

H10786

NOAA FORM 78-35A

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

DESCRIPTIVE REPORT

Type of Survey Hydrographic
Field No. RA-10-32-97
Registry No. H-10786

LOCALITY

State Alaska
General Locality Northwest Prince William Sound
Sublocality Lone Island to Perry Island

1997

CHIEF OF PARTY
CAPT Alan D. Anderson, NOAA

LIBRARY & ARCHIVES

DATE NOV 5 1998

HYDROGRAPHIC TITLE SHEET

H-10786

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-10-32-97

State Alaska

General locality Northwest Prince William Sound

Locality Lone Island to Perry Island

Scale 1:10,000 Date of survey October 1 - 31, 1997

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

Vessel RA-1(2121), RA-2(2122), RA-3(2123), 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, LCDR T. Nichel, LT R. Fletcher, SST J. Jacobson, SST S. Baum, SST N. Quanbeck, ST J. Cheech, ST M. McMann

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

Graphic record scaled by RAINIER Personnel

Graphic record checked by RAINIER Personnel

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

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

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

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

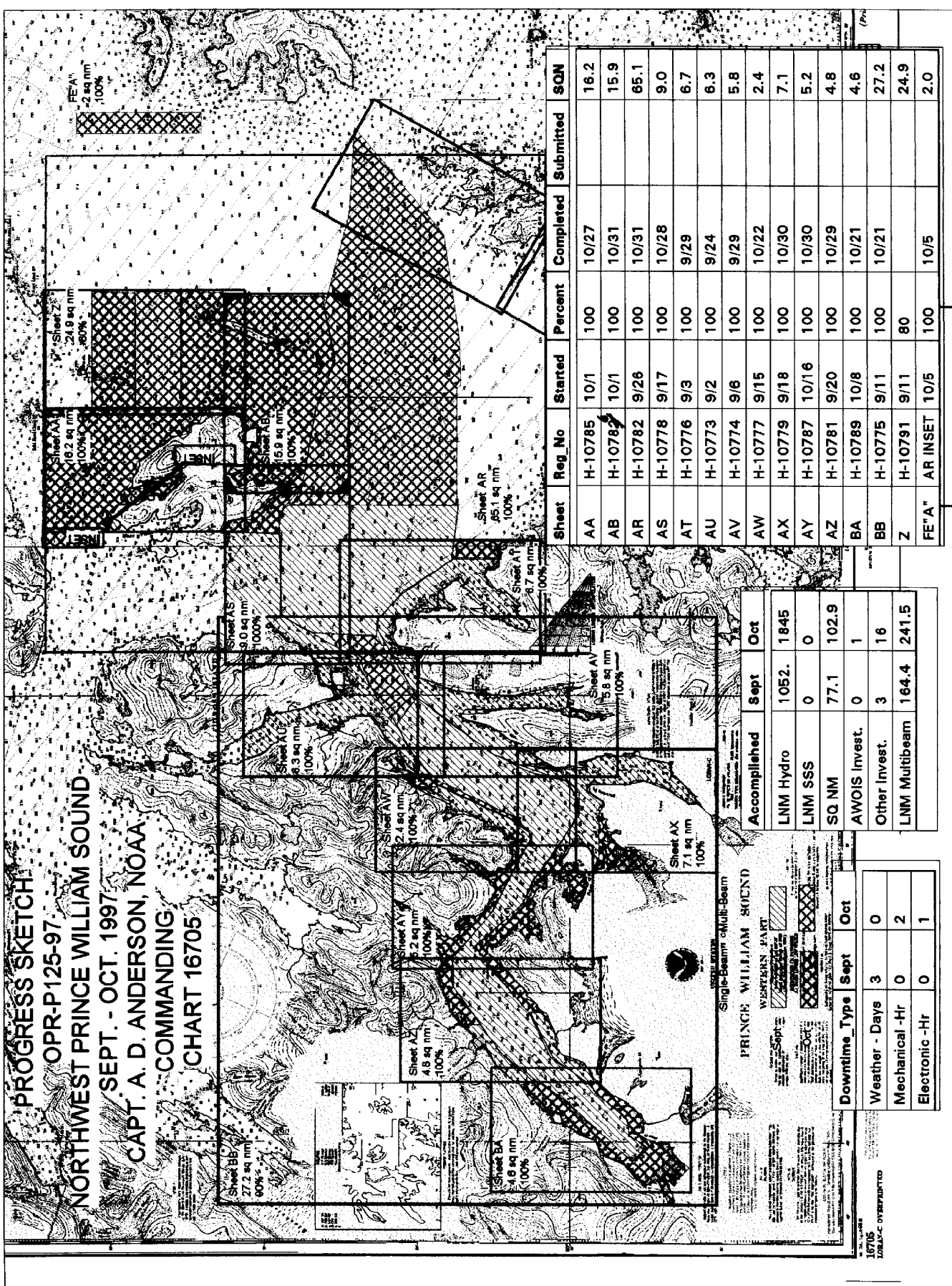
REMARKS: All times are UTC, revisions and marginal notes in black were generated during office processing. All separates are filed with the hydrographic data, as a result page numbering may be interrupted or non-sequential.

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

Change #1 dated Sept. 24, 1997

SURF & AOWS 11/3/98
mcr

PROGRESS SKETCH
 OPR-P125-97
 NORTHWEST PRINCE WILLIAM SOUND
 SEPT. - OCT. 1997
 CAPT. A. D. ANDERSON, NOAA
 COMMANDING
 CHART 16705



Sheet	Reg. No	Started	Percent	Completed	Submitted	SON
AA	H-10785	10/1	100	10/27		16.2
AB	H-10782	10/1	100	10/31		15.9
AR	H-10782	9/26	100	10/31		65.1
AS	H-10778	9/17	100	10/28		9.0
AT	H-10776	9/3	100	9/29		6.7
AU	H-10773	9/2	100	9/24		6.3
AV	H-10774	9/6	100	9/29		5.8
AW	H-10777	9/15	100	10/22		2.4
AX	H-10779	9/18	100	10/30		7.1
AY	H-10787	10/16	100	10/30		5.2
AZ	H-10781	9/20	100	10/29		4.8
BA	H-10789	10/8	100	10/21		4.6
BB	H-10775	9/11	100	10/21		27.2
Z	H-10791	9/11	80			24.9
FE'A	AR INSET	10/5	100	10/5		2.0

Accomplished	Sept	Oct
LNM Hydro	1052.	1845
LNM SSS	0	0
SQ NM	77.1	102.9
AWOIS Invest.	0	1
Other Invest.	3	16
LNM Multibeam	164.4	241.5

Downtime_Type	Sept	Oct
Weather - Days	3	0
Mechanical -Hr	0	2
Electronic -Hr	0	1

16705
 10/24/97
 10/24/97

Descriptive Report to Accompany Hydrographic Survey H-10786

Field Number RA-10-32-97

Scale 1:10,000

October, 1997

NOAA Ship RAINIER

Chief of Party: Captain Alan D. Anderson, NOAA

A. PROJECT ✓

This basic hydrographic survey was completed in Northwest Prince William Sound as specified by Project Instructions OPR-P125-RA dated August 27, 1997, Change No 1, September 24. Survey H-10786 corresponds to sheet AB as defined in the sheet layout. This survey will provide data to supersede surveys performed in 1912-1914 and 1948-49. 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 survey area is Perry Island to Lone Island. The survey's northern limit is latitude $60^{\circ} 41' 27.7''$ ^{30.0} N. The survey's southern limit is $60^{\circ} 37' 34.7''$ N, the western limit is $147^{\circ} 56' 30''$ W and the eastern limit is $147^{\circ} 43' 55''$ W. Data acquisition was conducted from October 1 (DN 274) to October 31, 1997 (DN 304). ^{*} Only 2 small portion of hydrography extends to this limit. Hydrography was generally run to latitude $60/41/00N$.

C. SURVEY VESSELS ✓

Data were acquired by RAINIER and her survey launches 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 HYPACK version 7.9, and Hydro Processing System (HPS). 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.

E. SONAR EQUIPMENT ✓

Neither Side Scan Sonar nor multi-beam echo sounder equipment were used on this survey. *CONCUR.*

F. SOUNDING EQUIPMENT ✓

The Raytheon DSF-6000N is a dual frequency (100 kHz, 24 kHz), paper trace echo sounder. The Knudsen 320M is a dual frequency, thermal depth sounder using the same transducer frequencies. 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.

** Filed with the hydrographic data.*

G. CORRECTIONS TO ECHO SOUNDINGS ✓

Two sound velocity casts ^(#3 & 4) were acquired 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 3 & 4 were taken outside of the survey limits.

A static transducer depth was determined using FPM Fig 2.2 for vessels 2123 and 2121 in the spring of 1997. 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 vessels 2121 and 2123, was collected in Shilshole Bay, Washington in March 1997. 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. *Concur.*

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). HPS 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-10786 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 Applegate Island (945-4794, September 1- October 30, 1997) and Herring Point (945-4691, September 2-October 31, 1997). Perry Island tide gauge (945-4729) was used for data collected for the period (October 30-31, 1997) after Applegate Island was removed and Herring Point stopped collecting data.

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. *Approved Tide Note dated February 5, 1998 is attached.*

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)

All soundings were positioned using either USCG differential GPS or flyaway station ROCK. Primary hydrographic control was based on ROCK, secondary control were the USCG beacons located at the Kenai Peninsula and Cape Hinchinbrook.

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.

** Filed with the hydrographic data.*

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

(DM-10189 & DM-10190)

The shoreline manuscript from Coastal Mapping survey CM-92012, was supplied by N/CS341 in Standard Digital Data Exchange Format (SDDEF). The digital file from DM-10293 was 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. 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. Features shown on the SHORELINE FEATURES 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 information collected by the hydrographer was analyzed during office processing and applied to the smooth sheet as warranted.* Shoreline manuscript and field features were compared to an enlargement of chart #16705, 16th edition (8/24/96), BSB version. This raster image was registered in MapInfo, and plotted at survey scale by RAINIER personnel for HYPACK sounding comparison. There was poor agreement between the charted and manuscript shoreline on the South shore of Perry Island in South Bay. Major discrepancies were noted at positions 60-40-32.01N, 147-54-18.05 W (314 meters) and 60-40-42.56 N, 147-53-28.54 W (483 meters). Revised shoreline from the current survey should be used. *DO NOT CONCUR. No significant discrepancies were noted around these areas during office processing.*

At the north end of South Bay is an oyster farming operation. They maintain a private floating mooring bouy (an old oil tank), DP 20505. In addition, they maintain two long strings of suspended oysters. The ends of these strings are marked with bouys (DP 20502-20504). Oysters in pens are suspended from these lines which are supported by floats along the line. These oyster strings are shown on the Detached Position and Bottom Sample plot. *Oyster pen and bouys have been portrayed on the smooth sheet.*

The islet* containing station ROCK (60-39-10.82 N, 147-55-57.25 W) is mis-charted by 90 meters. 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 and DP and BS Workspace. *Concur. Chart islet as rock symbol due to scale of the chart.*

* *Depict islet on smooth sheet as originating from contemporary shoreline manuscript.*

K. CROSSLINES

Crosslines agreement was excellent with mainscheme hydrography. There were a total of 26.26 nautical miles of crosslines, comprising 10.3% of mainscheme hydrography.

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

This survey junctions with the following surveys: H-10519, H-10778 (RA-10-28-97), H-10791 (RA-10-35-97), H-10785 (RA-10-34-97) and H-10782 (RA-40-04-97). Soundings were compared by over laying the data using MapInfo.

Do not concur. Junction is incomplete.

The junction with H-10782 (multi beam) survey was excellent. Agreement was generally within 1-3 fathoms at depths greater than 100 fm. The only discrepancy area was in the southeast corner of the sheet (60-37-45.62 N, 147-46-26.49 W) where the bottom is extremely steep and deep. Agreement in this area was 30-70 fathoms, which is typical in steep and deep terrain. It is recommended that the multibeam soundings from H-10782 be used in the common area. The ship based multibeam system is more accurate under these conditions. It has more power, the beam widths are narrower and the angle of incidence of the beams to the bottom is larger. *(See Evaluation Report sections L & T for discussion & recommendation concerning the junction with survey H-10782 and H-10519)*

The junction with H-10778 to the southeast ^{was} was good (within 1-2 fathoms). A small area of discrepancy was found within 0.1 nm of 60-38-58.14N, 147-56-12.47 W. Soundings from H-10778 were generally 20-30 fathoms deeper in this one small area. It appears that due to beam spreading, the fathometer may be detecting the shallower in shore ridge. It is recommended that soundings from H-10786 be used since they are more conservative. ^{The bottom profile in this area is extremely steep and the depths change rapidly as depicted on the fathometer trace. Several depths on H-10778 were resounded to better represent the bottom. Agreement with H-10785}

The junction with H-10791 was very good (within 1-5 fathoms). There was one very small area of discrepancy (3 soundings within 15-18 fm) at 60-41-02.2N, 147-49-19.01 W on a steep slope. ✓

Final comparisons will be made at the Pacific Hydrographic Branch (PHB) after reduction to final vertical datum.

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

Prior surveys H-3570 (1:20,000, 1:40,000, 1913); H-3383 (1:40,000, 1912); H-7678 (1:20,000, 1948-1949); H-3676 (1:20,000, 1:40,000, 1914); H-7764 (1:20,000, 1914);

H-3676: Due to projection differences, this survey was rubber sheeted to H-10786 for comparison purposes. There was good agreement between soundings. However, there were significant differences in the shoreline of South Perry Island between the surveys.

H-7764: There was excellent agreement between the surveys except for the following two soundings:

Survey	Sounding	Position	Comments
H-7764	22 fm *	60-39-14.40 N; 147-51-28.42 W	Prior appears to be in error. The nearest 22 fm depth on the survey is approx. .5 mile to NE
H-10786	134.9 fm	" "	
H-7764	95 fm *	60-39-11.84 N; 147-51-13.82 W	The prior appears to be in error. The nearest 95 fm depth is approx. .25 mile to West.
H-10786	186.8 fm	" "	

* These two soundings are not currently charted and have likely been discredited several years ago during headquarters review. Only these areas based on the present survey information.

H-3570: There was good agreement between the surveys except for the following two positions:

Survey	Sounding	Position	Comments
H-3570 ✓	45 fm **	60-37-56.56 N; 147-48-55.79 W	Denser soundings from current survey found shoaler depth.
H-10786	32.7 fm	" "	

** There is a charted 33 Fathom depth which originates from prior survey H-7764. This agrees very well with least depth found during present survey work. 45 fm depth has been superseded by work conducted in 1949.

H-3570 ✓	43 fm*	60-37-50.94 N; 147-48-57.52 W	Denser soundings in current survey found shoaler depth. <i>Concur</i>
H-10786	34.7 fm 35	60-37-50.94 N; 147-48-57.52 W	
H-3570 ✓	14 fm**	60-38-48.16 N 147-47-24.42 W	The prior may be in error. There are 14 fm soundings on a shoal less than .1 miles to the east. <i>Concur</i>
H-10786	49.9 fm	60-38-48.74 N 147-47-21.86 W	
H-10786	9.4 fm	60/38/48.5N 147/47/06W	

Chart 9 fm ✓

* Same comments as noted on previous page
 ** This prior depth appears to have been compiled approximately 200 meters further west than prior position. Agreement is good when correcting
 H-3676: There was good agreement between the surveys except for the following two positions: for shift.

H-3676	3.5	60-39-31.15 N 147-47-06.21 W	Possible error in prior. 3.5 fm found .14 miles to the NE.
H-10786	16.1 fm 0.8 fm	60-39-31.15 N 147-47-06.21 W 60/39/35N 147/46/47.5W	
H-3676 ✓	9	60-39-55.93 N 147-53-19.62 W	Denser soundings in current survey found shoaler depth.
H-10786	0.9 fm 1.0	60-39-55.93 N 147-53-19.62 W 55,197	

Chart 13 approximately 200 meters west of prior 3.5 depth ✓

Chart 1 m ✓

H-7678: There was excellent agreement between the surveys. *Concur*

Final comparisons will be done at PHB after reduction to final sounding datum using tidal information collected concurrently with this survey.

N. ITEM INVESTIGATIONS ✓

None.

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

Chart 16705, 1:81,436, 16th edition, 8/24/96, is the largest scale chart covering the survey area. Comparison of prior soundings is described in Section M. Non-sounding features are discussed in Section J. Final sounding comparisons will be made at PHB after reduction to final vertical datum.

Dangers to Navigation ✓

Feature Type	Smith Sheet	Depth (fm)		Latitude (N)	Longitude (W)	Position Number	Depth Meters	Survey Number
Rock	Rky	3.75	3.9	60:39:23.2	147:46:35.0	16246	7	H-10786
Rock	Rky	1.5	1.8	60:40:37.2	147:44:57.2	18846	3.3	H-10786
Rock	Rky	2.5	2.5	60:40:28.4	147:44:50.5	18944	4.6	H-10786
Shoal		8.5	8.4	60:40:14.5	147:46:59.1	19596	15.7	H-10786
Rock Awash		0	* (0)	60:40:09.9	147:53:47.9	20248	0.2	H-10786
Rock	RK	2.5	2.6	60:41:05.1049	147:45:45.7	21266 90012	4.8	H-10786
Shoal		7.25	7.4	60:40:50.5	147:50:44.1	21310 +	13.7	H-10786
Rock	Rky	0.75	1.0	60:39:55.5	147:53:18.5	55197 w	1.7	H-10786
Rock Awash		-0.25	* (0)	60:39:06.9	147:55:54.7	58138 +	-0.3	H-10786
Rock	RK	6.5	6.7	60:39:18.9	147:55:12.0	58193	12.3	H-10786
Shoal	RK	5.5	5.3	60:39:57.9	147:54:08.2	59548	10.4	H-10786
Rock	Rky	1.5	1.4	60:40:18.9	147:54:26.2	60113	2.7	H-10786
Shoal	RK	6.25	6.0	60:40:10.4	147:54:42.7	90005	11.4	H-10786
Shoal	RK	4.5	4.5	60:40:03.5	147:55:29.7	90007	8.6	H-10786
Rock	RK	2.25	1.9	60:39:27.0	147:53:18.3	90010	4	H-10786
Rock	RK	2.5	2.2	60:39:53.9	147:51:28.5	90011	4.5	H-10786
Rock	RK	2.5	2.2	60:40:33.8	147:46:14.5	90013	4.6	H-10786

Dangers to Navigation were reported in two separate letters to USCG 17th District. The first letter forwarded on November 21st, 1997 contained 18 dangers. In subsequent analysis, the 5.25 fathom sounding at 60:39:45.0 N and 147:51:14.9 W was found to be an erroneous sounding, ^{correct} it does not appear in the final data nor on the final field plot. The second letter forwarding two additional dangers was generated following final data analysis. Both letters are ^{included in this report.} found in the appendix.

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

Survey H-10786 is complete and adequate to supersede prior soundings and features in their common areas. ^{and/or}
(With a few deficiencies mentioned in Section P of the Evaluation Report)

Q. AIDS TO NAVIGATION (See EVAL RPT., Sec. Q)

Perry Island Light was positioned using static GPS procedures from station ROCK. There is a 49 meter difference between the charted position and surveyed position, which is not significant at chart scale. See section Q insert.

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. One unusual tidal current was found during this survey. There was a fairly constant NE-SW current of 1-2 kts along the west shore of Lone Island.

T. RECOMMENDATIONS ✓

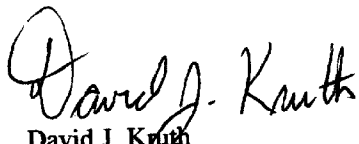
None

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>
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
Secchi Disk Observations for OPR-P125-RA	January, 1998	N/CS31

Respectfully Submitted,


David J. Kruth
Lieutenant Commander, NOAA

Approved and Forwarded,


Alan D. Anderson
Captain, NOAA
Commanding Officer

Survey Information Summary

Project: OPR-P125-97 **Project Name:** NORTHWEST PRINCE WILLIAM SOUND
Instructions Dated: 8/27/97 **Project Change Info:** **Change #** : **Dated** :
1 9/24/97
2

Sheet Letter: AB **Registry Number:** H-10786
Sheet Number: RA-10-32-97

Survey Title: LONE ISLAND TO PERRY ISLAND
Data Acquisition Dates: **From:** 01-Oct-97 274 **To:** 05-Oct-97 278

Vessel Usage Summary

VESNO	MS	SPLITS	DEV	XL	S/L	DP	BS	DIVE
2121	3	4		1	6	6		
2123	4			1	2	1		

Sound Velocity Cast Information

Tide Zone Information

Zone #	Time Corr.	Height Corr.
PWS54		X0.94

Tide Gage Information

Tide Gage #	Gage Name	Installed	Removed
945-4729	POINT PERRY	9/30/97	
945-4794	APPLEGATE ISLAND	9/1/97	
945-4691	HERRING POINT	9/2/97	

Statistics Summary

Type	Total:	Percent XL:	
DP	13	3.6%	
MS	221.6	SQNM:	15.9
S/L	9.07		
SPLIT	18.25		
XL	8.07		

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	OGN DGPS
3		060:03:23.000	146:41:48.000	0	0	0.0	0.0	03/01/96	POTATO POINT USCG BEACON
4		060:39:13.513	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

NOAA Ship RAINIER
 November 21, 1997

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

**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

H-10786

(See Section 0,
 of the hydrographic
 report.)



**ADVANCE
INFORMATION**

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-10786

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
 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

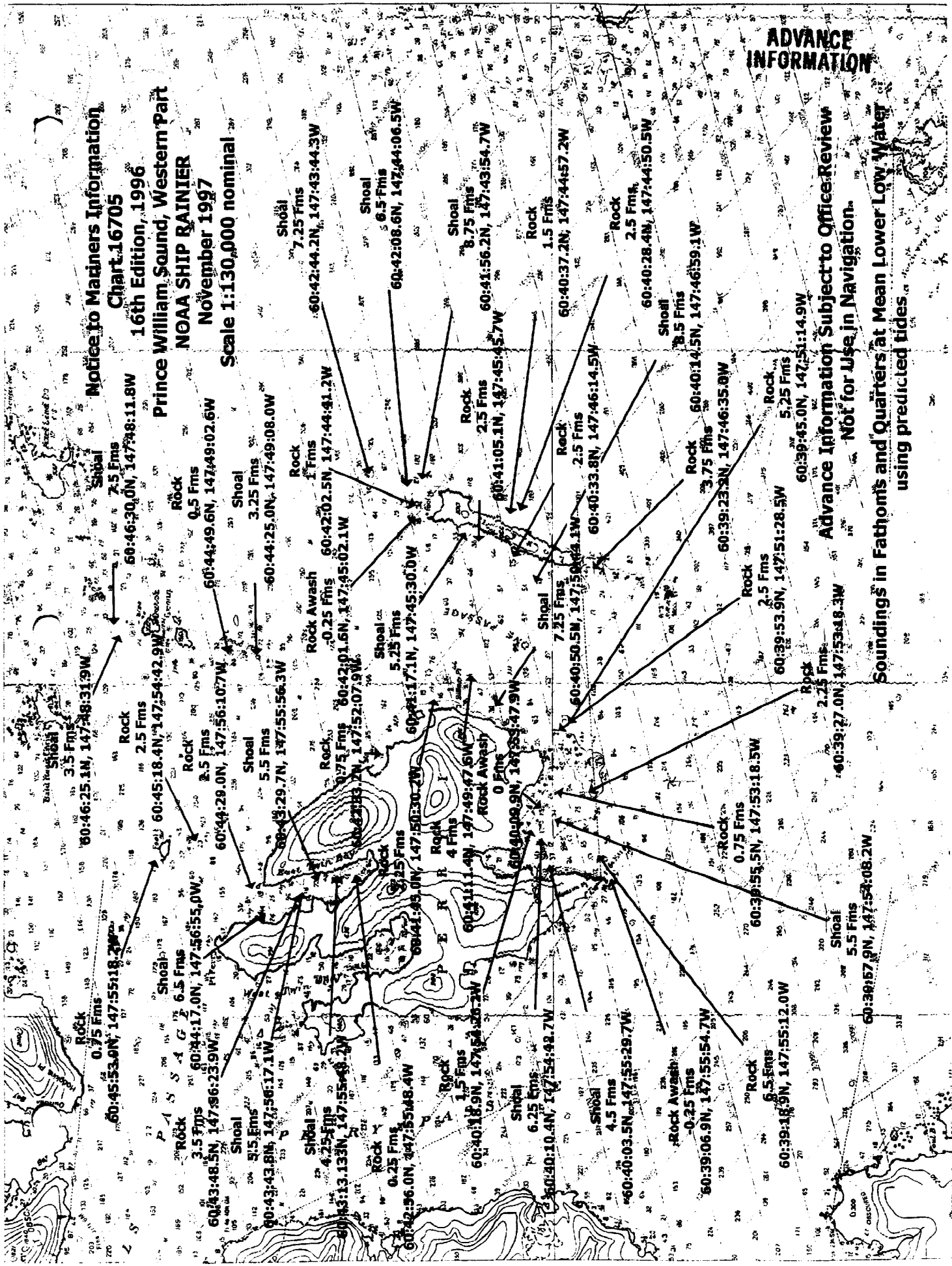
November 1997

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



Notice to Mariners Information
Chart 16705
16th Edition, 1996
Prince William Sound, Western Part
NOAA SHIP RAINIER
November 1997

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

ADVANCE INFORMATION

Advance Information Subject to Office Review
Not for Use in Navigation
Scale 1:120,000 nominal

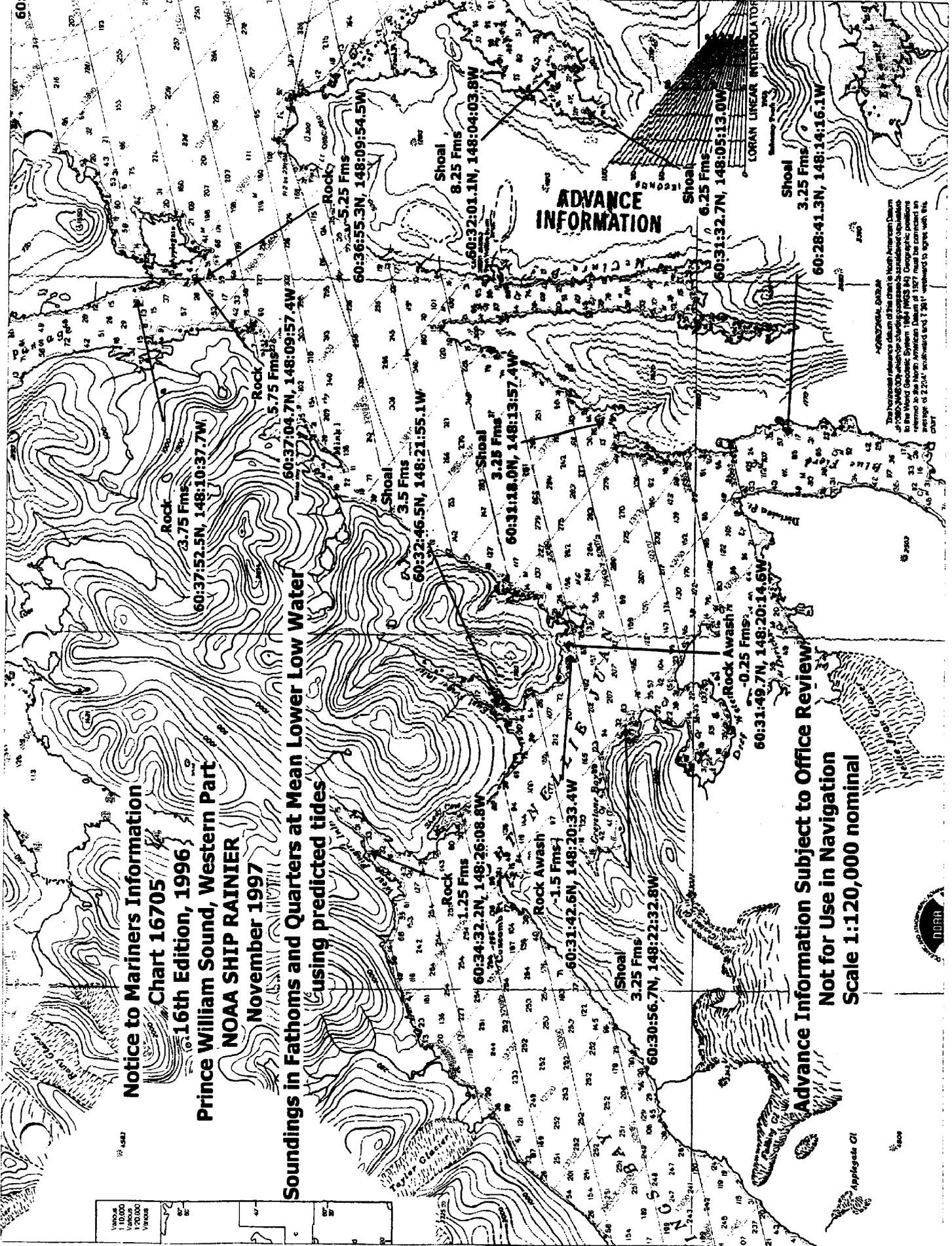
Vertical
1:120,000
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Vertical
1:120,000
Horizontal
1:120,000

Applegate CI

1:120,000



This hydrographic datum of this chart is North American Datum of 1983 (NAD 83) unless otherwise indicated. Soundings are in fathoms unless otherwise indicated. The datum of the chart is based on a mean of 2.204' uncorrected level 1.281' uncorrected level with this chart.





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

**ADVANCE
INFORMATION**

NOAA Ship RAINIER
March 9, 1998

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

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 attached chartlet. They affect chart 16705, 16TH ED., 1996, 1:80,000. 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	1	60:39:23.17	147:53:05.0	58587	2.2	H-10786
Rock	1-1/2	60:39:23.44	147:52:18.03	56476	3.2	H-10786

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-1-98. More information on current RAINIER survey projects may be obtained by e-mail; contact the Field Operations Officer at FOO.RAINIER@NOAA.GOV.

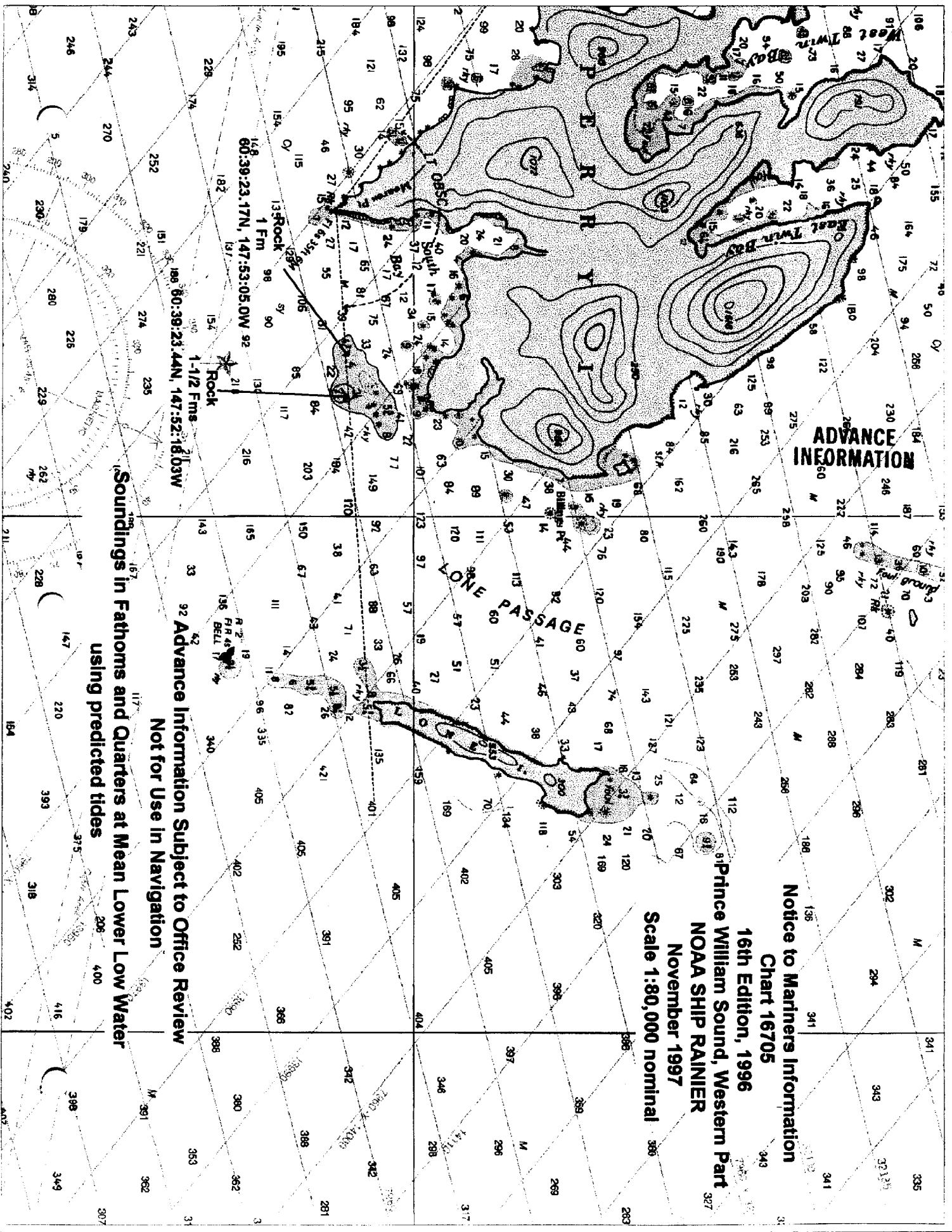
Sincerely,

Alan D. Anderson
Captain, NOAA
Commanding Officer

Attachment

cc: NIMA
PMC
N/CS261
N/CS34





ADVANCE INFORMATION

LONE PASSAGE

Notice to Mariners Information

Chart 16705

16th Edition, 1996

Prince William Sound, Western Part

NOAA SHIP RAINIER

November 1997

Scale 1:80,000 nominal

Advance Information Subject to Office Review

Not for Use In Navigation

Soundings in Fathoms and Quarters at Mean Lower Low Water

using predicted tides

148 60:39:23.17N, 147:53:05.05W 92

186 60:39:23.44N, 147:52:18.03W

92 1-1/2 Fms

Rock

136 BELL

19 FR

147

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**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) Number	Position Meters	Depth Number	Survey
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
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

H-10786

**ADVANCE
INFORMATION**

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-10786

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

August 14, 1998

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

Dear Sir:

During office review of hydrographic survey H-10786, Alaska, Northwest Prince William Sound, Lone Island to Perry Island, two (2) 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,

or Kathryn Timmons
Commander, NOAA
Chief, Pacific Hydrographic Branch

Enclosures

cc: NIMA
N/CS261



REPORT OF DANGERS TO NAVIGATION

Hydrographic Survey Registry Number: H-10786

Survey Title: State: ALASKA
 Locality: NW PRINCE WILLIAM SOUND
 Sublocality: LONE ISLAND TO PERRY ISLAND

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

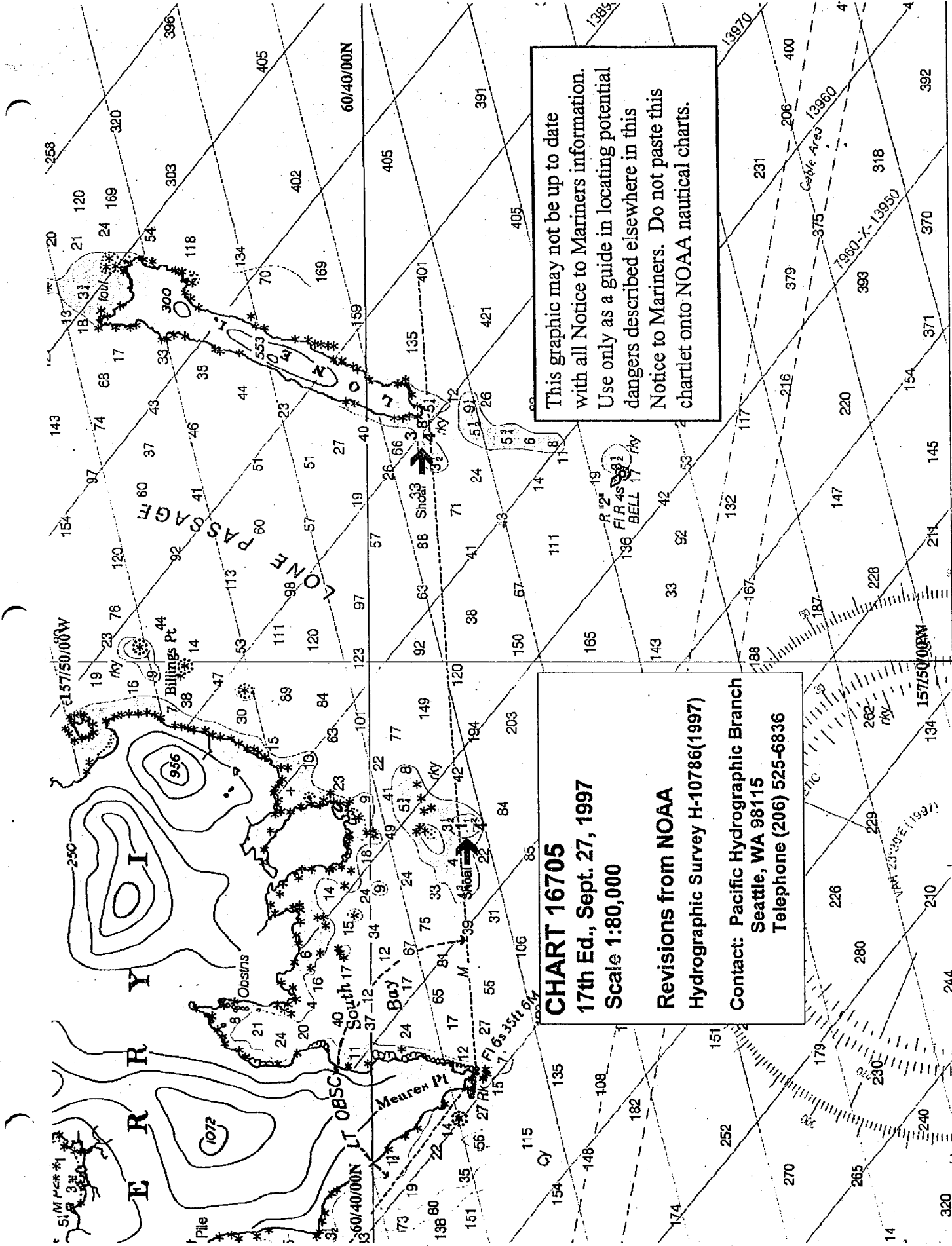
Survey Date: October 1-31, 1997

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>
Shoal, covers 1/4 fathoms	60/39/18.3	147/52/21.5
Shoal, covers 3/4 fathoms	60/39/35.0	147/46/47.0

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



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.

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

Revisions from NOAA
 Hydrographic Survey H-10786(1997)

Contact: Pacific Hydrographic Branch
 Seattle, WA 98115
 Telephone (206) 525-6836

Section Q: Descriptive Report Insert ✓

Name of Aid: Perry Island Light
Light List #: 25860

Method of Positioning GPS: DGPS: Other: _____

Positioning Information

	<u>Latitude (N)</u>	<u>Longitude (W)</u>
Charted Pos.	60-39-17	147-55-54
Survey Pos.	60-39-17.438	147-55-57.12

	<u>Easting</u>	<u>Northing</u>
Charted Pos.	47852.8	45116.2
Survey Pos.	47805.3	45129.6

Difference between Charted and Surveyed Position: Distance: 49 meters
(Bearing from Surveyed to Charted Position) Bearing: 106 deg T

Characteristics Flashing White, 6 seconds
Do characteristics match Light List? Yes No
If no, what are the characteristics? _____

Does the aid adequately serve its apparent purpose? Yes No
If no, why not? _____

New/Uncharted Aids (if information is known or easily obtained)
Date Est: _____
Maintained By: Coast Guard Private? Yes No
Is aid seasonally maintained? Yes No
Frequency of Maintenance: _____

Apparent Purpose: _____

Other Information: Published position 60-39.3N; 147-56.0 W

APPROVAL SHEET


for

H-107⁸/₉₆

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.

Approved and Forwarded,


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-10786

LOCALITY: Northwest Prince William Sound, AK

TIME PERIOD: Oct 1 - Oct 29, 1997

TIDE STATION USED: 945-4691 Herring Point, Knight Island Passage
Lat. $60^{\circ} 28.5'N$ Lon. $147^{\circ} 47.5'W$

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. $60^{\circ} 45.1'N$ Lon. $147^{\circ} 57.8'W$

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. $60^{\circ} 37.4'N$ Lon. $148^{\circ} 09.9'W$

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: PWS42 & PWS52

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

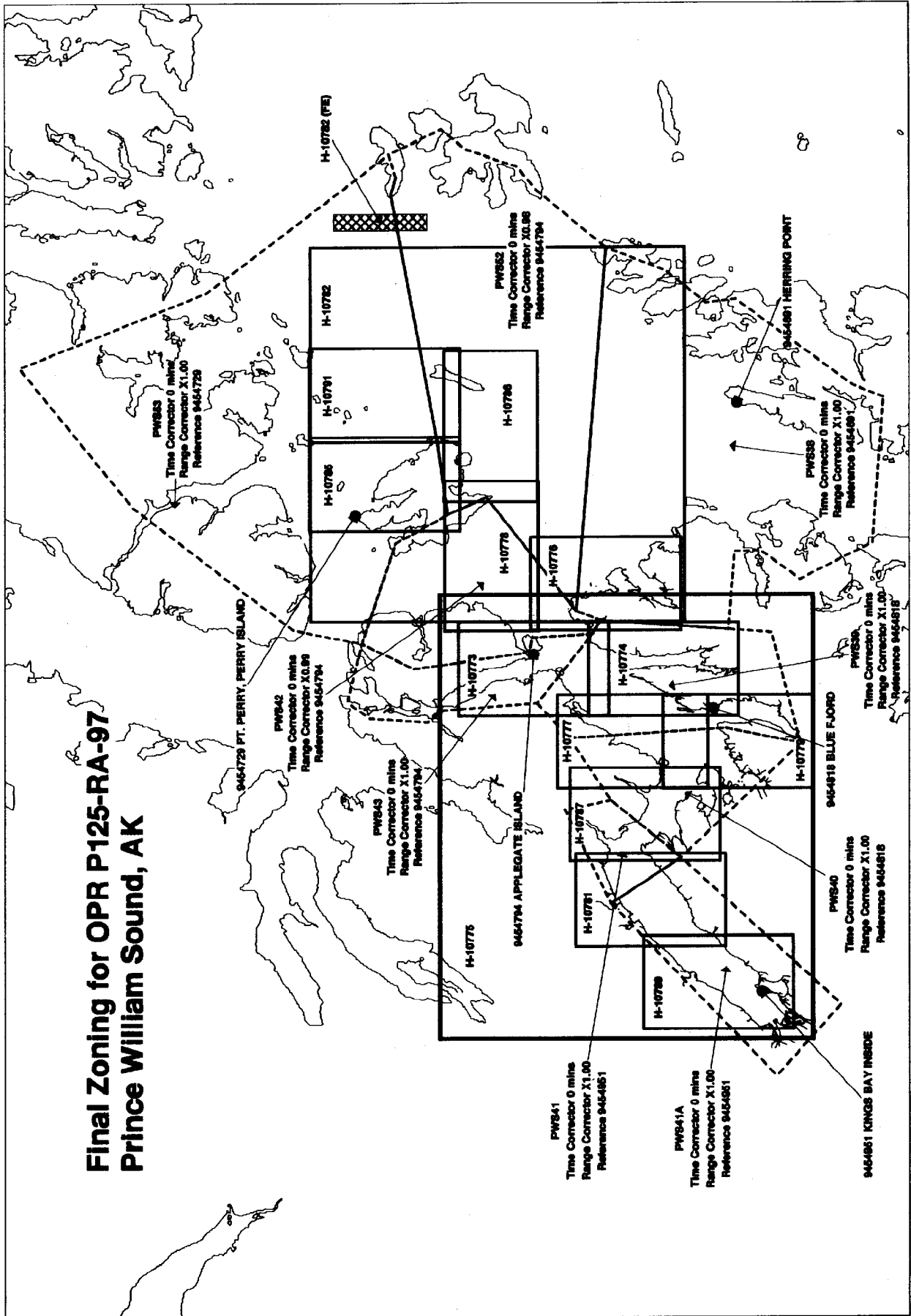


Final tide zone node point locations for OPR P125-RA-97,
Sheet H-10786.

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 PWS42				
-148.101183	60.592465	945-4794	0	0.99
-147.93198	60.657934	945-4729	0	1.00
-147.957558	60.686216	945-4691	0	1.01
-148.000248	60.724243			
-148.149283	60.748856			
-148.18628	60.710814			
-148.164093	60.631914			
-148.158371	60.62628			
-148.140411	60.624813			
-148.135079	60.580714			
-148.114598	60.574838			
-148.101183	60.592465			
Zone PWS52				
-147.93198	60.657934	945-4794	0	0.98
-147.957558	60.686216	945-4729	0	0.99
-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			

Final Zoning for OPR P125-RA-97 Prince William Sound, AK



GEOGRAPHIC NAMES

H-10786

Name on Survey	Source of Name										
	A	B	C	D	E	F	G	H	K		
	ON CHART NO.	ON PREVIOUS SURVEY NO.	ON U.S. QUADRANGLE MAPS	FROM LOCAL INFORMATION	ON LOCAL MAPS	P.O. GUIDE OR MAP	RAND McNALLY ATLAS	U.S. LIGHT LIST			
ALASKA (title)	X		X							1	
BILLINGS POINT *	X		X							2	
LONE ISLAND	X		X							3	
LONE PASSAGE	X		X							4	
MEARES POINT	X		X							5	
PERRY ISLAND	X		X							6	
PRINCE WILLIAM SOUND (title)	X		X							7	
SOUTH BAY	X		X							8	
										9	
										10	
* Plots outside the survey limits.										11	
										12	
										13	
										14	
										15	
										16	
										17	
										18	
										19	
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										25	

Dennis J. Rosenberg
Chief Geographer
MAY 20 1968

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	SMOOTH OVERLAYS: POS., ARC, EXCESS	N/A
DESCRIPTIVE REPORT	1	FIELD SHEETS AND OTHER OVERLAYS	N/A

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

PROCESSING ACTIVITY	AMOUNTS		
	VERIFICATION	EVALUATION	TOTALS
POSITIONS ON SHEET			
POSITIONS REVISED			
SOUNDINGS REVISED (Selected)			23,035
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	172.5		172.5
COMPARISON WITH PRIOR SURVEYS AND CHARTS		16.0	16.0
EVALUATION OF SIDE SCAN SONAR RECORDS			
EVALUATION OF WIRE DRAGS AND SWEEPS			
EVALUATION REPORT		38.0	38.0
GEOGRAPHIC NAMES			
OTHER*			
*USE OTHER SIDE OF FORM FOR REMARKS	TOTALS	172.5	54.0
			226.5

Pre-processing Examination by M. Bigelow	Beginning Date 4/17/98	Ending Date 4/17/98
Verification of Field Data by M. Bigelow, D. Doles, E. Domingo, R. Mayor	Time (Hours) 172.5	Ending Date 7/21/98
Verification Check by B. Olmstead	Time (Hours) 7	Ending Date 8/14/98
Evaluation and Analysis by I. Almacen	Time (Hours) 54.0	Ending Date 7/21/98
Inspection by B. Olmstead	Time (Hours) 6	Ending Date 8/25/98

EVALUATION REPORT

H-10786

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 cover the areas along the southern portion of Lone Passage, the southern coast of Perry Island including South Bay and the area around the southern extremities of Lone Island. The coastline is generally consists of scattered off-lying islets, reefs, rocks and ledges with patches of gravel and boulder beaches particularly along the southern coast of Perry Island. The bottom is primarily made up of sand, 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-10786.

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 and Applegate Island, Alaska, gage 945-4794. Tide station at Herring Point, Knight Island Passage was listed on the approved tide note but 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: -1.994 seconds (-61.712 meters)
Longitude: 7.409 seconds (112.555 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.

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 the offshore limits or the high points of the ledges and reefs located within the survey area. Based on the size of these features, scale of the chart and the standard charting practices these features will be depicted as rocks awash during chart compilation.

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-10786 junctions with the following surveys.

<u>Survey</u>	<u>Year</u>	<u>Scale</u>	<u>Area</u>
H-10519	1993	1:20,000	Eastern Limits
H-10778	1997	1:10,000	Western Limits
H-10782	1997	1:40,000	Southern Limits
H-10791	1997	1:10,000	Northern Limits

The junctions with surveys H-10778 and H-10791 are considered complete. "Joins" notes have been added to the smooth sheet on each of the junctional areas of the survey.

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 northwestern limits of survey H-10782 to accomplish an adequate junction with H-10786. An incomplete junction with H-10782 exists along latitude 60/38/25N, from longitude 147/53/00W to longitude 147/56/30W and in the vicinity of latitude 60/38/30N, longitude 147/51/30W. A 200-600 meter gap between the two contemporary surveys were noted during office processing. These junctional holidays should have been fully covered by the multi-beam survey H-10782 along the deeper portion of the area.

The junction with survey H-10519 was partially accomplished on this survey. A comparison with a copy of this 1993 survey revealed a holiday (200-900 meters) within the junction area from latitude 60/37/35N to latitude 60/40/15N, along longitude 147/45/00W. Soundings and depth curves north of latitude 60/40/15 are in satisfactory agreement and an "Adjoins" note has been added at this particular area on the smooth sheet. This junctional area should have been covered by the contemporary multi-beam survey H-10782 to establish an adequate junction along the deeper limits of survey H-10786.

M. COMPARISON WITH PRIOR SURVEYS

H-3383 (1912) 1:40,000
H-3570 (1913) 1:20,000 and 1:40,000

The application of this survey to charts of a scale less 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 greater than 1:40,000 may be accomplished without generalization of features. Features from survey H-10786 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 reasonable adjustment value for prior soundings could be determined.

Except for the items mentioned above and in the preceding section of this report, survey H-10786 is adequate to supersede charted hydrography within the common area.

b. Dangers to navigation

Nineteen (19) dangers to navigation were discovered during this survey and reported to the USCG, NIMA, N/CG261 and N/CS34 on November 21, 1997 and March 9, 1998. Two (2) 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-10786 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-10786 was completed on October 31, 1997 but not transmitted for office processing until March 20, 1998.
- (b) Adequate junctions were not effected with surveys H-10519 and H-10782. Refer to Section L, Junctions, for specific information regarding these matters.

Q. AIDS TO NAVIGATION

Perry Island Light and Lone Island Shoal Lighted Bell Buoy "2" are the fixed and floating aids to navigation found within the survey area. Good position checks of these aids using GPS were accomplished during this survey. These aids were found to be in good condition and

adequately serve its intended purpose. See section Q, Descriptive Report Insert, for specific information concerning Perry Island Light.

Four (4) privately maintained marker buoys defining the area of an oyster farm in the vicinity of latitude 60/40/51N, longitude 147/55/01W, and a privately maintained mooring buoy at latitude 60/41/02N, longitude 147/55/15W, were located during survey operations and depicted on the smooth sheet. These privately maintained aids were found in good condition and adequately served its intended purpose.

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

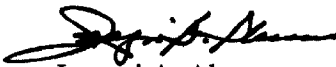
Miscellaneous information is discussed in the hydrographer's report.

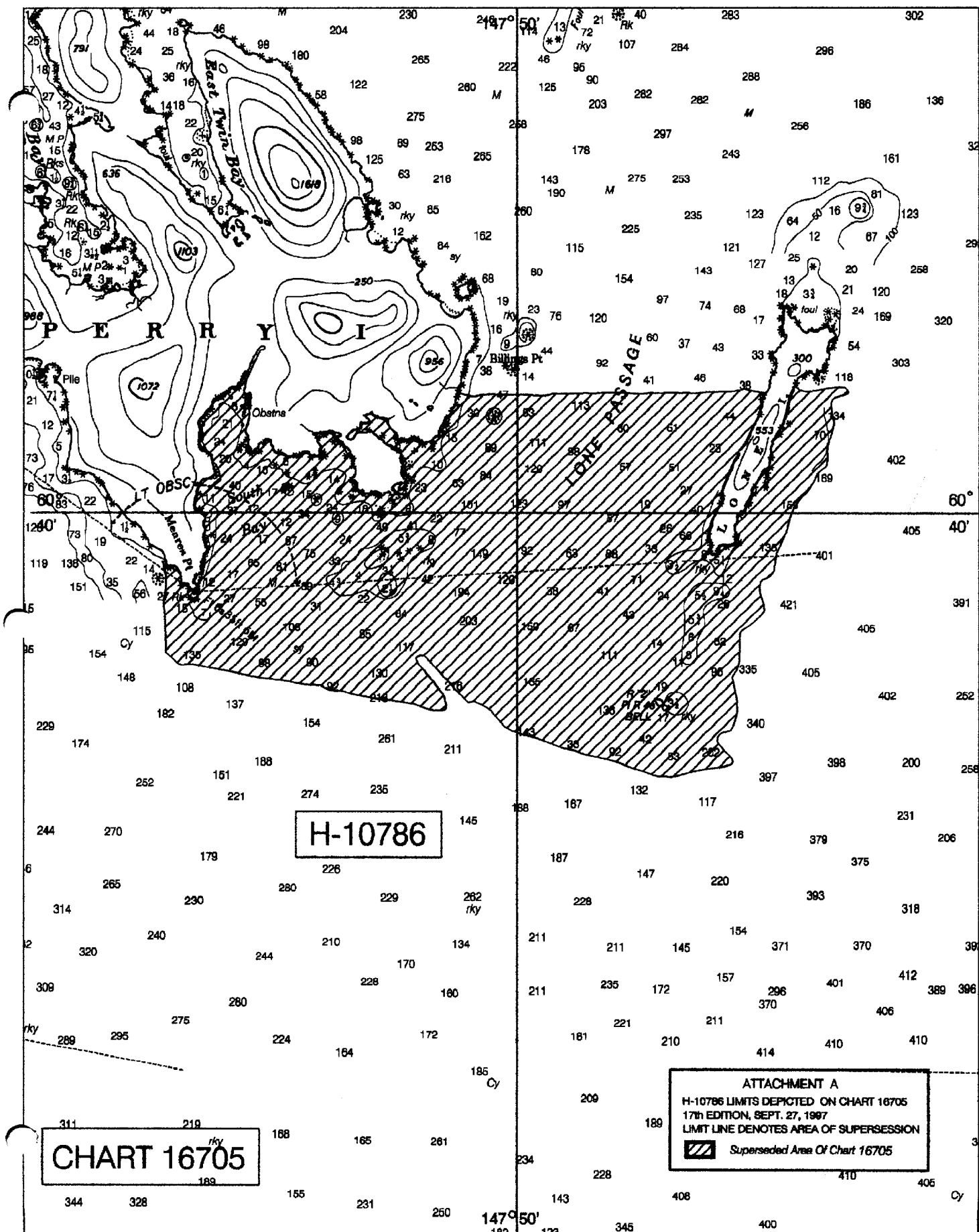
T. RECOMMENDATIONS

This is an adequate hydrographic survey. Additional work may be required on a non-priority basis to adequately cover the junctional holidays specified in section P of this report.

U. REFERRAL TO REPORTS


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


Isagani A. Almacen
Cartographer



H-10786

CHART 16705

ATTACHMENT A
 H-10786 LIMITS DEPICTED ON CHART 16705
 17th EDITION, SEPT. 27, 1997
 LIMIT LINE DENOTES AREA OF SUPERSESSION
 Superseded Area Of Chart 16705

APPROVAL SHEET
H-10786

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: 8/25/98
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.

Kathy Timmons Date: 8/28/98
for Kathy Timmons
Commander, NOAA
Chief, Pacific Hydrographic Branch

Final Approval

Approved:
Andrew A. Armstrong III Date: Nov 5, 1998
Andrew A. Armstrong III
Captain, NOAA
Chief, Hydrographic Surveys Division

MARINE CHART BRANCH
RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10786

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.

1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
16705	7/3/98	<i>[Signature]</i>	Full Part Before After Marine Center Approval Signed Via <i>Full application of</i> Drawing No. <i>sndgs. & features from smooth sheet,</i>
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
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