION OF SIDE SCAN SONAR RECORDS						
EVALUATION OF WIRE DRAGS AND SWEEPS						
EVALUATION REPORT					37.0	37.0
GEOGRAPHIC NAMES						
OTHER*						
*USE OTHER SIDE OF FORM FOR REMARKS			TOTALS	122.0	49.0	171.0
Pre-processing Examination by M. Bigelow				Beginning Date 4/8/98	Ending Date 4/8/98	
Verification of Field Data by M. Bigelow, D. Doles, R. Mayor, E. Domingo				Time (Hours) 122.0	Ending Date 8/10/98	
Verification Check by B. Olmstead				Time (Hours) 8	Ending Date 8/25/98	
Evaluation and Analysis by I. Almacen				Time (Hours) 49.0	Ending Date 8/6/98	
Inspection by B. Olmstead				Time (Hours) 10	Ending Date 9/14/98	

EVALUATION REPORT

H-10791

A. PROJECT

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

B. AREA SURVEYED

The survey area is adequately discussed in the hydrographer's report with the following supplemental information.

This survey was originally planned to cover the area between the northern extremities of Lone Island and the eastern coast of Perry Island and covering the northern section of Lone Passage. It was later decided in the field to extend this survey to include the Dutch Group and vicinity. Additional hydrography was conducted around the Dutch Group, however, the 1997 field season ended before shoreline verification and bottom sampling could be accomplished in the area.

The coastline along the Dutch Group, Lone Island and the eastern shore of Perry Island generally consists of scattered off-lying islets, reefs, rocks and ledges. The bottom is primarily made up of mud, gravel and pebble.

The hydrographer has determined during this survey the Navigable Area Limit Line (NALL) in accordance with the Project Instructions and the "limited" shoreline verification rules adopted by the ship during field survey operations. A page size chartlet of the survey area indicating the limits of supersession is included in this report as Attachment A.

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), AutoCad (Version 12.0), and MicroStation 95.

Digital data for this survey exists in the standard HPS format, that is a database format using the .dbf extension. In addition, the plot is filed both in the MicroStation drawing format, i.e., dgn (extension); and in the more universally recognized graphics transfer format, .dxf (extension). Copies of these files will be retained at PHB until data forwarded to headquarters has been accepted and approved. Data base records forwarded are in the Internal Data Format (IDF) and are in compliance with specifications in existence at the time of survey processing.

The drawing files necessarily contain information which is not part of the HPS data set such as geographic names text, line-type data, 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. 35 and No. 75.

The field sheet parameters have been revised to center the hydrography on the office plot. The data is plotted using a Modified Transverse Mercator projection and are depicted on a single 1:10,000 scale sheet.

E. SONAR EQUIPMENT

Side Scan Sonar was not used on survey H-10791.

F. SOUNDING EQUIPMENT

Sounding equipment has been adequately addressed in the hydrographer's report.

G. CORRECTIONS TO SOUNDINGS

The sounding data have been reduced to Mean Lower Low Water (MLLW). The reducers include corrections for an actual tide, dynamic draft, and sound velocity. These reducers have been reviewed and are consistent with present NOS specifications.

Predicted tides were used for the reduction of soundings during field processing. Actual tide reduction is derived from Pt. Perry, Perry Island, Alaska, gage 945-4729. Tide stations at Herring Point and Applegate Island were listed on the approved tide note but were not used for final sounding reduction. Refer to the approved tide note attached to this report concerning recommended tidal zoning.

H. CONTROL STATIONS

The control stations used during this survey are adequately discussed in the hydrographer's report.

The positions of horizontal control stations used during hydrographic operations are field values based on NAD 83. The geographic positions of all survey data are based on NAD 83. The smooth sheet is annotated with an NAD 27 adjustment tick based on values determined with the NGS program NADCON. Geographic positions based on NAD27 may be plotted on the smooth sheet utilizing the NAD 83 projection by applying the following corrections.

Latitude: -1.914 seconds (-59.230 meters)
Longitude: 7.443 seconds (112.818 meters)

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

I. HYDROGRAPHIC POSITION CONTROL

Hydrographic position control is adequately discussed in the hydrographer's report.

Differential GPS (DGPS) was used to control this survey. A horizontal dilution of precision (HDOP) not to exceed 3.75 was computed for survey operations. The maximum (HDOP) allowable limit has not been exceeded during this survey and the quality of data obtained is good. The reference site confirmation test and the daily DGPS performance checks were conducted in the field and found adequate.

NAD 83 is used as the horizontal datum for plotting and position computations.

Information concerning calibrations and system checks can be found in the separates submitted from the field to accompany the hydrographer's report.

J. SHORELINE

The shoreline digital files DM-10189 and DM-10190 originating from Coastal Mapping survey CM-92012 were compiled on NAD 83 and applied to this survey. The digitized shoreline files and the survey file were merged during MicroStation processing.

Shoreline verification was accomplished along the northern shores of Lone Island and the eastern coast of Perry Island, with the exception of the Dutch Group and vicinity. There are no significant differences noted in the mean high water lines configuration between the present and the previously compiled shoreline. Most of the compiled rocks were found to be either the offshore limits or the high points of the ledges and reefs within the survey area.

The charted shoreline should be revised based on the latest shoreline map information and the results of the field shoreline verification as depicted on the smooth sheet.

K. CROSSLINES

Crosslines are discussed in the hydrographer's report.

L. JUNCTIONS

Survey H-10791 junctions with the following surveys.

<u>Survey</u>	<u>Year</u>	<u>Scale</u>	<u>Area</u>
H-10517	1993	1:20,000	Northern Limits
H-10519	1993	1:20,000	Eastern Limits
H-10782	1997	1:40,000	Central Limits
H-10785	1997	1:10,000	Western Limits
H-10786	1997	1:10,000	Southern Limits

The junctions with surveys H-10785 and H-10786 are considered complete. A couple of soundings were carried forward from H-10785 to delineate the bottom configuration within the survey junction. "Joins" notes have been added to the smooth sheet on each of the junctional areas.

Soundings and depth curves on survey H-10782 are in satisfactory agreement along the area where adequate junction was accomplished and a "Joins" note has been added to the smooth sheet. Additional lines of hydrography should have been ran along the southern limits of survey H-10782 to accomplish an adequate junction with H-10791. An incomplete junction with survey H-10782 exists along latitude 60/42/40N, from longitude 147/46/00W to longitude 147/51/00W. This junctional holiday should have been fully covered by the multi-beam survey H-10782 along the deeper portion of the area.

The junctions with surveys H-10517 and H-10519 were not formally completed since these surveys were previously processed and forwarded for charting. Surveys H-10517 and H-10519 were both previously compiled in meters. There is good agreement between soundings with the present survey, however, the depth curves delineate different depths and therefore, are not in coincidence within the junction areas. "Adjoins" notes have been added on the smooth sheet for each of these particular surveys.

A junction area overlap of approximately one nautical mile north of Lone Island was noted between H-10519 and the present survey. This particular area is currently charted based on the 1993 survey and should be superseded by the latest survey information.

M. COMPARISON WITH PRIOR SURVEYS

H-3383 (1912) 1:20,000
H-3408 (1912) 1:20,000
H-3676 (1914) 1:20,000 & 1:40,000

These sparsely sounded prior surveys of 1912 and 1914 cover the area of the present survey. A depth comparison with the prior surveys reveals the present survey depths generally shallower by about 2-10 fathoms. All depths originating from these prior hydrography were adequately addressed during survey operations with the exception of a charted 17-fathom depth at latitude 60/41/45N, longitude 147/45/33W, originating from H-3408 and plots in present survey depths of 46-50 fathoms. This prior depth was compiled in error from source document and should had been shown as a 47.

The charted rock at latitude 60/45/42.0N, longitude 147/48/18.0W, originating from prior survey H-3408 was not found during this survey. The present hydrography conducted twenty five meter line spacing over this area and found general depths of 11 to 20 fathoms. There was no indication of a rock or shoaling in the area of this charted feature. It is most likely the rock was either positioned in error and or visually sketched on the prior work to reflect the foul nature of the inshore areas. Several islets and rocks were located around the survey area approximately two hundred meters further inshore of the charted rock. The evaluator recommend removing the charted rock and charting the area based on the present survey.

A more thorough coverage of the area undertaken on this recent survey has revealed more shallower depths not discovered during the earlier surveys. Differences with the prior surveys are primarily due to greater sounding coverage, improved positioning and sounding methods and relative accuracy of the present data acquisition techniques.

H-10791 is adequate to supersede the prior surveys within the area of common coverage.

N. ITEM INVESTIGATIONS

AWOIS item #52380 was investigated during this survey. Discussion and disposition of this item is included in the hydrographer's report.

O. COMPARISON WITH CHART

Survey H-10791 was compared with the following charts.

<u>Chart</u>	<u>Edition</u>	<u>Date</u>	<u>Scale</u>	<u>Datum</u>
16705	16th	Aug. 24, 1996	1:80,000	NAD83
16705	17th	Sept. 27, 1997	1:80,000	NAD83

a. Hydrography

Charted hydrography originates with the previously discussed prior surveys and miscellaneous source data. The prior surveys have been adequately addressed in section M and require no further discussion. Comparison was also made with the 17th edition of the chart and no changes were noted between editions within the common area of the survey.

The application of this survey to charts of a scale greater than 1:40,000 may require the generalization of features such as ledges and reefs. The recommended charting disposition of specific ledges or reefs is their depiction as isolated rocks. The application of this survey to charts of a scale less than 1:40,000 may be accomplished without the generalization of features. Features from survey H-10791 have been generalized on chart 16705 along the shoreline where applicable.

In accordance with Hydrographic Survey Guideline No.39, the effects of the 1964 Prince William Sound Earthquake were considered in the comparison of this survey, however, no conclusive adjustment value for prior soundings could be determined.

The rock awash (PA) charted at latitude 60/46/14N, longitude 147/48/27W, originating from miscellaneous source was not mentioned in the hydrographer's report. The recent hydrography conducted over this area reveals general depths of 24-29 fathoms and no indication of a rock and or shoal depth. However, a 3.5 fathoms depth at latitude 60/46/25N, longitude 147/48/31W, was found approximately 300 meters directly north of the charted rock (PA). It is therefore recommended that this rock be deleted and the area charted based on the present survey.

The charted rock at latitude 60/45/34N, longitude 147/47/44W, originating from miscellaneous source was not found during this survey. The present hydrography over this area reveals general depths of 5.6-10.0 fathoms with no indication of the charted rock. However, a few islets and rocks were located about 100 meters inshore of its charted location. This rock has likely been generalized further offshore and should be removed from the chart.

Except for the items mentioned elsewhere in this report, survey H-10791 is adequate to supersede charted hydrography within the area of common coverage.

b. Dangers to navigation

Twelve (12) dangers to navigation were discovered during this survey and reported to the USCG, NIMA, N/CG261 and N/CS34 on November 21, 1997. Eight (8) additional dangers were identified during office processing and were reported to the USCG for inclusion to the Local Notice to Mariners. A copy of both reports are attached.

P. ADEQUACY OF SURVEY

With the exception of the deficiencies mentioned in the preceding sections of this report, hydrography contained on survey H-10791 is adequate to:

- a. delineate the bottom configuration, determine least depths, and draw the required depth curves;
- b. reveal there are no significant discrepancies or anomalies requiring further investigation; 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 with the following exceptions.

- (a) In the event that the field units submission of survey data will exceed four weeks from the completion of field work, the Chief of Party will submit a written explanation for the delay indicating the anticipated transmittal date to the Chief of the appropriate processing section.

Marine Center ships will forward their explanation through the Marine Center Director. Fieldwork for survey H-10791 was completed October 29, 1997 and was transmitted for office processing on December 9, 1997.

(b) There was no bottom sampling done in the vicinity of the Dutch Group.

(c) An adequate junction in some areas of this survey was not effected with survey H-10782. Refer to Section L, Junctions, for specific information concerning these matters.

Q. AIDS TO NAVIGATION

There are no fixed and floating aids to navigation within the limits of this survey.

There were no features of landmark value located within the area of this survey.

R. STATISTICS

Statistics are itemized in the hydrographer's report.

S. MISCELLANEOUS

Miscellaneous information is discussed in the hydrographer's report.

T. RECOMMENDATIONS

This is an adequate hydrographic survey. Additional work may be required on a non-priority basis to cover the junctional holiday mentioned in section L of this report and perform bottom sampling around the area of the Dutch Group.

U. REFERRAL TO REPORTS

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



Isagani A. Almacén
Cartographer

APPROVAL SHEET
H-10791

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 survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.

Bruce A. Olmstead Date: 9/14/98
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.

for James C. Gabelner Date: 9/21/98
Kathy Timmons
Commander, NOAA
Chief, Pacific Hydrographic Branch

Final Approval

Approved:

Andrew A. Armstrong III Date: Nov 6, 1998
Andrew A. Armstrong III
Captain, NOAA
Chief, Hydrographic Surveys Division

