

H110726

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-10-28-96
Registry No. H-10726

LOCALITY

State Alaska
General Locality Southwest Prince William Sound
Sublocality Northern Approach to
Dangerous Passage

1996

CHIEF OF PARTY
CAPT Dean R. Seidel, NOAA

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DATE APR 20 1998

NOAA FORM 77-28 (11-72) <p style="text-align: center;">U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION</p> <p style="text-align: center;">HYDROGRAPHIC TITLE SHEET</p>	REGISTER NO. H-10726
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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-10-28-96
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State Alaska

General locality Southwest Prince William Sound

Locality Northern Approach to Dangerous Passage

Scale 1:10,000 Date of survey October 8 - October 23, 1996

Instructions dated August 23, 1996* Project No. OPR-P139-RA

Vessel RA-2(2122), RA-3(2123), RA-4(2124), RA-5(2125), RA-6(2126)

Chief of party CAPT Dean R. Seidel, NOAA

Surveyed by CAPT D. Seidel, LT S. LaBossiere, LT G. Noll, LT M. Larsen, LT S. Lemke, LT S. Meador, LTJG E. Christensen, CST J. Fleischmann, ST J. Jacobson

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

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:~~ R. Mayor, E. Domingo, D. Doles, M. Bigelow

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

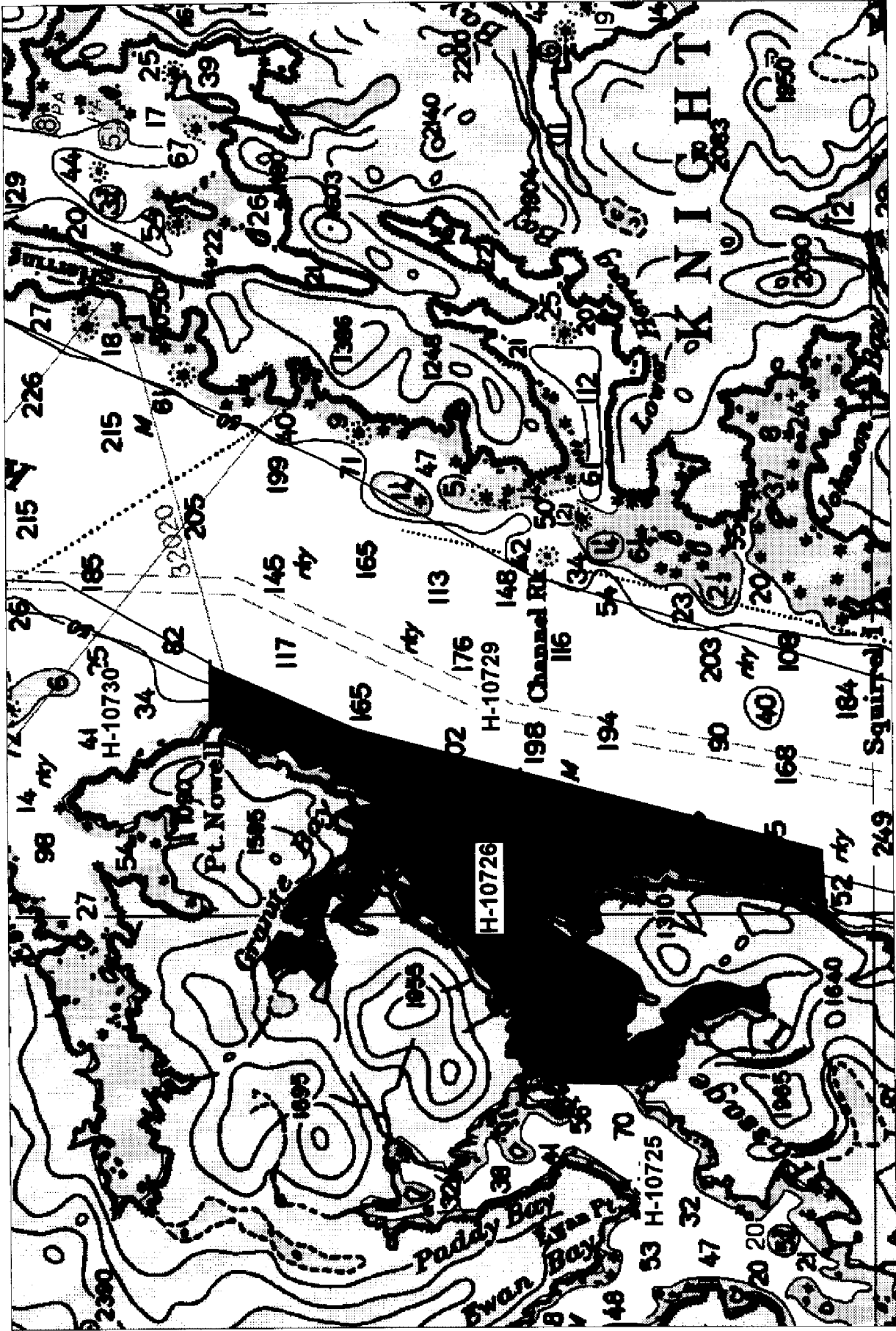
Soundings in fathoms ~~feet~~ at MKW MLLW and tenths

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.

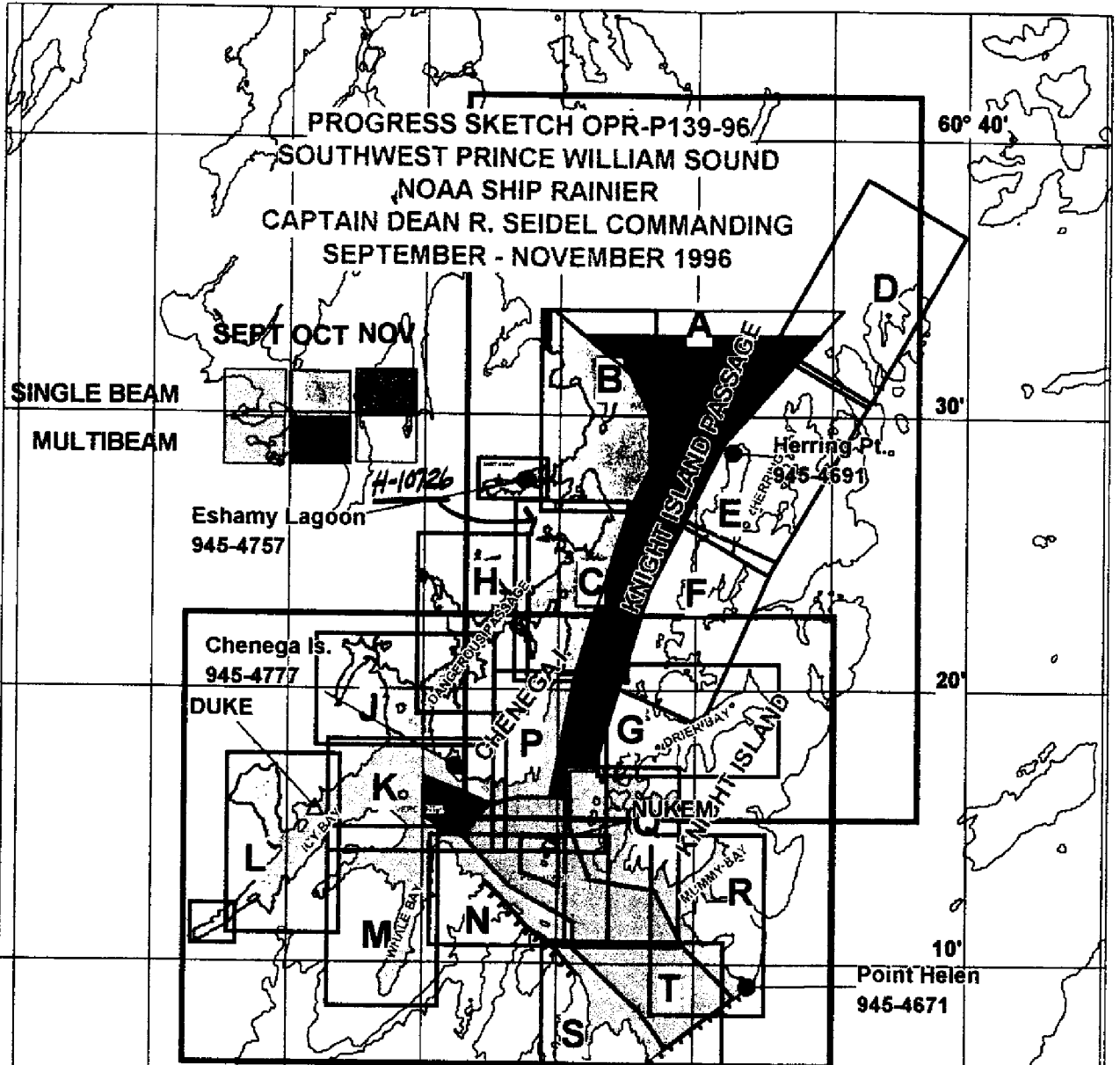
All depths listed in this report are referenced to mean lower low water unless otherwise noted.

AWAIS/SURE 1/9/98 mcr

* Change 1 dated October 19, 1996



PROGRESS SKETCH OPR-P139-96/
 SOUTHWEST PRINCE WILLIAM SOUND
 NOAA SHIP RAINIER
 CAPTAIN DEAN R. SEIDEL COMMANDING
 SEPTEMBER - NOVEMBER 1996



Sheet	Reg No	Started	Percent	Completed	Submitted	SQNM
Q	H-10713	SEP 3	100%	SEP 24	OCT 25	10.4
R	H-10712	SEP 3	100%	SEP 12	OCT 11	5.8
S	H-10715	SEP 6	100%	SEP 11	OCT 11	4.5
N	H-10716	SEP 9	100%	SEP 21	OCT 11	6.5
T	H-10718	SEP 12	100%	OCT 21		32.7
L	H-10721	SEP 23	100%	OCT 16	NOV 15	9.4
J	H-10723	SEP 28	100%	OCT 14		5.4
P	H-10719	SEP 21	100%	OCT 10	OCT 25	5.1
M	H-10717	SEP 18	100%	OCT 7	OCT 25	7.8
K	H-10722	SEP 19	100%	SEP 28	NOV 15	9.7
H	H-10725	OCT 3	100%	OCT 20		7.3
C	H-10726	OCT 8	100%	OCT 23		9.1
B	H-10730	OCT 18	100%	NOV 1		16.5
A	H-10729	OCT 17	100%	NOV 1		52.7

Downtime_Type	Sept	Oct	Nov
Weather - Days	2	0	0
Mechanical -Hr	14	2	0
Electronic -Hr	2	0	0

Accomplished	Sept	Oct	Nov
LNM Hydro	1621	1783	4.2
LNM SSS	0	0.4	0
SQ NM	79.9	87.2	15.7
AWOIS Invest.	5	1	0
Other Invest.	14	27	0
LNM Multibeam	107.4	210.2	60.8

Descriptive Report to Accompany Hydrographic Survey H-10726

Field Number RA-10-28-96

Scale 1:10,000

October 1996

NOAA Ship RAINIER

Chief of Party: Captain Dean R. Seidel, NOAA

A. PROJECT ✓

This basic hydrographic survey was completed in the northern approach to Dangerous Passage, Alaska, as specified by Project Instructions OPR-P139-RA dated August 23, 1996. * Survey H-10726 corresponds to sheet C as defined in the sheet layout included in the Project Instructions. * Change 1 dated October 19, 1996

This survey will provide contemporary hydrographic survey data for updating National Ocean Service charts of Prince William Sound. Requests for hydrographic surveys and updated charts have been received from the Defense Mapping Agency, United States Coast Guard, the Southwest Alaska Pilot's Association, cruise ship lines, and local fisherman.

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

The survey area is located at the junction of Knight Island Passage and Dangerous Passage. The survey's western limit is longitude 148° 03' 30" W. The survey limit follows the shoreline eastward along Dangerous Passage including Masked Bay and Granite Bay. The northern and southern limits of the survey are in Knight Island Passage at latitudes 60° 26' 30" N and 60° 20' 30" N respectively. The eastern limit of the survey extends from latitude 60° 20' 30" N, longitude 147° 58' 54" W to latitude 60° 26' 30" N, longitude 147° 55' 12" W. Data acquisition was conducted from October 8, 1996 (DN 282) to October 23, 1996 (DN 297).

C. SURVEY VESSELS ✓

Data were acquired by RAINIER survey launches as noted below. No unusual vessel configurations or problems exist for this survey.

Vessel	EDP #	Operation
RA-2	2122	Hydrography Shoreline Verification Detached Positions
RA-3	2123	Hydrography Shoreline Verification Detached Positions

Vessel	EDP #	Operation
RA-4	2124	Hydrography Shoreline Verification Detached Positions
RA-5	2125	Hydrography Shoreline Verification Bottom Samples Sound Velocity Casts
RA-6	2126	Hydrography Shoreline Verification Detached Positions

D. AUTOMATED DATA ACQUISITION AND PROCESSING ✓

All data were acquired and processed with HDAPS. A complete listing of software for HDAPS is included in Appendix VI.*

E. SONAR EQUIPMENT ✓

Sonar equipment was not used on H-10726. *Concur.*

F. SOUNDING EQUIPMENT ✓

The Raytheon DSF-6000N is a dual frequency (100 kHz, 24 kHz), paper trace echo sounder. Serial numbers are included on the headers of the daily Raw Master Printouts.* No problems which affect survey data were encountered.

G. CORRECTIONS TO ECHO SOUNDINGS ✓

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

Velocity Table #	Cast #	DN	Cast Position	Deepest Depth (m)	Applicable DN
11	11	282	60° 23' 11" N 148° 00' 58" W	182	282-291
12	12	291	60° 32' 00" N 147° 48' 12" W	910.8	292-297

Cast #12 was taken outside of the survey limits.

The sound velocity cast was acquired with SBE SEACAT Profiler (S/N 219), calibrated January 16, 1996. Velocity correctors were computed using the PC programs SEACAT and VELOCITY, version 2.11 (1995), in accordance with Hydrographic Survey Guideline (HSG) No. 69.

A printout of the Sound Velocity Corrector Table used in the HDAPS Post Survey program is included in the "Separates to be Included with Survey Data, IV* Sounding Equipment Calibrations and Corrections".

Static Draft ✓

A transducer depth was determined using Field Procedures Manual (FPM) Fig 2.2 for vessels 2122-2126 in the spring of 1996. These values were entered into the offset tables for each survey platform.

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-P139-RA. The data for vessels 2122-2126 were collected in Shilshole Bay, Washington in the Spring of 1996.

Offset Tables ✓

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

Heave ✓

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

Bar Checks ✓

Bar check lines were calibrated by RAINIER personnel during Spring 1996. Calibration forms are included with project data for OPR-P139-RA. Bar checks were performed periodically and served as a functional check of the DSF-6000N.

Tide Correctors ✓

Predicted tides for the project were provided on diskette by N/OES334 through N/CS31 for the Cordova, Alaska reference station (945-4050). Tidal correctors as provided in the project instructions for H-10726 are:

Zone	Time Correction	Height Correction
PWS38	-0 hr 00 mins	x0.95

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

Cordova, Alaska (945-4050) and Valdez, Alaska (945-4240) were used as the primary control stations for datum determination at all subordinate stations. RAINIER personnel installed Sutron 8200 GOES-transmitter equipped tide gages at Chenega Island - southwest end (945-4777) on September 2, 1996 and Herring Point (945-4691) on September 27, 1996. 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 January 16, 1997 is attached.*

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

The horizontal datum for this project is NAD 83. One new station, NUKEM, was established on the northernmost rock of the Pleiades Islands using static GPS observations from station ROCK, with a check to station DUKE. The control stations used for this survey ^{*list of*} are listed in ^{*is attached to this*} Appendix H. See the OPR-P139-RA-96 Horizontal Control Report for more information.

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

All soundings were positioned using differential GPS. Primary control was a VHF differential reference station installed at NUKEM and repeated on a second VHF frequency by the ship. Launch-to-launch DGPS performance checks were performed in accordance with Section 3.4.4 of the FPM using either the Cape Hinchinbrook DGPS beacon, the Potato Point DGPS beacon, or station DUKE, as the alternate source of differential corrections. The performance check results are included in the project data for OPR-P139-RA.

RAINIER used SHIPDIM, version 2.2R (April 1996), modified for use with the Trimble Centurion P-code receiver. The stations at NUKEM and HINCHINBROOK provided input for daily comparisons. Some outliers were noted, but none indicated systematic or continuous errors in the HINCHINBROOK beacon. The SHIPDIM OUTLIER.SUM results are included in the project data for OPR-P182-RA.

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 file was projected to the survey grid with OPR-P139-RA-96 geodetic parameters using program Shore version 2.0, provided by N/CS32, and plotted on the survey using HDAPS. *{ DM-10293
DM-10296*

Method of Shoreline Verification

Limited shoreline verification was conducted in accordance with the Project Instructions. The general limit of safe navigation for a survey launch was safe maneuvering distance offshore of apparent low tide, or approximately 3 to 5 meters of depth at Mean Lower Low Water.

The Navigational Area Limit Line (NALL) varied in distance from shore and depth of water based on the apparent usefulness of the nearshore waters for navigation in the judgement of the hydrographer. See the Shoreline Flow Chart and Limited Shoreline Verification "New Rules" memoranda attached to this report.

Shoreline notes describing offshore features and the nature of the foreshore are located in the detached position folders and portrayed on the Detached Position and Bottom Sample final plot submitted with this survey. Field cartographic codes were assigned to detached positions; until their heights can be reduced in final processing, rocks have been assigned code 089 if near vertical datum and code 165 if submerged. Heights are recorded in meters and decimeters and are corrected to predicted MLLW. All shoreline positions offshore of the NALL are plotted on the final field sheet. Rocks inshore of the NALL were not positioned hydrographically; refer to the hydrographer's notes on the final Detached Position and Bottom Sample Plot for chart compilation guidance near shore. Charted rocks offshore of the navigational area limit line were either identified as shoreline manuscript rocks or positioned as new rocks.

* The heights of rocks plotted offshore of the NALL line are shown in feet on the smooth sheet and have been corrected for approved tides. Heights of rocks located within foul areas and inshore of the NALL line were not determined during survey operations. Features and notes portrayed on the Detached Position and Bottom Sample Plot were analyzed during office processing and shown on the smooth sheet as warranted.

K. CROSSLINES Crosslines agreed within 1 meter with mainscheme hydrography. Crossline mileage was 11.1 nautical miles or 9.3 % of total mainscheme hydrography.

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

The following contemporary surveys junction with survey H-10726.

Junction	Survey	Field Number	Scale
Western Limit	H-10725	RA-10-27-96	1:10,000
Southern Limit	H-10719	RA-10-24-96	1:10,000
Eastern Limit	H-10729	RA-40-03-96	1:40,000
Northern Limit	H-10730	RA-10-29-96	1:10,000

(Multi-beam Survey)

Soundings were found to be in good agreement. Final comparison will be made at the Pacific Hydrographic Branch (PHB).

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

Prior surveys covering this survey areas are H-5408 (1:20,000, 1933, Valdez datum), H-3573 (1:20,000, 1913, Valdez datum), H-2916 (1:40,000, 1907, Valdez datum). Prior survey soundings were found to be in fair agreement with those from the current survey. Least depths from the current survey were shoaler due to the use of modern positioning and sounding equipment. Areas in which prior survey soundings vary from the current survey have been adequately sounded and probably arise from positioning and scaling errors from the older surveys, as well as their low sounding density. Final comparisons will be done at PHB after reduction to final sounding datum using tidal information collected concurrently with this survey.

N. ITEM INVESTIGATIONS ✓

There were no AWOIS items assigned to this survey. *Concur.*

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

This survey was compared in the field to features portrayed on chart 16705, 15th Edition, September 1, 1990, 1:80,000 scale, (NAD 83), chart 16704, 11th Edition, April 21, 1990, 1:20,000 scale (NAD 83), and chart 16701, 16th Edition, June 1, 1996, 1:81,436 scale (NAD 83). In addition, 1:10,000 enlargements of charts 16705 and 16704 were provided to compare features and soundings (converted to meters) on the boat sheet. Soundings and heights are referenced to MLLW using predicted tides.

Comparison of charted soundings with the survey is discussed in Section M., Comparison with Prior Surveys, and require no further discussion.

An area foul with rocks was located in Granite Bay at approximate position latitude $60^{\circ} 25' 15''$ N, longitude $147^{\circ} 59' 15''$ W and is portrayed on the Detached Position and Bottom Sample final plot submitted with this survey. *Chart the foul area based on the present survey.*

A foul limit line was determined around Junction Island and the islets and rocks to the north in approximate position latitude $60^{\circ} 23' 30''$ N, longitude $147^{\circ} 59' 45''$ W, and is portrayed on the Detached Position and Bottom Sample final plot submitted with this survey. *Chart the foul limit as depicted on the smooth sheet.*

A charted rock at latitude $60^{\circ} 25' 31.265''$ N, longitude $148^{\circ} 01' 07.535''$ W was searched for (DN 292, fix 20951) and disproved following a four minute visual search of radius 50 meters with five meter water visibility. *Delete charted rock and chart the area based on the present survey. The charted rock is likely the ledge, which is shown on the smooth sheet approximately 50 meters to the northeast.* Additional non-sounding features are shown on the final plot, described in the data, and discussed in Section J. Final comparisons will be made at PHB after application of real tide correctors.

Dangers to Navigation (See EVAL RPT., Sec. O, 6)

Seven dangers to navigation within the limits of H-10726 were reported to the Seventeenth Coast Guard District on November 1, 1996. *(Letter attached)*

P. ADEQUACY OF SURVEY ✓

Survey H-10726 is complete and adequate to supersede prior soundings and features in their common areas. *Concur.*

Q. AIDS TO NAVIGATION ✓

There were no aids to navigation on H-10726. *Concur*

R. STATISTICS ✓

NM Hydrography	281.6
Velocity Casts	2
Detached Positions	32
Selected Soundings	13269
Bottom Samples	49
Tide Stations	2
NM ² Hydrography	9.1
Dives	2

S. MISCELLANEOUS ✓

Bottom samples were collected and sent to the Smithsonian Institution in accordance with Project Instructions.

Secchi disk observations were performed during hydrographic data operations, and results will be forwarded upon completion of this project. General water visibility was 4 to 5 meters.

T. RECOMMENDATIONS ✓

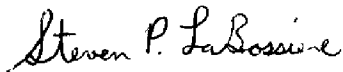
None

REFERRAL TO REPORTS ✓

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

<u>Title</u>	<u>Date Sent</u>	<u>Office</u>
Fall 1996 Horizontal Control Report	November, 1996	N/CS34
Fall 1996 Coast Pilot Report	November, 1996	N/CS26
Project related data	Incremental	N/CS34
Secchi Disk Observations	November, 1996	N/CS31

Respectfully Submitted,



Steven P. LaBossiere
Lieutenant, NOAA

Approved and Forwarded,



Dean R. Seidel
Captain, NOAA
Commanding Officer

CONTROL STATIONS as of 30 Oct 1996 ✓

No	Type	Latitude	Longitude	H	Cart	Freq	Vel	Code	MM/DD/YY	Station Name
1	G	060:14:26.408	148:00:42.205	18	250	0.0	0.0		09/03/96	NUKEM
2	G	060:15:37.435	148:18:06.007	18	250	0.0	0.0		10/07/96	DUKE
3	L	060:09:11.260	147:45:58.680	27	257	0.0	0.0		10/07/96	PT. HELEN LIGHT LL#25925
4	L	060:18:46.233	147:55:04.532	23	257	0.0	0.0		10/07/96	NEW YEAR ISLAND LIGHT LL#25915
5	L	060:14:22.912	148:00:37.765	26	257	0.0	0.0		10/07/96	PLEIADES LIGHT LL#25920
6	B	060:14:18.000	148:38:48.000	0	250	0.0	0.0		00/00/00	CAPE HINCHINBROOK USCG BEACON
7	B	061:03:24.000	146:41:48.000	0	250	0.0	0.0		00/00/00	POTATO POINT USCG BEACON



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 1, 1996

Commander
Seventeenth Coast Guard District
Post Office Box 3-5000
Juneau, Alaska 99802

**ADVANCE
INFORMATION**

Dear Sir:

During the processing of hydrographic survey H-10726 in Knight Island Passage, Prince William Sound, seven dangers to navigation has been discovered. These dangers affect the following charts:

<u>Number</u>	<u>Edition</u>	<u>Date</u>	<u>Scale</u>	<u>Datum</u>
16700	24th ED.	92/01	1:200,000	NAD83
16701	16th ED.	96/06	1:81,436	NAD83
16705	15th ED.	90/09	1:80,000	NAD83

It is recommended that these dangers to navigation be included in the Local Notice to Mariners.

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

Sincerely,

Dean R. Seidel
Captain, NOAA
Commanding Officer
NOAA Ship RAINIER

Enclosure

cc: DMA/HTC
PMC
N/CS262



DANGERS TO NAVIGATION

OPR-P139-RA

SOUTHWEST PRINCE WILLIAM SOUND, AK

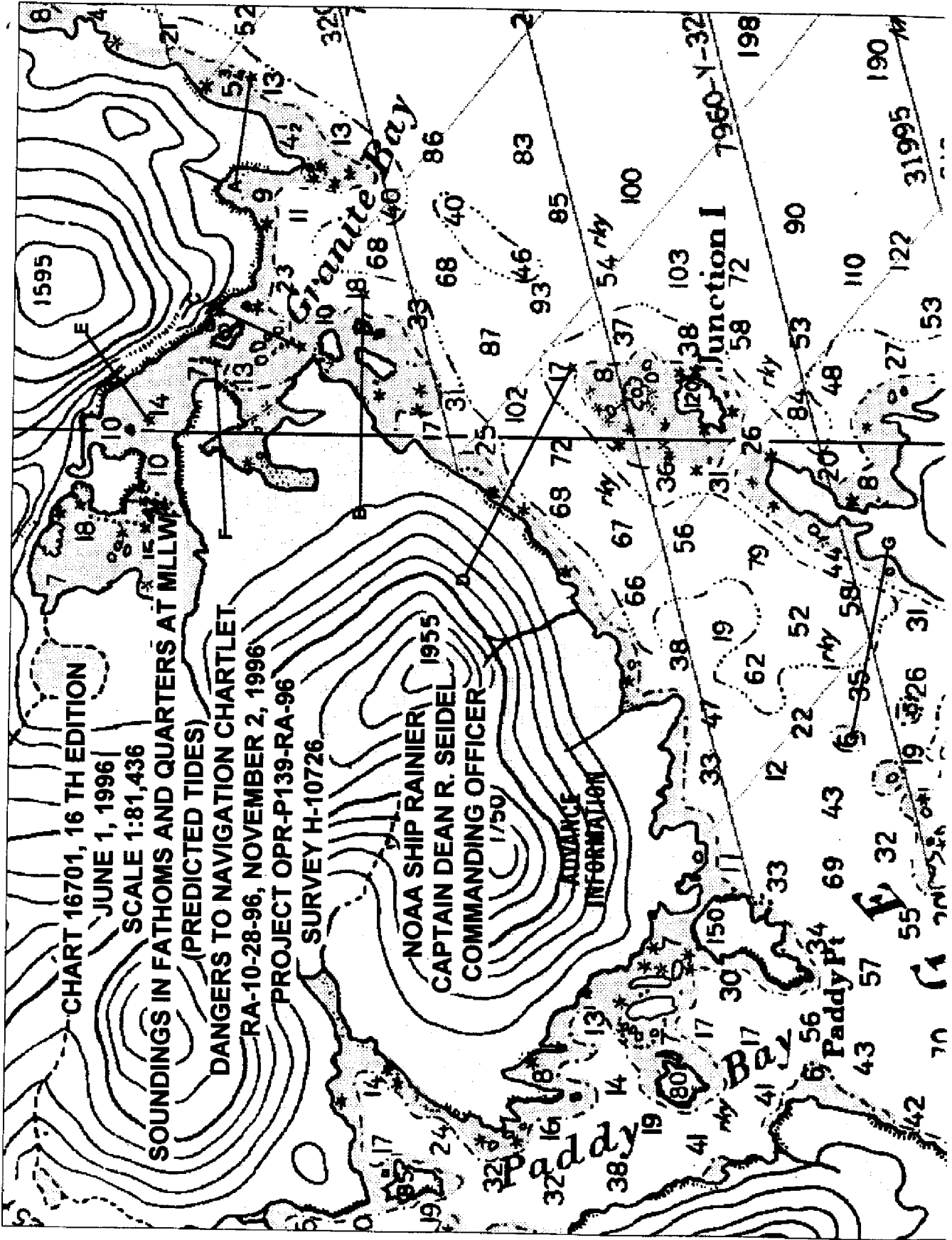
REGISTRY NUMBER: H-10726

AFFECTED CHARTS:

<u>CHART</u>	<u>EDITION NUMBER</u>	<u>DATE</u>	<u>SCALE</u>
16700	24 TH ED.	92/01	1:200,000
16701	16 TH ED.	96/06	1:81,436
16705	15 TH ED.	90/09	1:80,000

**ADVANCE
INFORMATION**

<u>ITEM</u>	<u>FIX #</u>	<u>DANGER</u>	<u>CHART DEPTH</u>	<u>DEPTH (M)</u>	<u>LATITUDE (N)</u>	<u>LONGITUDE (W)</u>
A	20146+2	ROCK	COVERS 1 1/4 FM	2.6	060:25:10.897	147:57:19.756
B	60791+3	SHOAL	5 1/2 FM	10.1	060:24:44.763	147:58:56.902
C	40459+3	SHOAL	3 1/4 FM	6.1	060:24:58.876	147:59:20.731
D	60329+6	SHOAL	4 3/4 FM	8.9	060:23:57.883	147:59:28.281
E	21113+0	ROCK	AWASH	-0.1	060:25:32.817	147:59:55.085
F	30160+0	REEF	AWASH	0.3	060:25:17.824	147:59:28.690
G	40594+0	SHOAL	2 FM	3.7	060:22:53.580	148:02:12.199



Ra021748

P 021748Z NOV 96
FM NOAA S RAINIER
TO CCGDSEVENTEEN JUNEAU AK
DMAHTCCNAVWARN WASHINGTON DC//MCNM//
INFO NOAA MOP SEATTLE WA
BT
UNCLAS

**ADVANCE
INFORMATION**

DANGER TO NAV #: RA-21-96

NOAA SHIP RAINIER HAS LOCATED 7 DANGERS TO NAVIGATION IN
SOUTHWEST PRINCE WILLIAM SOUND, AK (PROJECT: OPR-P139-RA)
WITHIN THE LIMITS OF HYDROGRAPHIC SURVEY H-10726.

THE FOLLOWING INFORMATION IS PROVIDED FOR PUBLICATION IN
LOCAL NOTICE TO MARINERS:

DEPTHS ARE REDUCED TO MLLW BASED ON PREDICTED TIDES.

AFFECTED CHARTS:

CHART	EDITION NUMBER	DATE	SCALE
16700	24TH ED.	92/01	1:200,000
16701	16TH ED.	96/06	1:81,436
16705	15TH ED.	90/09	1:80,000

ALL CHART DATUM ARE NAD83.

ITEM	DANGER	DEPTH	LATITUDE (N)	LONGITUDE (W)	FIX NUMBER
A	ROCK	COVERS 1 1/4 FM	060:25:10.897	147:57:19.756	20146+2
B	SHOAL	5 1/2 FM	060:24:44.763	147:58:56.902	60791+3
C	SHOAL	3 1/4 FM	060:24:58.876	147:59:20.731	40459+3
D	SHOAL	4 3/4 FM	060:23:57.883	147:59:28.281	60329+6
E	ROCK	AWASH	060:25:32.817	147:59:55.085	21113+0
F	REEF	AWASH	060:25:17.824	147:59:28.690	30160+0
G	SHOAL	2 FM	060:22:53.580	148:02:12.199	40594+0

THIS IS ADVANCE INFORMATION SUBJECT OF OFFICE REVIEW.

QUESTIONS CONCERNING THIS MESSAGE SHOULD BE DIRECTED
TO THE CHIEF, PACIFIC HYDROGRAPHIC BRANCH AT (206) 526-6835.
A LETTER WITH ATTACHED CHARTLET WILL BE MAILED TO CONFIRM
THIS MESSAGE.
BT



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

13 June 1997

Commander
Seventeenth Coast Guard District
Post Office Box 25517
Juneau, Alaska 99802

Dear Sir,

During the office processing of hydrographic survey H-10726 in southwest Prince William Sound, an error in a previously reported danger to navigation has been discovered. The danger affects the following charts:

Chart	Edition	Date	Datum
16700	24th Edition	Jan. 1992	NAD83
16701	16th Edition	June 1996	NAD83
16705	15th Edition	Sept. 1990	NAD83

It is recommended that this change in depth and position be included in the Local Notice To Mariners.

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

Sincerely

Kathryn A. Timmons

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

Enclosure

cc: NIMA
N/CS261



Hydrographic Survey Registry Number: H-10726

Survey Title: State: Alaska
 Locality: Southwest Prince William Sound
 Sublocality: Northern Approach to Dangerous Passage

Project Number: OPR-P139-RA

Survey Date: October 1996

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

Affected Nautical Charts:

<u>Chart</u>	<u>Edition</u>	<u>Date</u>	<u>Datum</u>
16700	24th Edition	Jan. 1992	NAD83
16701	16th Edition	June 1996	NAD83
16705	15th Edition	Sept. 1990	NAD83

<u>Danger to Navigation</u>		<u>Latitude (N)</u>	<u>Longitude (W)</u>
Shoal, 5.5 fm	incorrect depth	60/24/44.763	147/58/56.902
Shoal, 4.3 fm	correct depth & position	60/24/44.017	147/58/57.105

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



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 15, 1997

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

Dear Sir:

During office review of hydrographic survey H-10726, Alaska, Southwest Prince William Sound, Northern Approaches to Dangerous Bay, two (2) additional dangers to navigation have been identified. These potential dangers affect the following chart:

Chart	Edition/Date	Scale	Datum
16705	16th/Aug. 24, 1996	1:80,000	NAD 83
16701	16th/June 1, 1996	1:81,436	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-10726

Survey Title: State: ALASKA
 Locality: SOUTHWEST PRINCE WILLIAM SOUND
 Sublocality: NORTHERN APPROACH TO DANGEROUS
 BAY

Project Number: OPR-P139-RA, NOAA Ship RAINIER

Survey Date: October 8-23, 1996

Features are reduced to Mean Lower Low Water (MLLW) using approved tides and are positioned on NAD 83.

Chart affected: 16705, 16th Edition/August 24, 1996, scale 1:80,000, NAD 83
 16701, 16th Edition/August 21, 1996, scale 1:81,436, NAD 83

<u>DANGER TO NAVIGATION</u>	<u>LATITUDE(N)</u>	<u>LONGITUDE(W)</u>
Shoal, covers 8 fathoms	60/23/10.9	148/02/30.0
Shoal, covers 14 fathoms	60/23/23.1	148/01/24.9

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

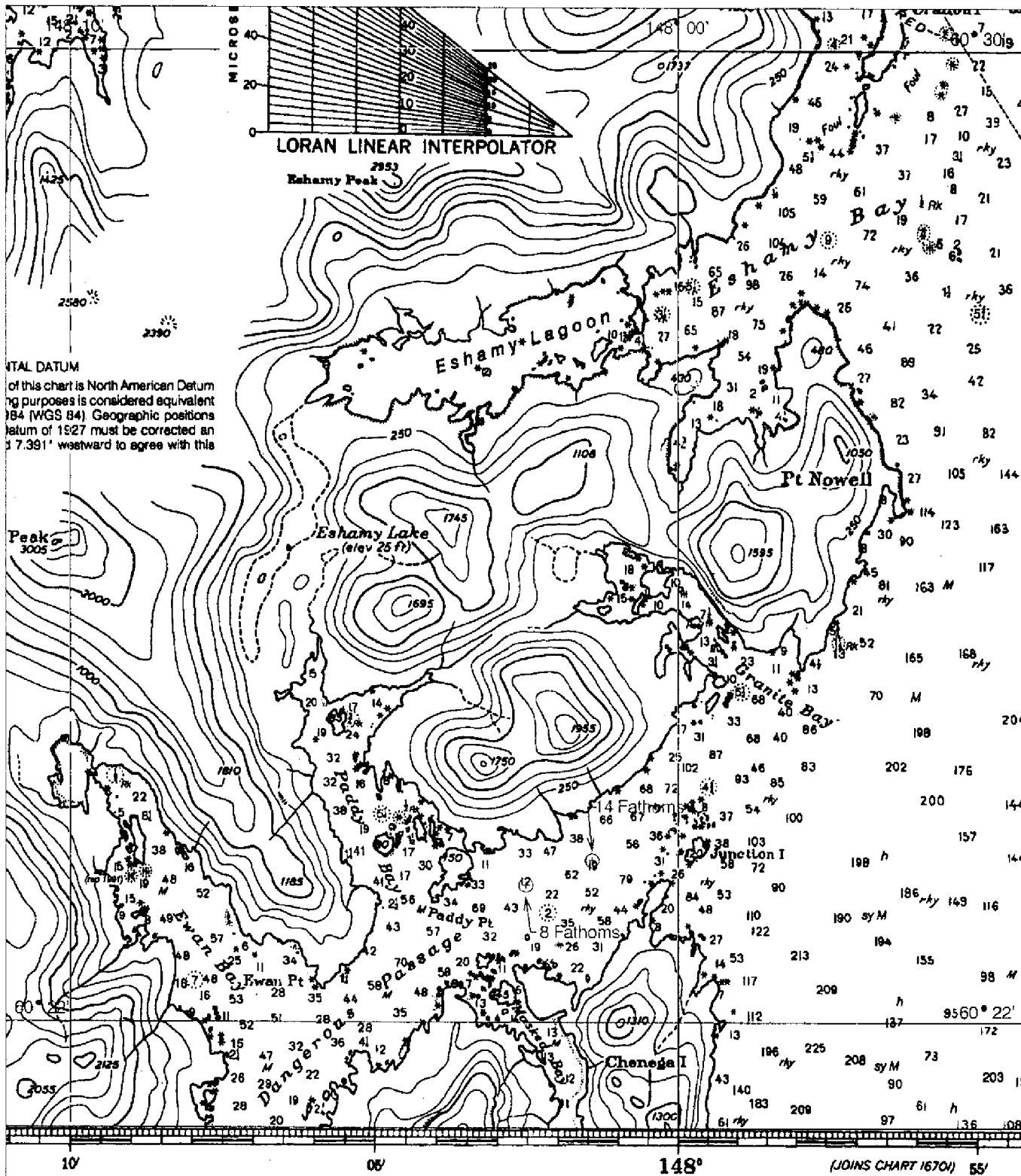


Chart 16705

16th Edition, August 24, 1996, scale 1:80,000

Revisions in RED from Survey H-10726 (1996)

Published at Washington, D.C.
 U.S. DEPARTMENT OF COMMERCE
 NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
 NATIONAL OCEAN SERVICE
 COAST SURVEY

Contact: Pacific Hydrographic Branch
 Seattle, WA 98115
 (206) 526-6836



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

November 6, 1997

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

Dear Sir:

During office review of hydrographic survey H-10726, Alaska, Southwest Prince William Sound, Northern Approaches to Dangerous Bay, seven (7) additional dangers to navigation have been identified. These potential dangers affect the following chart:

Chart	Edition/Date	Scale	Datum
16705	16th/Aug. 24, 1996	1:80,000	NAD 83
16701	16th/June 1, 1996	1:81,436	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

Kathryn Timmons
Commander, NOAA
Chief, Pacific Hydrographic Branch

Enclosures

cc: NIMA
N/CS261



REPORT OF DANGERS TO NAVIGATION

Hydrographic Survey Registry Number: H-10726

Survey Title: State: ALASKA
Locality: SOUTHWEST PRINCE WILLIAM SOUND
Sublocality: NORTHERN APPROACH TO DANGEROUS BAY

Project Number: OPR-P139-RA, NOAA Ship RAINIER

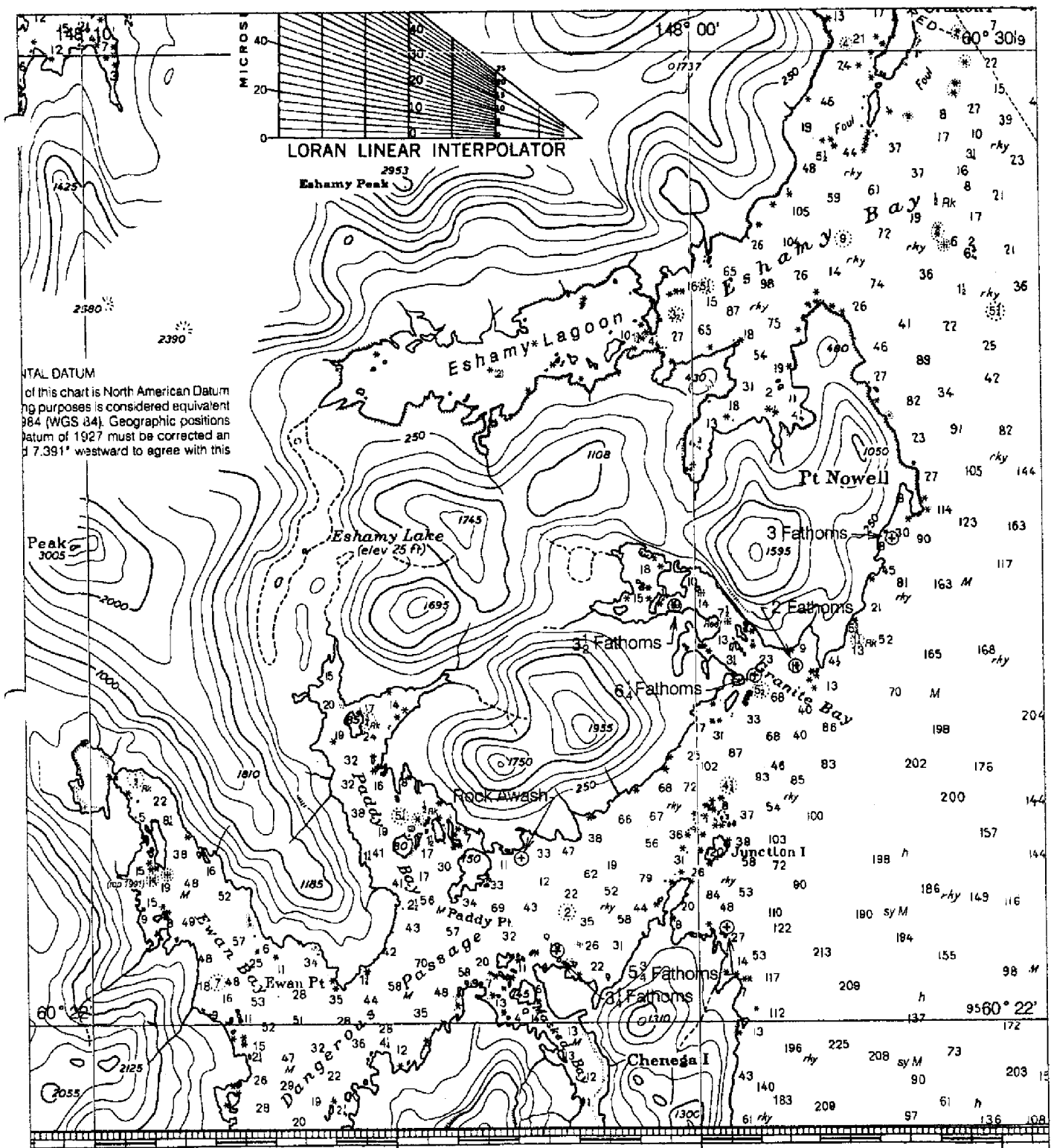
Survey Date: October 8-23, 1996

Features are reduced to Mean Lower Low Water (MLLW) using approved tides and are positioned on NAD 83.

Chart affected: 16705, 16th Edition/August 24, 1996, scale 1:80,000, NAD 83
16701, 16th Edition/August 21, 1996, scale 1:81,436, NAD 83

<u>DANGER TO NAVIGATION</u>	<u>LATITUDE(N)</u>	<u>LONGITUDE(W)</u>
Shoal, covers 3 fathoms	60/26/00.6	147/56/43.0
Shoal, covers 2 fathoms	60/24/58.3	147/58/20.1
Shoal, covers 6 1/4 fathoms	60/24/53.9	147/59/01.2
Shoal, covers 3 1/2 fathoms	60/25/28.4	148/00/19.3
Rock Awash	60/23/24.7	148/02/52.5
Shoal, covers 3 1/4 fathoms	60/22/38.8	148/02/18.7
Shoal, covers 5 3/4 fathoms	60/22/50.3	147/59/31.4

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



VERTICAL DATUM
 The vertical datum of this chart is North American Datum of 1984 (NAD 84). Geographic positions of 1927 must be corrected and 7.391" westward to agree with this datum.

10' 05' 148° (JOINS CHART 16701) 55'

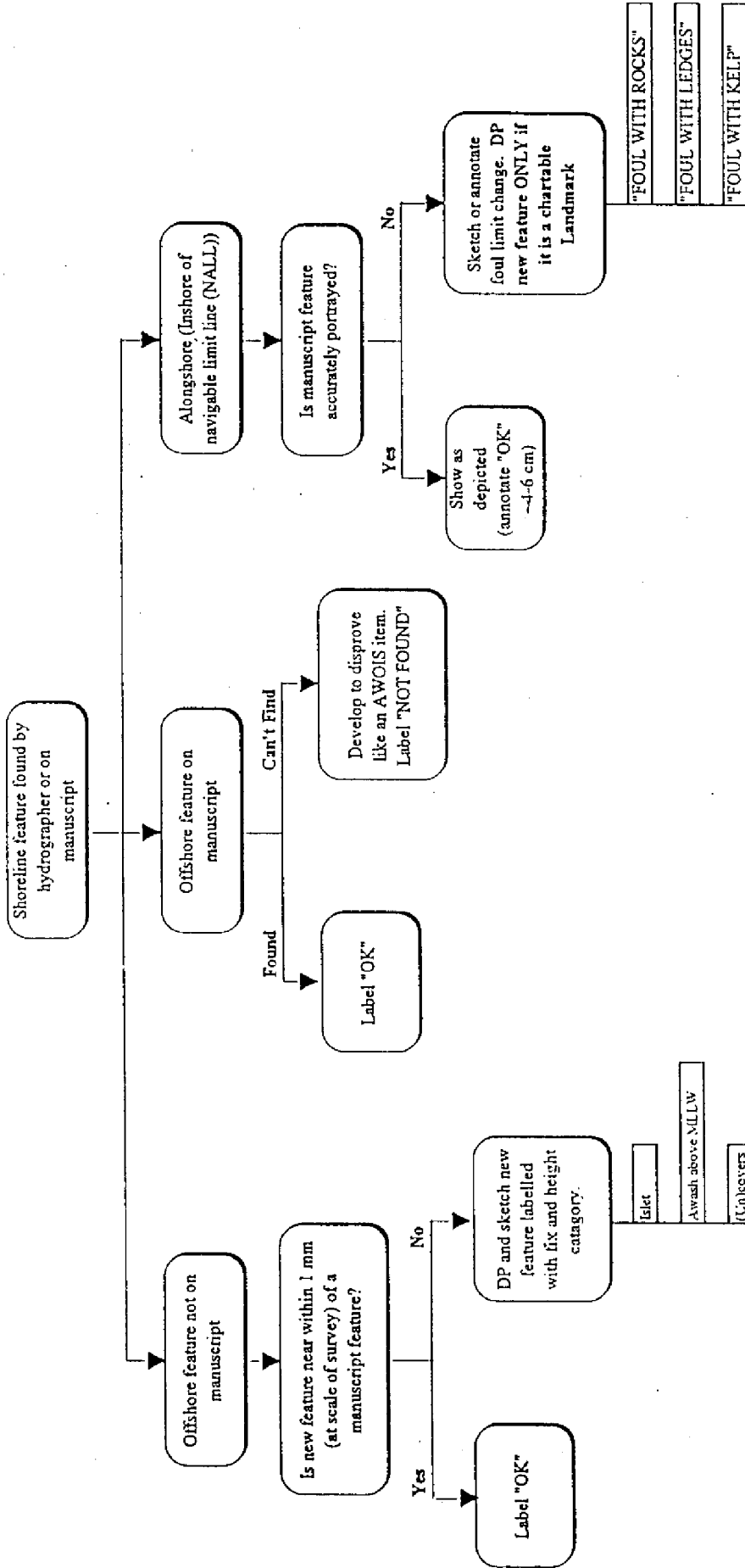
Chart 16705
 16th Edition, August 24, 1996, scale 1:80,000

Revisions in RED from Survey H-10726 (1996)

Published at Washington, D.C.
 U.S. DEPARTMENT OF COMMERCE
 NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
 NATIONAL OCEAN SERVICE
 COAST SURVEY

Contact: Pacific Hydrographic Branch
 Seattle, WA 98115
 (206) 526-6836

Shoreline Decision Tree



Limited Shoreline Verification: The New Rules

First, understand that the fundamental difference between last year and this year is that the amount of shoreline we must verify is determined by US, not strictly specified in the Project Instructions.

Procedures:

- 1) Determine distance from shore that is the MINIMUM working distance necessary for the survey. Take into account likely vessel traffic, bathymetry, complexity of the shoreline from prior surveys and the chart, and weather (sea) conditions experienced in the area. Use greater distances if shallow depths prevail, or if swell is severe. Even in steep foreshore bathymetry, do not go closer than 3 launch lengths (30 meters), unless vessel usage indicates that the area is used (e.g. a landing ramp is on shore, or an extremely narrow passage is used by fishing vessels to reach a certain bay.)
- 2) Draw the inshore limit determined in (1) on the boat sheet. Collecting data along this line may or may not be feasible, due to tides and project logistics, but the boat sheet line may be used to delimit mainscheme and development hydrography until such a "buffer" line is or may be needed.
- 3) Search for and develop all features seaward of the line drawn in (2). Use low water for this search, if possible. Combining this search with the acquisition of the data along the "buffer" line may be possible in areas which are not too complex. Detached positions are required only if a feature is found offshore of the NALL line and either more than 1 mm away from any manuscript feature or is mis-represented by the manuscript. If a charted or manuscript feature located offshore of the line is NOT found, a full disapproval is required.
- 4) Annotate the field copies of the boat sheet (which by definition includes the charted, manuscript, and significant prior survey features) showing that the shoreline features offshore of the NALL each have a full disposition. These copies are bound and used to create the final field sheet, and submitted as official survey records.

APPROVAL SHEET

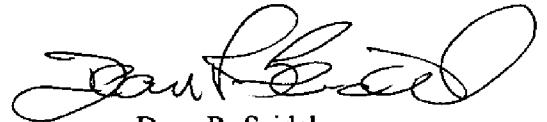
for

H-10726

RA-10-28-96

Standard procedures were followed in accordance with the Hydrographic Manual, Fourth Edition; the Hydrographic Guidelines; and the 1994 version of the Field Procedures Manual in producing this survey. The data were examined daily during data acquisition and processing.

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



Dean R. Seidel
Captain, NOAA
Commanding Officer



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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: January 16, 1997

HYDROGRAPHIC BRANCH: Pacific
HYDROGRAPHIC PROJECT: OPR-P139-RA
HYDROGRAPHIC SHEET: H-10726

LOCALITY: Northern Approach to Dangerous Passage, Southwest Prince
William Sound, Alaska

TIME PERIOD: October 8 - 23, 1996

TIDE STATION USED: 945-4777 Chenega Island, Southwest End, AK
Lat. 60° 17.2'N Lon. 148° 07.2'W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 3.300 meters

TIDE STATION USED: 945-4671 Point Helen, Knight Island, AK
Lat. 60° 09.2'N Lon. 147° 46.0'W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 3.240 meters

TIDE STATION USED: 945-4691 Herring Point, Knight Island Passage,
AK
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: 3.362 meters


TIDE STATION USED: 945-4240 Valdez, AK
Lat. 61° 07.5'N Lon. 146° 21.7'W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 3.389 meters

REMARKS: RECOMMENDED ZONING

Use zones identified as: PWS34, PWS35, PWS38 & PWS38A

Refer to attachment(s) for zoning information.

Note: Provided time series data are tabulated in metric units
(meters) and on Greenwich Mean Time.



CHIEF, TIDAL ANALYSIS BRANCH



Final tide zone nodal point locations for OPR P139-RA-96.
 Sheet H-10726

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 PWS34				
-148.237563	60.386823	9454777	Direct	Direct
-148.185368	60.423755	9454691	Direct	0.98
-148.054039	60.428791	9454240	Direct	0.97
-148.006895	60.382627			
-148.00016	60.375912			
-148.023732	60.350731			
-148.094448	60.330586			
-148.237563	60.386823			
Zone PWS35				
-148.094448	60.330586	9454777	Direct	1.01
-148.023732	60.350731	9454691	Direct	0.99
-148.00016	60.375912	9454240	Direct	0.98
-147.78401	60.368002			
-147.804609	60.330991			
-147.858271	60.320562			
-147.862937	60.284639			
-147.781279	60.245812			
-147.921026	60.250008			
-148.135913	60.305498			
-148.094448	60.330586			
Zone PWS38				
-147.78401	60.368002	9454691	Direct	Direct
-147.766126	60.390181	9454777	Direct	1.02
-147.638164	60.475795	9454240	Direct	0.99
-147.643214	60.497618			
-147.595271	60.527063			
-147.560712	60.570642			
-148.101183	60.592465			
-148.114598	60.574838			
-148.128786	60.481602			
-148.012385	60.476742			
-148.011446	60.457767			
-148.054039	60.428791			
-148.006895	60.382627			
-148.00016	60.375912			
-147.78401	60.368002			
Zone PWS38A				
-148.054039	60.428791	9454757	Direct	Direct
-148.011446	60.457767	9454691	Direct	0.95

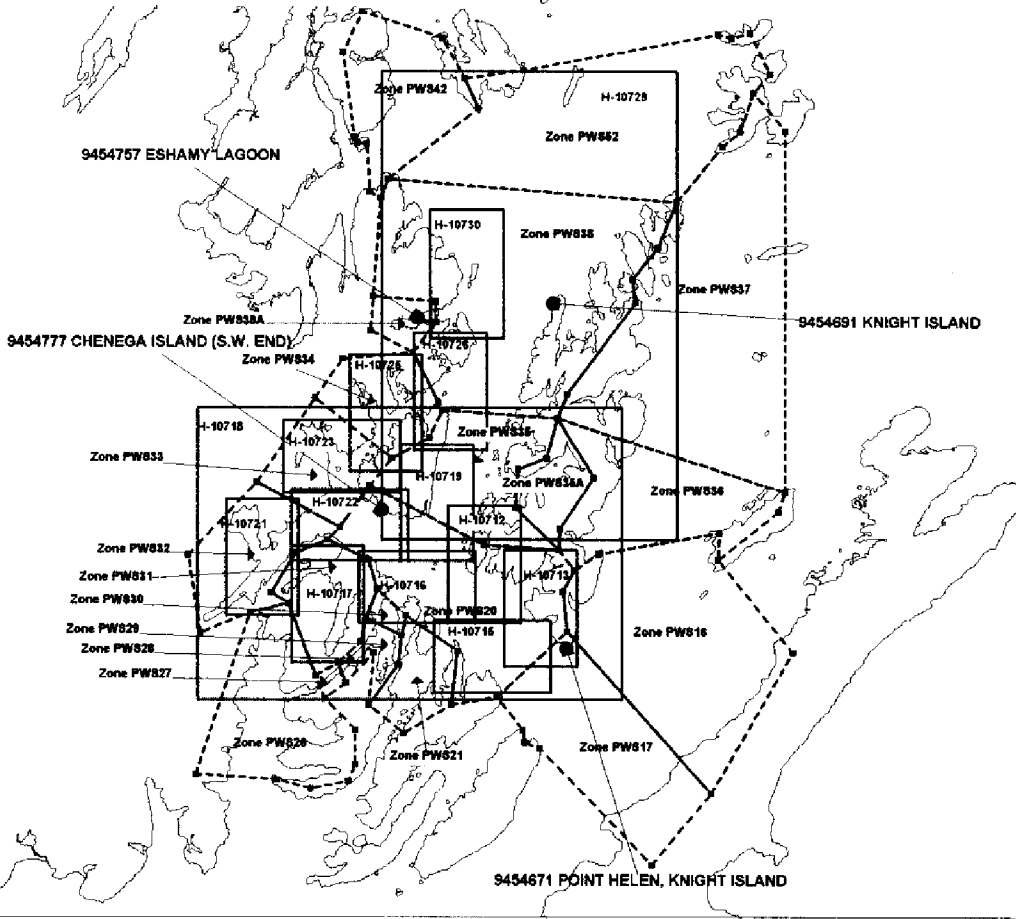
-148.012385 60.476742
-148.128786 60.481602
-148.133173 60.449775
-148.054039 60.428791

9454777

Direct

0.97

**Final Zoning for OPR P139-RA-96
Southwest Prince William Sound, AK**



ZONE	TG1	TC1	RR1	TG2	TC2	RR2	TG3	TC3	RR3
PWS16	9454671	0	1.01	9454777	0	0.99	9454240	0	0.96
PWS17	9454671	0	1.00	9454777	0	0.98	9454240	0	0.95
PWS20	9454777	0	1.00	9454671	0	1.03	9454240	0	0.97
PWS21	9454671	-6	1.01	9454777	-6	0.99	9454240	-6	0.96
PWS26	9454671	-12	0.93	9454777	-12	0.91	9454240	-12	0.88
PWS27	9454671	-6	0.95	9454777	-6	0.93	9454240	-6	0.90
PWS28	9454671	0	0.97	9454777	0	0.95	9454240	0	0.92
PWS29	9454671	0	0.99	9454777	0	0.97	9454240	0	0.94
PWS30	9454671	0	1.00	9454777	0	0.98	9454240	0	0.95
PWS31	9454777	0	0.98	9454671	0	1.00	9454240	0	0.95
PWS32	9454777	0	0.97	9454671	0	0.99	9454240	0	0.94
PWS33	9454777	0	0.98	9454671	0	1.00	9454240	0	0.95
PWS34	9454777	0	1.00	9454691	0	0.98	9454240	0	0.97
PWS35	9454777	0	1.01	9454691	0	0.99	9454240	0	0.98
PWS36	9454671	0	1.03	9454691	0	0.98	9454240	0	0.97
PWS37	9454691	0	0.99	9454671	0	1.04	9454240	0	0.98
PWS38	9454691	0	1.00	9454777	0	1.02	9454240	0	0.99
PWS42	9454691	0	1.01	9454777	0	1.02	9454240	0	0.99
PWS52	9454691	0	0.99	9454777	0	1.01	9454240	0	0.98
PWS35A	9454777	0	1.03	9454691	0	1.01	9454240	0	1.00
PWS38A	9454757	0	1.00	9454691	0	0.95	9454777	0	0.97

GEOGRAPHIC NAMES

Name on Survey	A CHART NO. 16701, 1605, 16700 B ON PREVIOUS SURVEY C ON U.S. QUADRANGLE MAPS D FROM LOCAL INFORMATION E ON LOCAL MAPS F P.O. GUIDE OR MAP G RAND McNALLY ATLAS H U.S. LIGHT LIST K									
	A	B	C	D	E	F	G	H	K	
ALASKA (title)	X		X							1
CHENEGA ISLAND	X		X							2
DANGEROUS PASSAGE	X		X							3
GRANITE BAY	X		X							4
JUNCTION ISLAND	X		X							5
KNIGHT ISLAND PASSAGE	X		X							6
MASKED BAY	X		X							7
NOWELL, POINT	X		X							8
PRINCE WILLIAM SOUND	X		X							9
(title)										10
										11
										12
										13
										14
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										21
										22
										23
										24
										25

Approved

Arthur C. Goy
Chief Geographer

APR 10 1977

HYDROGRAPHIC SURVEY STATISTICS

H-10726

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

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

SHORELINE DATA

SHORELINE MAPS (List):	DM-10293, DM-10296
PHOTOBATHYMETRIC MAPS (List):	NA
NOTES TO THE HYDROGRAPHER (List):	NA
SPECIAL REPORTS (List):	NA
NAUTICAL CHARTS (List):	16705, 16th Ed., August 24, 1996, Chart 16704 11th ED Apr 21, 1990 Chart 16701 16th ED June 1, 1996

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)			13,309	
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	110.5		110.5	
COMPARISON WITH PRIOR SURVEYS AND CHARTS		14.5	14.5	
EVALUATION OF SIDE SCAN SONAR RECORDS				
EVALUATION OF WIRE DRAGS AND SWEEPS				
EVALUATION REPORT		29.0	29.0	
GEOGRAPHIC NAMES				
OTHER				
*USE OTHER SIDE OF FORM FOR REMARKS	TOTALS	110.5	43.5	154.0

Pre-processing Examination by Pacific Hydrographic Branch	Beginning Date 12/3/96	Ending Date 2/21/97
Verification of Field Data by D. Doles, M. Bigelow, R. Mayor, E. Domingo	Time (Hours) 110.5	Ending Date 9/16/97
Verification Check by B. Olmstead	Time (Hours) 7	Ending Date 10/29/97
Evaluation and Analysis by I. Almacen	Time (Hours) 43.5	Ending Date 9/24/97
Inspection by B. Olmstead	Time (Hours) 12	Ending Date 11/7/97

EVALUATION REPORT

H-10726

A. PROJECT

Project information is discussed in the hydrographer's report.

B. AREA SURVEYED

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

The coastline is generally rugged and the area consists of scattered rocks, reefs and groups of small islets. The bottom is made up of pebble, gravel, sand and mud mixed with broken shells. Depth range from 0.1 to 215.0 fathoms.

The hydrographer has determined during this survey the inshore limits of safe navigation by defining a Navigable Area Limit Line (NALL) within the area of the survey. The NALL line determination was accomplished in accordance with the Project Instructions (Attachment 1) and the latest "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

Survey vessel information is found in the hydrographer's report.

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 and MicroStation 95.

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

The drawing files necessarily contain information which is not part of the HPS data set such as geographic 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 the Hydrographic Survey Guidelines No. 75 and No. 35.

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

E. SONAR EQUIPMENT

Side scan sonar was not used during this survey.

F. SOUNDING EQUIPMENT

Sounding equipment is discussed 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 actual tide, dynamic draft, and sound velocity. These reducers have been reviewed and are consistent with present NOS specifications. Actual tide reduction is derived from Chenega Island, Southwest End, Alaska gage (945-4777) and Herring Point, Knight Island Passage, Alaska, gage (945-4691). Tide stations Point Helen and Valdez were 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 MicroStation generated smooth sheet is annotated with an NAD 27 adjustment tick based on values determined with NGS program NADCON. Data based on NAD 27 may be referenced to this survey by applying the following corrections.

Latitude: -1.980 seconds (-61.291 meters)
Longitude: 7.499 seconds (114.837 meters)

I. HYDROGRAPHIC POSITION CONTROL

Hydrographic position control is adequately discussed in the hydrographer's report. A horizontal dilution of precision (HDOP) limits of 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 considered good. The reference site confirmation test and the daily DGPS performance checks conducted in the field were adequate.

J. SHORELINE

The "limited" shoreline verification method applied to this survey is adequately discussed in the hydrographer's report. The digitized shoreline file and the survey file were merged during Microstation processing.

There are no significant differences noted in the mean high water line configuration between the present and the latest shoreline compilation of the area. However, some considerable shift and changes in the shoreline configuration were noted between the present and the charted high water line particularly along the northern shore of Chenega Island. These shoreline changes could primarily be the result of ground movement caused by the devastating Alaska earthquake of 1964. It could also be attributed to the differences in the source data accuracy of mean high water line determination, differences in reference datum used and the probable error in the chart compilation of the area.

The rocks awash depicted on the latest shoreline manuscripts located inshore of the NALL line and close to the mean high water line were found to be the extension of ledges. These features are shown as ledges on the smooth sheet. However, they will still be charted as rocks awash based on their size, scale of the chart and the customary chart compilation practices.

The hydrographer found several new rocks inshore of the NALL line and near the mean high water line. However, these features were not positioned during survey operations and are insignificant at chart scale. These rocks are of no navigational importance and have not been shown on the smooth sheet.

The charted shoreline should be revised based on the latest shoreline manuscript 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-10726 junctions with the following surveys.

<u>Survey</u>	<u>Year</u>	<u>Scale</u>	<u>Area</u>
H-10719	1996	1:10,000	South
H-10725	1996	1:10,000	West

H-10729	1996	1:40,000	East
H-10730	1996	1:10,000	North

The junctions with surveys H-10719, H-10725, H-10729 and H-10730 are complete. Survey H-10729 is a multi-beam hydrography conducted along the main portion of Knight Island Passage. The depth curves and soundings within the junction areas are in satisfactory agreement.

M. COMPARISON WITH PRIOR SURVEYS

Survey H-10726 was compared with the following prior surveys.

H-2916 (1907), scale 1:40,000
H-3573 (1913), scale 1:20,000
H-5408 (1933), scale 1:20,000

These prior USC&GS hydrographic surveys cover the area of the recent survey. Comparisons with these surveys are considered satisfactory. All depths originating from these prior surveys were adequately addressed during survey operations. A more complete and thorough coverage of the area has been undertaken during this survey. The present depths were found to be generally shoaler by about 1.0 to 15.0 fathoms which is an indication of the usual uplifting trend common around this area of Prince William Sound caused primarily by the frequent occurrences of earthquakes in the region. The other changes noted could be attributed to the increased sounding density of the present survey, differences in the reference datum used and the application of modern surveying methods.

H-10726 is adequate to supersede the prior surveys within the common area.

M. ITEM INVESTIGATIONS

There were no AWOIS item investigations assigned to this survey.

O. COMPARISON WITH CHART

Survey H-10726 was compared with the following charts.

<u>Chart</u>	<u>Edition</u>	<u>Date</u>	<u>Scale</u>	<u>Datum</u>
16701	16th	June 1, 1996	1:81,436	NAD 83
16704	11th	April 21, 1990	1:20,000	NAD 83
16705	16th	August 24, 1996	1:80,000	NAD 83

a. Hydrography

Charted hydrography originates with the previously mentioned prior hydrographic surveys. These surveys have been adequately addressed in the preceding section of this report and requires no further discussion.

In accordance with Hydrographic Survey Guideline No. 39, the effects of the 1964 earthquake in Prince William Sound were considered in the comparison of this survey. No reasonable adjustment value based on the prior survey information could be determined. However, based on the U.S. Coast Pilot report (Vol. 9), a bottom uplift of 4.9 feet is known to have occurred around Chenega Island which is adjacent to the southern area of this survey.

Survey H-10726 is adequate to supersede charted hydrography within the common area of coverage. Considering the close proximity of the NALL line along the shore as determined by the hydrographer and the scale of the existing chart, the present survey could also be considered adequate to supersede the area inshore of the NALL line. Except for the visually verified shoreline features that should be retained or revised based on the present survey information.

b. Dangers to Navigation

Seven (7) dangers to navigation were reported to the USCG, NIMA, N/CG261 and N/CS34 on November 1, 1996. Nine (9) additional dangers were identified during office processing. Copies of the reports are attached.

A letter dated June 13, 1997 was sent to the USCG concerning an error discovered during office processing on Item B of the previously reported dangers to navigation. A copy of the letter with the corrected information is attached.

P. ADEQUACY OF SURVEY

The hydrography on survey H-10726 is adequate to:

- a. delineate the bottom configuration, determine least depths, and draw the standard 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.

Hydrography on survey H-10726 was acquired in the field in metric units while the smooth sheet for this survey was compiled in fathoms to conform to the sounding unit of the

existing NOS nautical charts of the area.

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.

Survey H-10726 adequately complies with the project instructions.

Q. AIDS TO NAVIGATION

There are no aids to navigation found within the survey area.

There are no prominent features of landmark value located within the survey area.

R. STATISTICS

Statistics are itemized in the hydrographer's report.

S. MISCELLANEOUS

Miscellaneous information concerning this survey is discussed in the hydrographer's report. No additional miscellaneous items were noted during office processing.

T. RECOMMENDATIONS

Survey H-10726 is a good hydrographic survey and no additional field work is required.

U. REFERRAL TO REPORTS

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


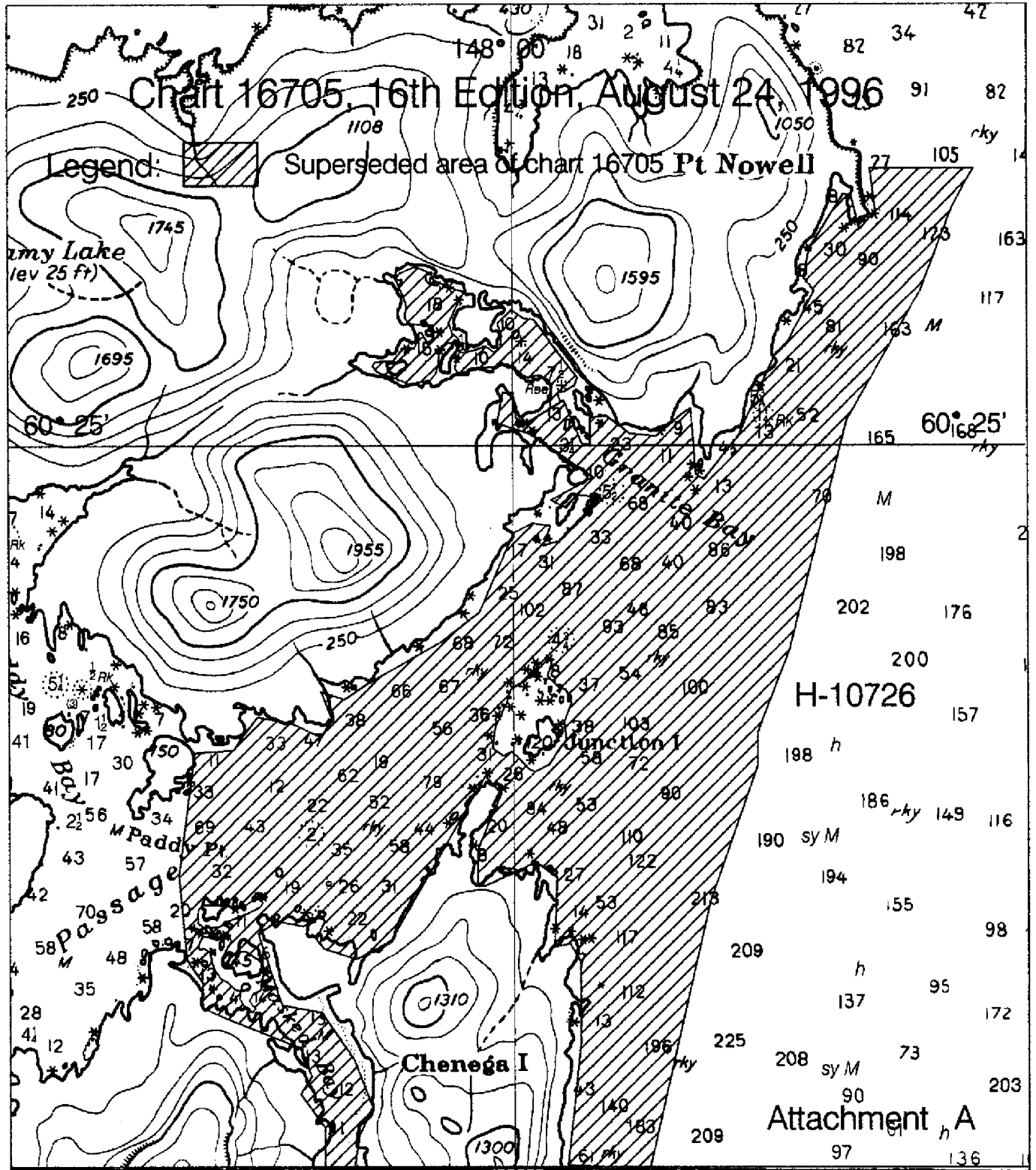

Isagani A. Almacén
Cartographer

Chart 16705, 16th Edition, August 24, 1996

Legend:



Superseded area of chart 16705 Pt Nowell



05'

148°

(JOINS CHART 16701)

55'

Attachment A

H-10726

Junction 1

Amy Lake
(lev 25 ft)

Chenega I

Legend:

Superseded area of chart 16705 Pt Nowell

APPROVAL SHEET
H-10726

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: 11/7/97
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: 11/9/97
Kathy Timmons
Commander, NOAA
Chief, Pacific Hydrographic Branch

Final Approval

Approved:

Jack L. Wallace ACTG FOR Date: APRIL 9, 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-10726

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
16704			Full Part Before After Marine Center Approval Signed Via Drawing No.
16705	11/18/97	<i>[Signature]</i>	Full Part Before After Marine Center Approval Signed Via <i>Full application of</i> Drawing No. <i>snags & 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.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
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SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED.