

H10701a

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-20-3-97
Registry No. ....	H-10701A
LOCALITY	
State .....	Alaska
General Locality .....	Southwest Alaska Peninsula
Sublocality .....	Chignik Bay
.....	
1997	
CHIEF OF PARTY CAPT Alan D. Anderson, NOAA	
LIBRARY & ARCHIVES	
DATE .....	NOV 24 1998

HYDROGRAPHIC TITLE SHEET

H-10701A

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-20-3-97

State Alaska

General locality Southwest Alaska Peninsula

Locality Chignik Bay

Scale 1:20,000 Date of survey July 24, - Aug. 25, 1997

Instructions dated 5/15/97, Change #1 6/3/97 Project No. OPR-P182-RA

Vessel NOAA Ship RAINIER

Chief of party CAPT Alan D. Anderson, NOAA

Surveyed by CAPT A. Anderson, LT G. Noll

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

Graphic record scaled by RAINIER Personnel

Graphic record checked by RAINIER Personnel

Evaluation by: R.A. Shipley Automated plot by HP Design Jet 650C

~~Processed by~~ Verification by M. Bigelow, D. Doles, R. Mayor, R. Shipley

Soundings in fathoms ~~XXXX~~ at ~~MLW~~ 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.

Sheet	Reg_No	Started	Percent	Completed	Submitted	SQNM
J	H-10761	7/10	100	8/2	9/26	29.3
K	H-10762	7/10	100	8/1	10/10	14.4
L	H-10765	7/19	100	8/20	10/10	12.6
M	H-10767	7/30	100	8/24	10/24	17.0
P	H-10760	7/14	100	8/19	12/8	13.8
S	H-10759	7/13	100	8/19		7.9
V	H-10701	7/24	100	8/25		16.0
Q	H-10768	8/5	100	8/22	12/10	11.4
X	H-10770	8/15	100	8/26		20.8

Downtime_Type	July	August
Weather - Hr	0	4
Mechanical -Hr	0	2
Electronic -Hr	0	2

Accomplished	July	August
LNM Hydro	2539.4	1732.6
LNM SSS	20.83	15.85
SQ NM	77.9	224.5
AWOIS Invest.	5	0
Other Invest.	1	8
LNM Multibeam	0	68.5

holidays in 1996 work to be done in 1997

Sheet L 12.6 sq nm 100%

Sheet K 14.4 sq nm 100%

Sheet M 17.0 sq nm 100%

Additional lines

Sheet V (1996)  
H-10701 (Sheet V)  
H-10768 (Sheet E)

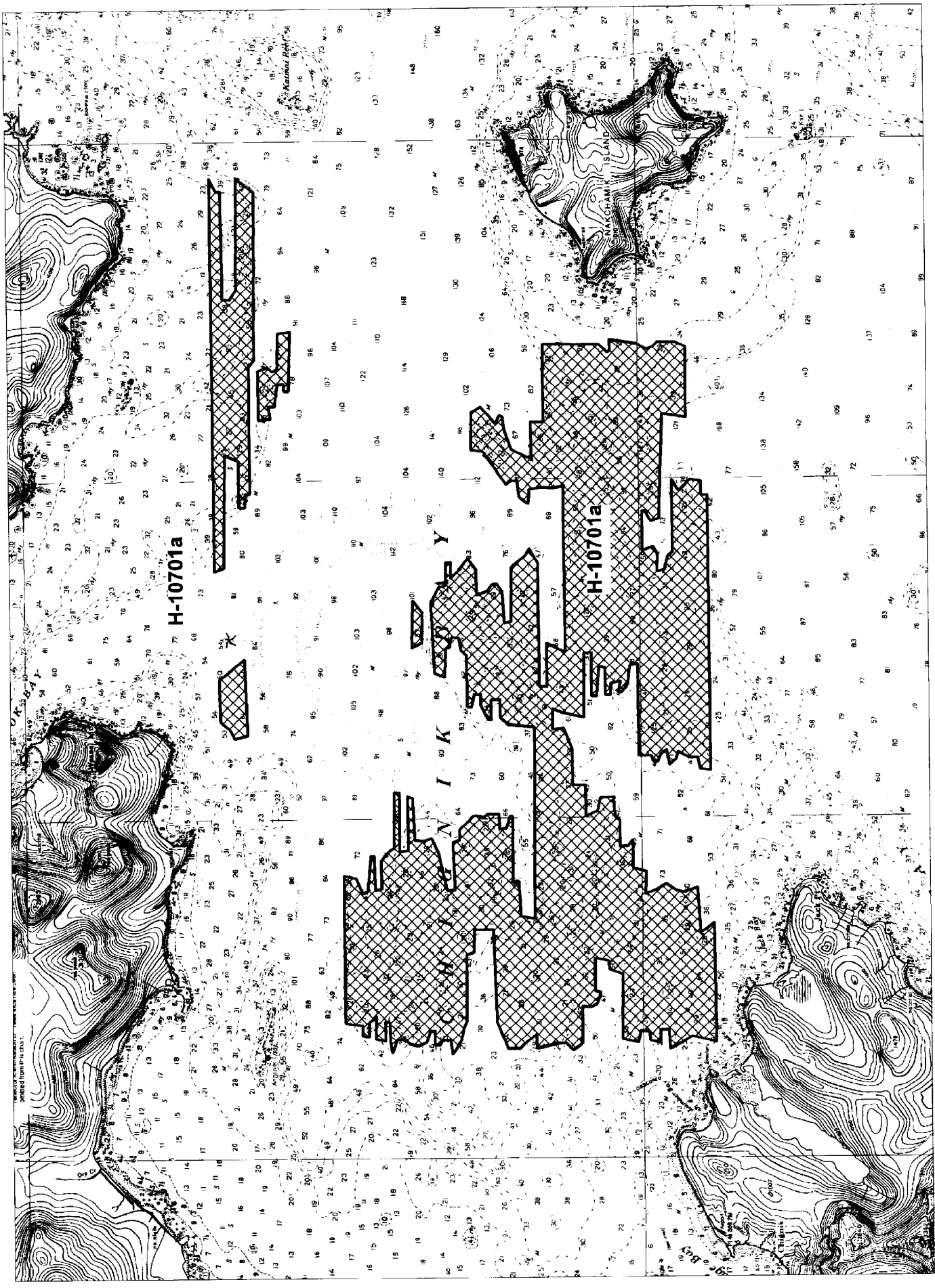
Sheet V (1996)  
16 sq nm  
100%

Sheet J 29.3 sq nm 100%

Sheet X 20.8 sq nm 100%

ULA

1A



# Descriptive Report to Accompany Hydrographic Survey H-10701A

Field Number RA-20-3-97

Scale 1:20,000

July-August 1997

**NOAA Ship RAINIER**

Chief of Party: Captain Alan D. Anderson, NOAA

## A. PROJECT ✓

This hydrographic survey was completed as specified by Project Instructions OPR-P182-RA dated ~~December 20, 1996~~ <sup>May 15, 1996</sup>, and Change No. 1 to Project Instructions OPR-P182-RA dated June 3, 1997. Survey H-10701A is shown as H-10701 "Additional Lines" in the sheet layout. It was later designated as sheet "EZ"\* and registered as H-10701A. This survey provides additional hydrography to complement the RAINIER 1996 survey of Chignik Bay as specified by the Pacific Hydrographic Branch memorandum "OPR-P182-RA Additional Work" dated May 6, 1997. A copy of this memo is included in Miscellaneous Correspondence (attached).  
\* DESIGNATED AS SHEET "EZ" PER E-MAIL FROM SCOTT CLARK, HYDRO SURVEYS DIVISION, dated Nov. 3, 1997.

## B. AREA SURVEYED ✓ SEE EVAL REPORT, SECTION B

The survey area lies off the Southwest Alaska Peninsula in Chignik Bay, west of Nakchamik Island to northeast of Anchorage Bay. Approximate survey limits are longitude 157° 51' 26" W (to the east), longitude 158° 16' 54" W (to the west), latitude 56° 26' 57" N (to the north), and latitude 56° 18' 48" N (to the south). Data acquisition was conducted between July 24 and August 25, 1997 (DN 205-237). The survey bathymetry is very complex, with a general southwest to northeast ridge trend broken by a submerged basin running from west to east. Depths range from 18 to 120 fathoms.

## C. SURVEY VESSELS ✓

Data were acquired by RAINIER (EDP No. 2120) as noted in the Survey Information Summary.

## D. AUTOMATED DATA ACQUISITION AND PROCESSING ✓

All data were acquired and processed using the Hydrographic Data Acquisition and Processing System (HDAPS.) The final field sheet soundings and contours are based on the combination of field-reduced 1996 and 1997 soundings. Contours were computed using a 20-meter cell grid algorithm.\* The final representation was generated using MapInfo (Version 4.1) and MapBasic software developed by N/CS32 and modified by RAINIER personnel. A complete listing of software for HDAPS is ~~included in Appendix VI\*\*~~  
\* CONTOURS using a 20 meter cell grid algorithm was used for field purposes only. DEPTH CONTOURS shown on the SMOOTH SHEET HAVE BEEN GENERATED DURING OFFICE PROCESSING using CONVENTIONAL PROCEDURES.

## E. SONAR EQUIPMENT ✓

No multibeam operations were conducted on this survey to simplify combination of the data from the 1996 survey and the 1997 additional work. ~~CONCUR~~

## F. SOUNDING EQUIPMENT ✓

Raytheon DSF-6000N echosounders, serial number A114N and A103N were used aboard RAINIER as noted in the Raw Master Printouts included with the data. Both high and low frequency digitized soundings, acquired in meters, were recorded in HDAPS. High frequency soundings were used for selected soundings, unless noted otherwise in the daily echograms.

\*\* FILED WITH SURVEY RECORDS

## G. CORRECTIONS TO ECHOSOUNDINGS ✓

A SeaBird Electronics SEACAT Profiler (S/N 219) was calibrated on December 15, 1996 and used to determine periodic sound velocity profiles. Velocity correctors were computed using the PC programs SEACAT and VELOCITY (version 3.3, 1996), 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". Refer to the Survey Information Summary for position and depth of the profiles. (Attached)

Offsets for GPS antennae, static draft, and settlement and squat correctors were tabulated in the HDAPS offset table number seven included with project data for OPR-P182-RA. The static draft and offsets for RAINIER were collected during drydocking in 1995. Settlement and squat correctors were computed in accordance with Hydrographic Manual Section 4.9.4.2, using FPM Fig. 2.3 during the fall of 1997 in Port Nellie Juan, Prince William Sound. The RAINIER HDAPS does not use a heave, roll and pitch (HRP) sensor, thus all soundings were manually reviewed for heave corrections. Most data collection occurred during strong northwesterly winds that considerably reduced the ocean swell.

The primary tidal control station used for datum determination is Sand Point, Alaska (945-9450). Predicted tides for this survey were based on the reference station at West End, Sutwik Island (945-8665). The Coastal and Estuarine Oceanography Branch (N/OES334), through N/CS31, provided predicted tides on diskette. The HDAPS Tide Corrector Table is included in Appendix V\* of this report. The zone correctors and subordinate tidal stations are shown in the Survey Information Summary report. Refer to the Field Tide Notes and supporting data in Appendix V\* for level closure and station description. 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 on September 12, 1997. The hydrographer recommends the use of Anchorage Bay (945-8917) for final datum reduction.

APPROVED TIDE NOTE DATED JAN. 5, 1998 IS ATTACHED  
H. CONTROL STATIONS ✓ SEE EVAL. REPORT, SECTION H.

The horizontal datum for this project is NAD 83. Control stations used for hydrography on this survey are listed in Appendix III and section I.\* Refer to the OPR-P182-RA-97 Horizontal Control Report for site descriptions, monitor results, and closure information.

## I. HYDROGRAPHIC POSITION CONTROL SEE EVAL. REPORT, SECTION I.

All soundings were positioned using differential GPS (DGPS). Primary control was from the RAINIER-installed VHF differential reference stations on Unavikshak Island (SHAK, 1920) and on Anguvik Island (ANG, 1920). The USCG DGPS Beacons at Kodiak, Alaska (KODIAK) and Cold Bay, Alaska (COLD BAY) served as alternate control for overnight hydrography. All differential stations were monitored, and results were sent to N/CS31 per Project Instructions. DGPS performance was frequently monitored at anchor aboard RAINIER using the program SHIPDIM, version 2.2R (April 1996) with a Trimble Centurion P-code receiver and an Ashtech OEM sensor (both differentially-corrected). Some outliers were noted, but none indicate systematic or continuous errors in any of the reference stations or beacons. The SHIPDIM output file, OUTLIER.SUM, is included in the project data for OPR-P182-RA-97.

SERIAL NUMBERS FOR VESSEL GPS EQUIPMENT ARE ANNOTATED ON THE RAW DATA PRINTOUTS \*  
J. SHORELINE

No shoreline verification applies to this survey. Concur

\*FILED WITH SURVEY RECORDS

**K. CROSSLINES** ✓ See Eval Report, Section K.

No additional crosslines were acquired in 1997. Comparison between 1997 splits and 1996 mainscheme and crosslines indicate agreement of 1-2 meters, which is good considering the steep bathymetry that triggered the request for additional work. *Concur with clarification.*

**L. JUNCTIONS** ✓ SEE EVAL. REPORT, SECTION L.

The following contemporary surveys junction with survey H-10701A.

Junctions to the...	with Survey	Year	Scale
Northeast	H-10762	1997	1:10,000
North	H-10765	1997	1:10,000
Northwest	H-10767	1997	1:10,000
West	H-10705	1996	1:10,000
Southwest	H-10699	1996	1:10,000
South	none	-	-
Southeast	H-10770	1997	1:10,000
East	H-10761	1997	1:10,000
	<del>H-10696</del>	<del>1996</del>	<del>1:20,000</del>

Soundings on these surveys were compared in the field using predicted tide-corrected soundings from 1996 and 1997, and were found to be <sup>generally</sup> in good agreement of 1-2 meters with no apparent systemic errors. Final comparisons will be made at the Pacific Hydrographic Branch (PHB) after reduction to final vertical datum.

**M. COMPARISON WITH PRIOR SURVEYS** ✓ SEE EVAL. REPORT, SECTION M.

The additional work performed on H-10701A confirms the steep, irregular bathymetry of H-10701, 1996, 1:20,000. Shoal depths determined in 1997 with denser line spacing were not substantially different from those of 1996, and no indication of shoaler soundings was found using standard techniques for fathogram analysis. Thus, the comparison performed in 1996 between H-10701 and the four prior surveys H-4388, H-4427, H-4449, and H-4509 is still valid; the bathymetry is much more complex than shown on the prior surveys. *Concur with clarification.*

**N. ITEM INVESTIGATIONS** ✓

There were no AWOIS items for survey H-10701A.

**O. COMPARISON WITH THE CHART** ✓ SEE EVAL. REPORT, SECTION O.

This survey was compared in the field to features portrayed on NOS Chart 16566 (8<sup>th</sup> Ed. Aug 3, 1996, NAD83 horizontal datum). Charted soundings are representative of the prior survey soundings discussed in section M. Charted contours should be revised to reflect the complexity of the bathymetry as shown on this survey. Non-sounding features are discussed in Section J. Final sounding comparisons will be made at PHB after reduction to final vertical datum. *CONCUR*

**Dangers to Navigation**

No dangers to navigation were reported to the Seventeenth Coast Guard District for this survey.

**P. ADEQUACY OF SURVEY** ✓ SEE EVAL. REPORT, SECTIONS M

The combination of surveys H-10701 and H-10701A provides a final data set that is complete and adequate to supersede prior soundings within the area of the current data. As stated in Section M. above, there are no indications of further shoaling in the area of this survey. CONCUR WITH IDENTIFICATION

**Q. AIDS TO NAVIGATION** ✓

No aids to navigation are located near survey H-10701A. CONCUR

**R. STATISTICS**

Statistics are listed in the Survey Information Summary \*and included with this report. A total of 10,284 selected soundings were collected on this survey in 1997.

**S. MISCELLANEOUS** ✓

Bottom samples were collected in 1996 and sent to the Smithsonian in accordance with Project Instructions; no new bottom samples nor Secchi disk observations were collected.

**T. RECOMMENDATIONS** ✓

Use of this data, in conjunction with data collected in 1996, would provide excellent training and/or testing material for offshore survey techniques. The hydrographer recommends keeping final versions of the digital data for OPR-P182-96/97-RA available in MapInfo at N/CS34 for testing the contouring and automatic junction comparison algorithms as they improve.

**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-P182-RA Horizontal Control Report	October 1997	N/CS34
OPR-P182-RA 1997 Coast Pilot Report	October 1997	N/CS26
Project related data for OPR-P182-RA	September 1997	N/CS34

Respectfully Submitted,

Guy T. Noll  
Lieutenant, NOAA

Approved and Forwarded,

Alan D. Anderson  
Captain, NOAA  
Commanding Officer

\* FILED WITH SURVEY RECORDS





1. How often do you use the internet?  
 a) Daily  
 b) Several times a week  
 c) Once a week  
 d) A few times a month  
 e) Rarely  
 f) Never

2. How often do you use social media?  
 a) Daily  
 b) Several times a week  
 c) Once a week  
 d) A few times a month  
 e) Rarely  
 f) Never

3. How often do you use mobile apps?  
 a) Daily  
 b) Several times a week  
 c) Once a week  
 d) A few times a month  
 e) Rarely  
 f) Never

4. How often do you use video conferencing?  
 a) Daily  
 b) Several times a week  
 c) Once a week  
 d) A few times a month  
 e) Rarely  
 f) Never



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

May 6, 1997

MEMORANDUM FOR: Captain Andy Armstrong, NOAA <sup>A</sup>  
Chief, Hydrographic Surveys Division

*Kathy Timmons*

FROM: Commander Kathy Timmons, NOAA  
Chief, Pacific Hydrographic Branch

SUBJECT: OPR-P182-RA Additional Work

After reviewing the hydrographic surveys H-10697 and H-10701 from OPR-P182-RA, I strongly recommend that the RAINIER return to these areas during the 1997 field season and perform additional work. The work performed by the RAINIER was not sufficient such that holidays exist and least depth developments were not conducted.

The areas that need additional soundings are:

H-10697 - A junctional holiday exists on the northern edge of H-10697 with the contemporary survey H-10557. A second junctional holiday exists on the eastern boundary of H-10697 where it meets H-10545 and H-10554. (Refer to attachment #1)

H-10701 - Only a minor amount of development work was done on this survey. As a result, over 100 additional sounding lines should be completed as indicated on the attached sheet. Basically, this calls for splitting almost every main scheme line west of longitude 158/10/00 W; splitting most lines south of latitude 56/23/00 N; and then a few additional lines throughout the remaining area. Also, two holidays in the sounding lines exist and are located at approximately 56/24/00N, 158/12/00W and 56/19/50N, 158/13/09W. (Refer to attachment #2)

COPY

cc: PMC - Albright  
PMC-RA - Anderson



# Survey Information Summary

Project: OPR-P182-97 Project Name: SW ALASKA PENINSULA - YEAR 2

Instructions Dated: 5/15/96 Project Change Info: 

Change #	Dated
1	6/3/97

Sheet Letter: V Registry Number: H-10701

Sheet Number: RA-20-03-97

Survey Title: ADDITIONAL WORK ON H-10701

Data Acquisition Dates: From: 24-Jul-97 205 To: 25-Aug-97 237

### Vessel Usage Summary

VESNO	MS	SPLITS	DEV	XL	S/L	DP	BS	DIVE
2120		10						

### Sound Velocity Cast Information

Launch Table #	Ship Table #	Cast DN	Max Depth	Position	Applicable DN
1	10 1	192	287	56/25/15 157/51/28	until DN 205
2	8 2	205	165	56/26/57 158/02/56	until 227
3	8 3	227	334	56/23/30 157/52/54	end of survey

### Tide Zone Information

Zone #	Time Corr.	Height Corr.
SAP7	000 hr 00 min	X0.94

### Tide Gage Information

Tide Gage #	Gage Name	Installed	Removed
945-8762	UNAVIKSHAK IS	7/9/97	8/27/97
945-8849	CHANKLIUT IS	7/15/97	8/26/97
945-8917	ANCHORAGE BAY	7/12/97	8/26/97

### Statistics Summary

Type	Total:	Percent XL:	SQNM:
SPLIT	379.31	- 0 -	16

APPROVAL SHEET

for

H-10701A

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

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

DATE: January 21, 1998

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: January 5, 1998

HYDROGRAPHIC BRANCH: Pacific

HYDROGRAPHIC PROJECT: OPR-P182-RA  
HYDROGRAPHIC SHEET: H-10701A

LOCALITY: Southwest Alaska Peninsula

TIME PERIOD: Jul 24 - Aug 26, 1997

TIDE STATION USED: 945-8762 Unavikshak Island, AK.  
Lat. 56° 29.5'N Lon. 157° 44.4'W  
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters  
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 2.519 meters

TIDE STATION USED: 945-8849 Chankluit Island, AK.  
Lat. 56° 08.8'N Lon. 158° 06.4'W  
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters  
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 2.367 meters

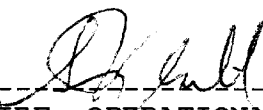
TIDE STATION USED: 945-8917 Chignik, Anchorage Bay, AK.  
Lat. 56° 17.8'N Lon. 158° 24.0'W  
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters  
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 2.486 meters

**REMARKS: RECOMMENDED ZONING**

Use zone(s) identified as: SAP7, SAP8, SAP11 & SAP13  
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.

  
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CHIEF, OPERATIONAL ANALYSIS BRANCH



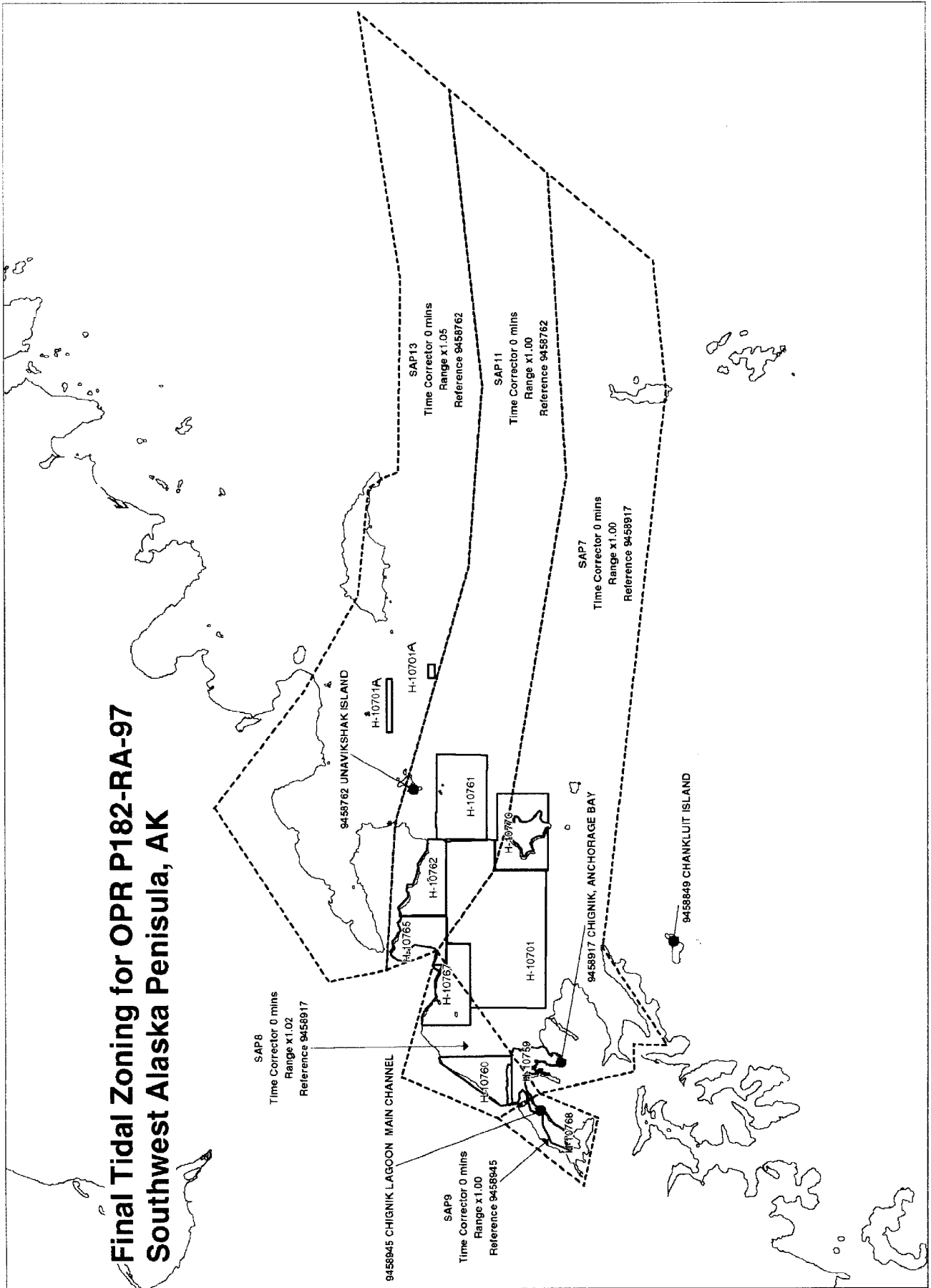
Final tide zone node point locations for OPR P182-RA-97,  
Sheet H-10701A

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
ZoneSAP7				
-158.130628	56.461475	945-8917	0	1.00
-158.474563	56.325022	945-8762	0	0.98
-158.422005	56.199729	945-8849	0	1.05
-158.355785	56.200309			
-158.358075	56.156015			
-158.122839	56.241028			
-156.778131	56.154977			
-156.465239	56.171892			
-156.253456	56.311786			
-156.986771	56.288084			
-157.826885	56.36808			
-157.940076	56.386887			
-158.130628	56.461475			
Zone SAP8				
-158.474563	56.325022	945-8917	0	1.02
-158.130628	56.461475	945-8762	0	1.00
-158.435831	56.508574	945-8849	0	1.08
-158.534417	56.380701			
-158.474563	56.325022			
Zone SAP11				
-158.17548	56.528131	9458762	0	1.00
-158.130628	56.461475	9458917	0	1.03
-157.940076	56.386887	9458849	0	1.09
-157.826885	56.36808			
-156.986771	56.288084			
-156.253456	56.311786			
-156.052556	56.44225			
-156.765615	56.399588			
-157.202448	56.418381			
-157.821992	56.516328			
-158.17548	56.528131			
Zone SAP13				
-157.784139	56.754504	945-8762	0	1.05

-158.205035	56.604023	945-8917	0	1.07
-158.17548	56.528131	945-8849	0	1.13
-157.821992	56.516328			
-157.202448	56.418381			
-156.765615	56.399588			
-156.052556	56.44225			
-155.865614	56.562087			
-156.50579	56.508002			
-156.974332	56.511196			
-156.989667	56.533217			
-157.013216	56.550903			
-157.271989	56.564698			
-157.500459	56.63578			
-157.784139	56.754504			

# Final Tidal Zoning for OPR P182-RA-97 Southwest Alaska Peninsula, AK





GEOGRAPHIC NAMES

H-10701A

Name on Survey	CHART NO. 16566, 16011, 16013 ON PREVIOUS SURVEY ON U.S. QUADRANGLE MAPS FROM LOCAL INFORMATION ON LOCAL MAPS P.O. GUIDE OR MAP RAND McNALLY ATLAS U.S. LIGHT LIST											
	A	B	C	D	E	F	G	H	K			
ALASKA (title)	X		X									1
ALASKA PENINSULA (title)	X		X									2
CHIGNIK BAY	X		X									3
												4
												5
												6
												7
												8
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												25

*Donald J. Rowley*  
Chief Geographer

JUL 2 1998

**HYDROGRAPHIC SURVEY STATISTICS**

H-10701a

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	1				
ENVELOPES					
VOLUMES					
CAHIERS					
BOXES					

**SHORELINE DATA**

SHORELINE MAPS (List):	NA
PHOTOBATHYMETRIC MAPS (List):	NA
NOTES TO THE HYDROGRAPHER (List):	NA
SPECIAL REPORTS (List):	NA
NAUTICAL CHARTS (List):	Chart 16555 9th Edition, March 7, 1998

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			
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	150		150
COMPARISON WITH PRIOR SURVEYS AND CHARTS		20	20
EVALUATION OF SIDE SCAN SONAR RECORDS			
EVALUATION OF WIRE DRAGS AND SWEEPS			
EVALUATION REPORT		40	40
GEOGRAPHIC NAMES			
OTHER: <b>CHART COMPILATION</b>		87	87
*USE OTHER SIDE OF FORM FOR REMARKS			
	<b>TOTALS</b>	150	147
			297

Pre-processing Examination by <b>Pacific Hydrographic Branch</b>	Beginning Date 1/23/98	Ending Date 3/26/98
Verification of Field Data by <b>M. Bigelow, R. Mayor, D. Doles, R. Shipley</b>	Time (Hours) 150	Ending Date 9/15/98
Verification Check by <b>B. Olmstead</b>	Time (Hours) 7	Ending Date 10/2/98
Evaluation and Analysis by <b>R. Shipley</b>	Time (Hours) 60	Ending Date 10/5/98
Inspection by <b>B. Olmstead</b>	Time (Hours) 5	Ending Date 10/14/98

## **EVALUATION REPORT**

### **H-10701a**

#### **A. PROJECT**

The hydrographer's report contains a complete discussion of the project information and supplemented as follows:

H-10701a completes the additional work required to split mainscheme sounding lines and provide survey coverage for two designated holiday areas deficient in the 1996 survey work (see memorandum dated May6, 1997 attached to this report).

#### **B. AREA SURVEYED**

The survey area is adequately described in the hydrographer's report.

Page-size plots of the charted area depicting the limits of supplemental coverage with H-10701 accompany this report as Attachments 1, 2, and 3.

Depths range from 15.1 to 120 fathoms. No bottom samples were taken on this survey.

#### **C. SURVEY VESSELS**

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

#### **D. AUTOMATED DATA ACQUISITION AND PROCESSING**

Survey data were processed using the same Hydrographic Data Acquisition/Processing System (HDAPS) software used by the hydrographer, the Hydrographic Processing System (HPS), and MicroStation 95.

Processed digital data for this survey exists in the standard HPS format, a database format using the .dbf extension. In addition, the smooth sheet drawing is filed in the MicroStation format, i.e., and .dgn extension. Copies of these files have been forwarded to the Hydrographic Surveys Division and a backup copy retained at PHB. Database 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 that is not part of the HPS data set such as geographic name text, line-type data, and symbolization. Cartographic codes used to describe the digital data are those authorized by Hydrographic Survey Guideline No. 35 and No. 75.

The data is plotted using a Modified Transverse Mercator projection and are depicted on a single sheet.

#### **E. SONAR EQUIPMENT**

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

#### **F. SOUNDING EQUIPMENT**

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

## **G. CORRECTIONS TO SOUNDINGS**

Soundings and elevations below Mean High Water (MHW) 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 NOS specifications.

Predicted tides were used for reduction of soundings during field processing. During office processing, tide reductions were derived from approved hourly heights zoned direct from Chignik, Anchorage Bay, Ak., tide gauge 945-8917.

The original tide note for hydrographic survey H-10701a was mislabeled as H-10701 and was meant to encompass the 1998 survey work for H-10697a and H-10701a. The survey limits for H-10701a were also mislabeled in the final tidal zoning graphic as H-10701. Corrections have been made to these documents.

## **H. CONTROL STATIONS**

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

The positions of horizontal control stations used during hydrographic operations are published 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 NAD 27 may be plotted on the smooth sheet utilizing the NAD 83 projection by applying the following corrections:

Latitude:	-2.778 seconds	(-85.921 meters)
Longitude:	7.347 seconds	(126.076 meters)

## **I. HYDROGRAPHIC POSITION CONTROL**

Differential GPS (DGPS) was used to control this survey. A horizontal dilution of precision (HDOP) not to exceed 7.5 was computed for stations Shak and Ang and an HDOP of 5.6 was computed for stations Kodiak and Cold Bay. However, an HDOP of 3.75 was used as a limit for all survey operations, exceeding the guidelines for a 1:20,000 scale survey. The quality of some positions exceeds limits in terms HDOP. These positions are isolated and occur randomly throughout the survey area. A review of the data, however, suggests that none of these fixes are used to position dangers to navigation. The features or soundings located by these fixes are consistent with the surrounding information. These fixes are considered acceptable. DGPS performance checks were conducted in the field and found adequate.

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

Additional information concerning specific control system type, calibrations, and system checks can be found in the hydrographer's report, separates related to horizontal position control, and corrections to position data.

## **J. SHORELINE**

There is no shoreline within the limits of survey H-10701a.

## **K. CROSSLINES**

Request for additional work was based on shoal depths rising 25-30% above the surrounding depths without sufficient development and to survey specific holiday areas.

## L. JUNCTIONS

Survey H-10701a junctions with the following surveys:

<u>Survey</u>	<u>Year</u>	<u>Scale</u>	<u>Area</u>
H-10762	1997	1:10,000	Northeast
H-10765	1997	1:10,000	North
H-10767	1997	1:10,000	Northwest
H-10705	1996	1:10,000	West
H-10699	1996	1:10,000	Southwest
H-10770	1997	1:10,000	Southeast
H-10761	1997	1:10,000	East
H-10701	1996	1:20,000	Common Area

The junctions with surveys H-10762, H-10765, H-10767, H-10705, H-10699, H-10770, and H-10761 were not formally completed since these surveys were processed previously. However, depths are in good agreement within the common area.

The present survey, considered to be supplemental to survey H-10701, overlaps most of the earlier survey area. Both surveys were temporarily digitally merged and from that combined product depth curves were drawn throughout the present survey area to provide a more accurate and detailed depiction of the bottom. Depths required to support the present survey depth curves were transferred to the smoothsheet from survey H-10701. However, because standard depth curves could not be brought into coincidence due to the significant differences in data density between the two surveys, an "Adjoins" note has been added to the smooth sheet where applicable.

## M. COMPARISON WITH PRIOR SURVEYS

<u>Survey</u>	<u>Year</u>	<u>Scale</u>
H-4449	1924	1:60,000

Two prior survey soundings, a 57 fm charted at latitude 56/23/36 N, longitude 158/04/30 W and a 25 fm charted at latitude 56/26/03 N, longitude 157/57/15 W, originate from H-4449 and discussed below:

The 25 fathom sounding plots in present survey depths of 45-46 fathoms. After additional work, the evaluator believes the 25 fathom sounding is either an erroneous leadline depth and/or mispositioned. The present survey found similar depths .5 nautical miles to the east and northwest.

The 57 fathom sounding plots in present depths of 63-78 fathoms. After additional work, the evaluator believes the 57 fathom sounding is either an erroneous leadline depth and/or mispositioned. The present survey found depths of 55-58 fathoms within 300 meters west and south of the charted 57.

The two charted prior depths should be removed from the chart. Chart this area based on the present survey.

## N. ITEM INVESTIGATIONS

There were no AWOIS items assigned to this survey.

## **O. COMPARISON WITH CHART**

Survey H-10701a was compared with the following chart:

<u>Chart</u>	<u>Edition</u>	<u>Date</u>	<u>Scale</u>
16566	9 <sup>th</sup>	March 7, 1998	1:77,477

### a. Hydrography

Chart 16566, 9th Edition comprises data from H-10701 (1996) and two retained prior soundings (25fm/57fm) from H-4449 (19924). The prior soundings above been adequately addressed in the evaluation report, section M. The compilation of the 10<sup>th</sup> Edition reflects retaining the shoaler compiled soundings from H-10701 supplemented by newly found shoal depths from H-10701a. In addition, similar depths from H-10701a have been used to replace those soundings from H-10701 currently shown on chart 16566. Charted depth curves have been revised to reflect both surveys within the common area.

Survey H-10701a is adequate to supplement charted data from H-10701 within the common area.

### b. Dangers to Navigation

No dangers to navigation were discovered during survey operations and or generated during office processing.

## **P. ADEQUACY OF SURVEY**

Hydrography contained on survey H-10701a 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.

In the event that the field units submission of survey data will exceed four weeks from 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 forward their explanation through the Marine Center Director. Field work for survey H-10701a was completed August 25, 1997 but not received for office processing until January 23, 1998.

## **Q. AIDS TO NAVIGATION**

Fixed and floating aids to navigation to navigation have been adequately addressed in the hydrographer's report.

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

#### **R. STATISTICS**

Statistics are adequately itemized in the hydrographer's report.

#### **S. MISCELLANEOUS**

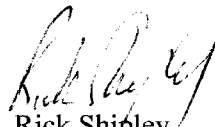
Miscellaneous information is adequately discussed in the hydrographer's report. No additional miscellaneous items were noted during office processing.

#### **T. RECOMMENDATIONS**

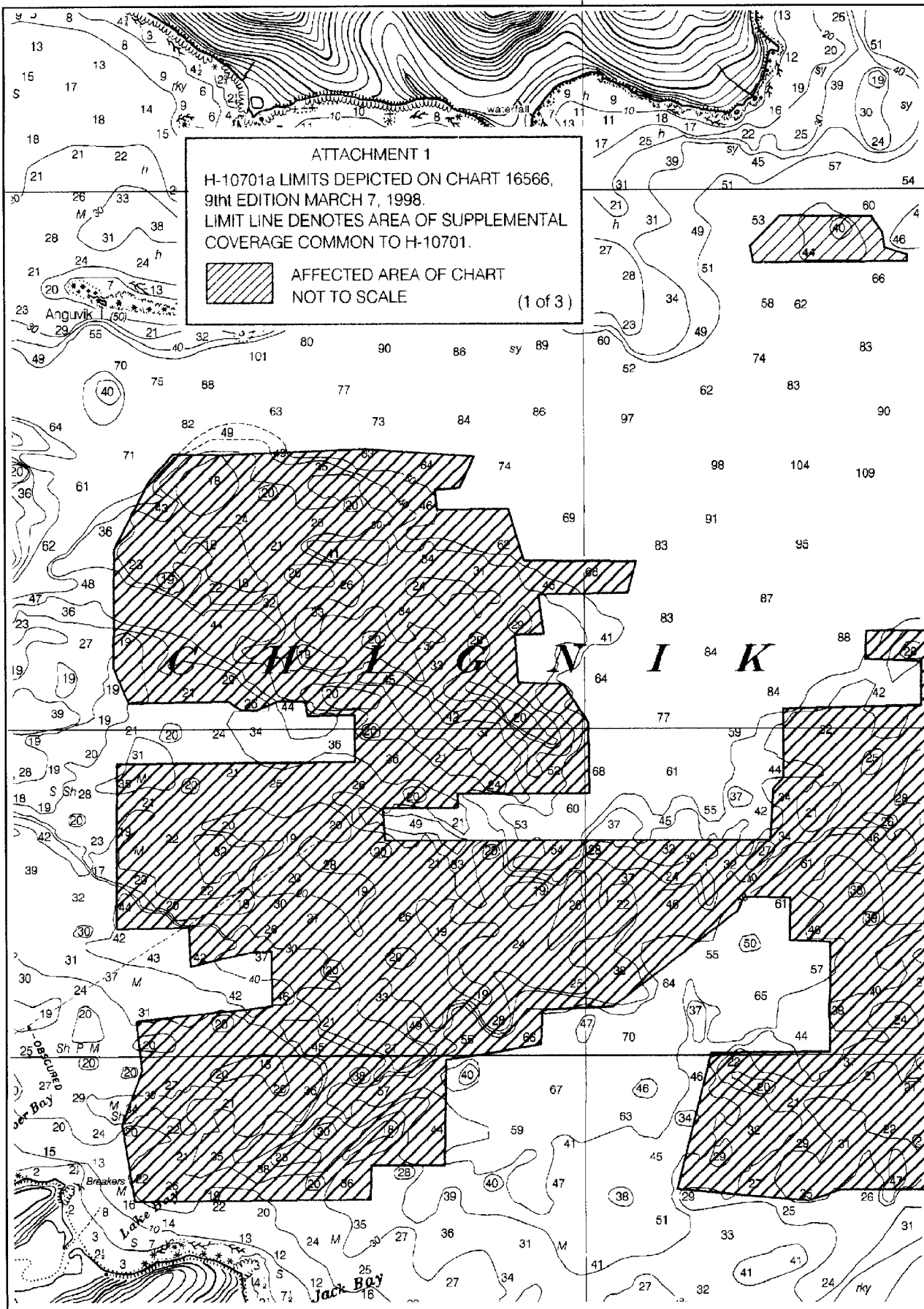
Additional work as specified in the attached memorandum for OPR-182-RA, dated May 6, 1997, was completed. This is a good hydrographic survey. No additional fieldwork is recommended.

#### **U. REFERRAL TO REPORTS**

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



Rick Shipley  
Cartographer

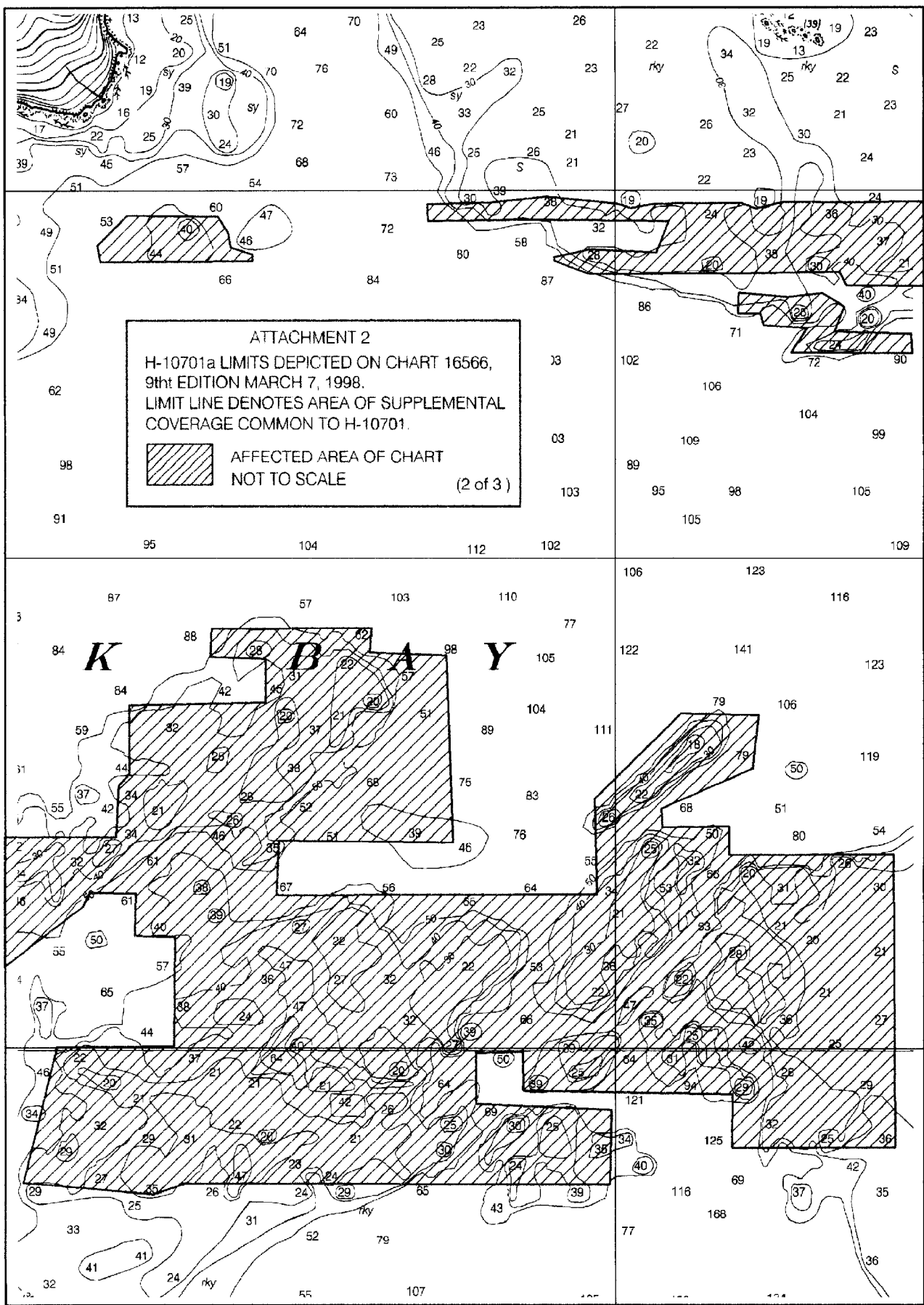


56/27/00

56/24/00

56/20/00

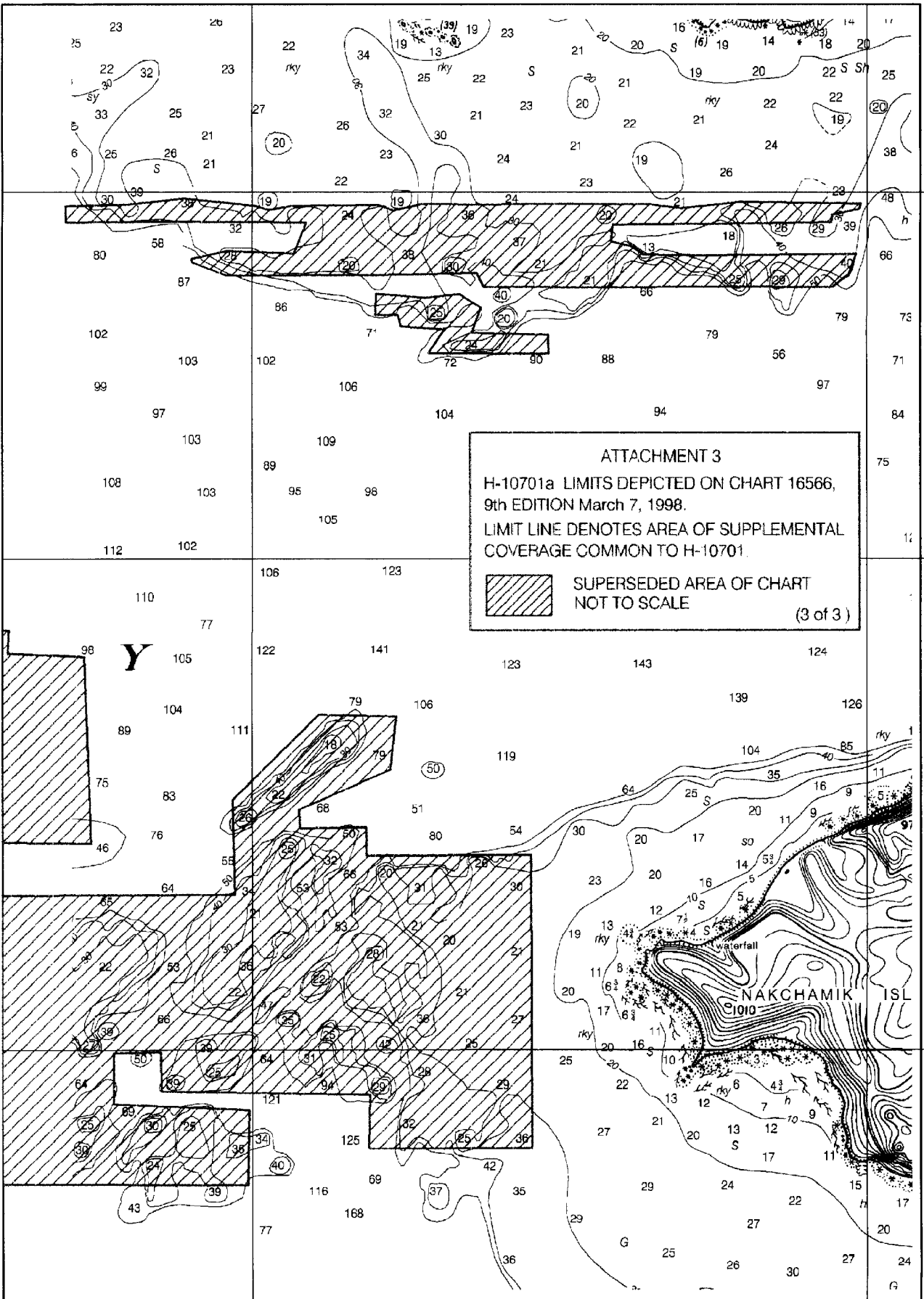




56/27/00

56/24/00

56/20/00



ATTACHMENT 3  
H-10701a LIMITS DEPICTED ON CHART 16566,  
9th EDITION March 7, 1998.  
LIMIT LINE DENOTES AREA OF SUPPLEMENTAL  
COVERAGE COMMON TO H-10701.  
[Hatched Box] SUPERSEDED AREA OF CHART  
NOT TO SCALE (3 of 3)

56/27/00

56/24/00

56/20/00

158/00/00

157/51/00

APPROVAL SHEET  
H-10701a

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: 10/14/98  
Bruce A. Olmstead  
Senior Cartographer, Cartographic Section  
Pacific Hydrographic Branch

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

James C. Gardner Date: 11/10/98  
James C. Gardner  
Commander, NOAA  
Chief, Pacific Hydrographic Branch

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Final Approval

Approved:

Andrew A. Armstrong III Date: Nov 23, 1998  
Andrew A. Armstrong III  
Captain, NOAA  
Chief, Hydrographic Surveys Division

