

H10765

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-10-20-97
Registry No. H-10765

LOCALITY

State Alaska
General Locality Southwest Alaska Peninsula
Sublocality Hook Bay and Vicinity

1997

CHIEF OF PARTY
CAPT Alan D. Anderson, NOAA

LIBRARY & ARCHIVES

DATE MAY 27 1998

HYDROGRAPHIC TITLE SHEET

H-10765

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-10-20-97

State Alaska

General locality Southwest Alaska Peninsula

Locality Hook Bay and Vicinity

Scale 1:10,000 Date of survey July 19 to August 20, 1997

Instructions dated 5/15/96, Change #1-6/3/97 Project No. OPR-P182-RA

Vessel NOAA Ship RAINIER Launches (2121), (2122), (2123), (2124), (2125), (2126)

Chief of party CAPT Alan D. Anderson, NOAA

Surveyed by CAPT A. Anderson, LT G. Noll, LCDR G. Glang, LT M. Larsen, LT S. Lemke, LT K. Bailey, ST S. Baum

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 R. Davies Automated plot by HP Design Jet 650C

Verification by R. Davies, M. Bigelow

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

REMARKS: Time in UTC, revisions and marginal notes in black were generated during office processing. All separates are filed with the hydrographic data, as a result page numbering may be interrupted or non-sequential.
All depths listed in this report are referenced to mean lower low water unless otherwise noted.

*Awous & Surf 5/13/98
mcr*

PA position approved. Reprojected
plan, or sheet swept clear to the depth indicated
30 fathoms, with heights in feet above datum of soundings.

HEIGHTS

Heights of rocks and lights are in feet and refer to
High Water. Contour and summit elevation values
refer to Mean Sea Level.

AUTHORITIES

Hydrographic and topographic by the National Ocean Service, Charting
Services with additional data from the Geological Survey,
Reconnaissance, and U.S. Coast Guard.

SUPPLEMENTAL INFORMATION

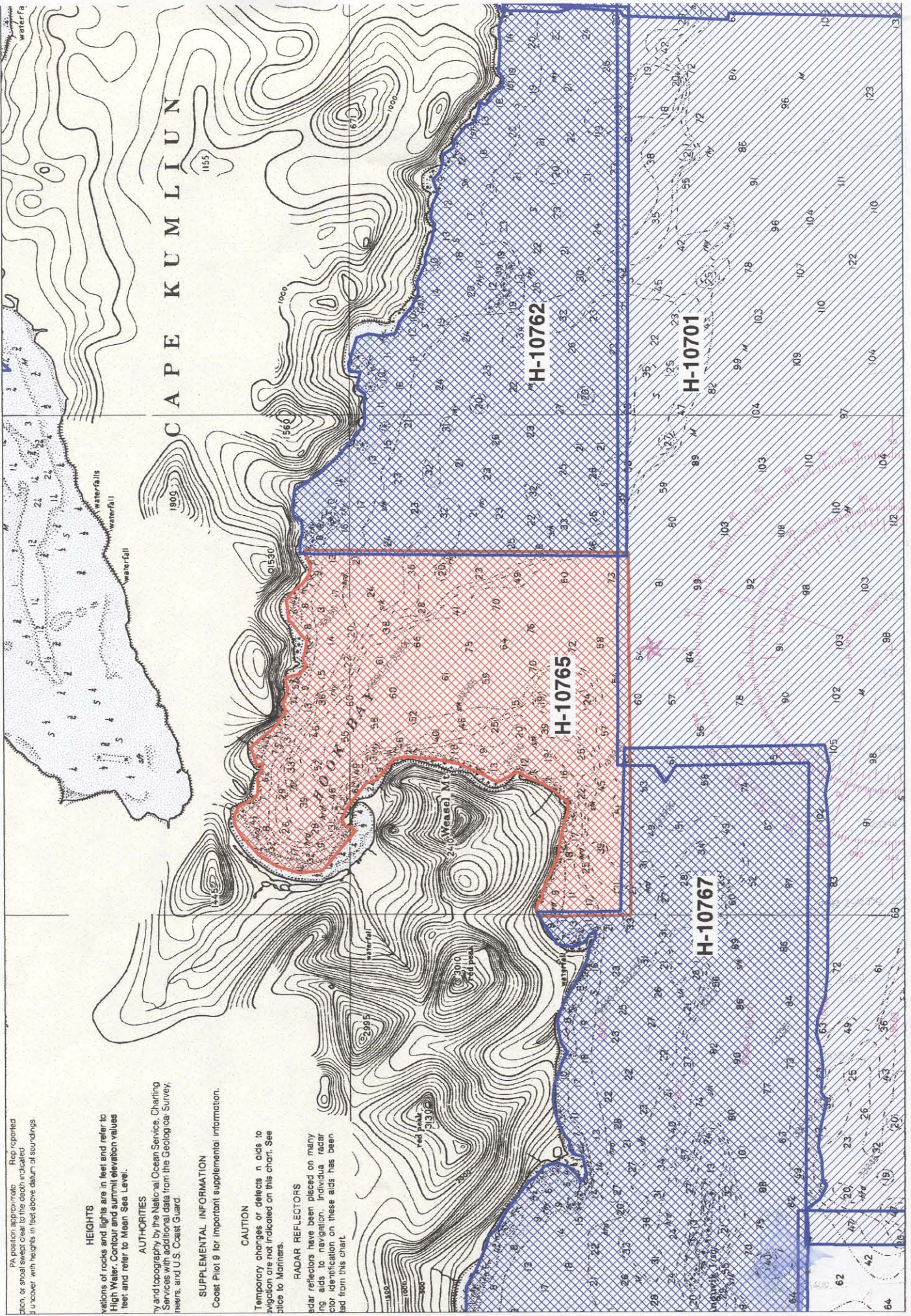
Coast Pilot 9 for important supplemental information.

CAUTION

Temporary changes or defects in aids to
navigation are not indicated on this chart. See
Notices to Mariners.

RADAR REFLECTORS

Radar reflectors have been placed on many
rocks to navigation. Individual radar
reflector identification on these aids has been
omitted from this chart.



Descriptive Report to Accompany Hydrographic Survey H-10765

Field Number RA-10-20-97

Scale 1:10,000

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 May 15, 1996, and change number 1 dated June 3, 1997. Survey H-10765 corresponds to sheet L as defined in the sheet layout. The purpose of this survey is to provide contemporary surveys for updating National Ocean Service (NOS) nautical charts. The majority of charted hydrography in the 1997 project area is from 1924 and 1925 lead-line hydrographic surveys. Requests for hydrographic surveys and updated charts in this area have been received from a U.S. Senator, a U.S. Congressman, the United States Coast Guard (USCG), the commercial fishing industry, and NOAA.

B. AREA SURVEYED ✓

The survey area is in the Southwest Alaska Peninsula, in Hook Bay and its approaches. The survey limits are 56° 26' 50"N to the south; 158° 02' 45"W to the east, 158° 10' 00"W to the west, and it is bound by Cape Kumliun to the north. Data acquisition was conducted from July 19 to August 14, 1997 (DN 200-226).

C. SURVEY VESSELS ✓

Data were acquired by RAINIER and her survey launches as noted in the Survey Information Summary included with this report.

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 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.*

E. SONAR EQUIPMENT ✓

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

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. All soundings were acquired in meters using the High + Low, high frequency digitized setting.

G. CORRECTIONS TO ECHO SOUNDINGS

Three sound velocity casts were used for this survey. Information on the casts is included in the Survey

* Filed with the hydrographic data.

Information Summary report.

The sound velocity casts were acquired with SBE SEACAT Profiler (S/N 219), calibrated December 16, 1996. Velocity correctors were computed using the PC programs SEACAT and VELOCITY, version 3.3 (1997), in accordance with Field Procedure Manual (FPM) Section 2.4.3. 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". *

A static transducer depth was determined using FPM Fig 2.2 for vessels 2121-2126 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-P182-RA. The data for vessels 2121, 2122, and 2123 were collected in Shilshole Bay, Washington in the Spring of 1997; data for vessels 2124 and 2126 were measured in the same location in Spring of 1996. The data for 2125 was collected near Scull Island, 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. Offset table 7 is for RAINIER. The offset tables are included with project data for OPR-P182-RA. The launches are not equipped with heave, roll and pitch sensors.

The Coastal and Estuarine Oceanography Branch (N/OES334) through N/CS31 provided predicted tides for the project on diskette for the Southwest Alaska Peninsula, West End, Sutwik Island, Alaska reference station (945-8665). HDAPS listings of the data used in generating tide corrector tables are included in Appendix V of this report. Predicted zoning for tidal correctors as provided in the project instructions for H-10765 are in the Survey Information Summary included with this report.

Sand Point, Alaska (945-9450) is the primary control station for datum determination at all subordinate stations. RAINIER personnel installed a Sutron 8200 tide gage at Unavikshak Island (945-8762) on July 09, 1997 and removed it August 27, 1997. It is recommended that Chignik tide gage data be used for any breaks in tide level data collected at Unavikshak. 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 at the completion of the project to N/OES23. *Approved tide note, dated Jan 5, 1998 is attached.*

H. CONTROL STATIONS *See Eura Report, section H*

The horizontal datum for this project is NAD 83. Stations ANG and SHAK were recovered and used as primary hydrographic positioning control for the survey. The control stations used for this survey are listed in Appendix III. *See the OPR-P182-RA-97 Horizontal Control Report for more information.*
this report.

I. HYDROGRAPHIC POSITION CONTROL *See Eura Report, section I*

All soundings were positioned using differential GPS. Primary control were the VHF differential reference stations at SHAK and ANG. The US Coast Guard Beacon at KODIAK was used when VHF was not usable. 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, SHAK or ANG and KODIAK, 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. SHAK or ANG were also periodically compared to KODIAK and COLD BAY during 8-hour daily comparisons and occasional performance checks. Some outliers were noted, but none indicated systematic or continuous errors in the KODIAK beacon. The SHIPDIM OUTLIER.SUM results are included in the project data for OPR-P182-RA.

* Filed with the hydrographic data

J. SHORELINE See EVAL Report, section J

The shoreline manuscript from Coastal Mapping survey CM-8309 was supplied by N/CS341. TP-00907 was transferred by hand to the boat sheets for comparison.

Features shown on the SHORELINE NOTES layer in the MapInfo workspace inshore of the NALL are the hydrographer's representation of the shoreline while slowly transiting along the shore, and are intended to aid chart compilation.

Shoreline manuscript and field features were compared to an enlargement of chart 16566 8th Edition, August 3, 1996 BSB version. This was converted to a raster image and registered in MapInfo, and plotted at survey scale by RAINIER personnel. There was general agreement between the charted shoreline and between the photogrammetric shoreline and the hydrographer's fieldwork.

The following paragraphs list the differences noted between the manuscript, chart, and this survey:

chart

A new rock at position 56° 30' 31.85"N, 158° 03' 29.22"W, (Fix number 30007), 0.2 meter submerged. Rk (cor 1 ft)
Chart :f:

A new reef at positions 56° 27' 46.14"N, 158° 09' 08.56"W, and 56° 27' 46.78"N, 158° 09' 10.92"W (Fix numbers 50016 and 50018), 1.1 meters exposed. This was depicted as two rocks on the manuscript. Reef
Chart rock, * (4)
based on chart scale.

The manuscript ledge extends to position 56° 29' 29.25"N, 158° 06' 52.79"W, and 56° 29' 33.98"N, 158° 06' 57.02"W, (Fix numbers 20001 and 20003), 0.5 meter exposed. (AWASH) Ledge

A charted rock at position 56° 28' 48.46"N, 158° 06' 59.21"W, was searched for but not found (Fix number 60019). A 20 minute search in a 200 m radius in 10-15 m water with a 3.5 m visibility revealed a rock at position 56° 28' 42.16"N, 158° 07' 01.85"W, 0.2 m submerged, (Fix number 60016), approximately 100 m from the charted position. The hydrographer recommends moving the charted rock to the new location.

CANCEL

Rock
(cor 1 ft)
Chart :f:

K. CROSSLINES ✓

Crosslines agreed within 3 meters with mainscheme hydrography. There was a total of 17.4 nautical miles of crosslines, comprising 8.4% of mainscheme hydrography.

L. JUNCTIONS See EVAL Report, section L

This survey junctions with H-10701, 1:20,000, 1996 to the south, H-10767, 1:10,000, 1997 to the west, and H-10762, 1:10,000, 1997 to the east. Soundings on these surveys were found to be in good agreement. Final comparisons will be made at the Pacific Hydrographic Branch (PHB) after reduction to final vertical datum.

M. COMPARISON WITH PRIOR SURVEYS

See Eux Report, section m
H-4509 (1975) 1:24000
4509

Prior surveys H-4397, 1:20,000, 1925, H-4449, 1:60,000, 1924, and H-4427, 1:20,000, 1925 were compared with H-10765. Due to modern survey techniques and positioning systems there were numerous instances where H-10765 revealed shoaler depths than the prior surveys. Sounding comparisons for the area covered by H-4397 are discussed in Section O.

Final comparisons will be performed at the Pacific Hydrographic Branch (PHB) after final tides have been applied to H-10765.

N. ITEM INVESTIGATIONS ✓

No AWOIS items were located within H-10765 survey area. *Concur*

O. COMPARISON WITH THE CHART

See Eux Report, section O

Chart 16566, 1:77,477, 8th Edition, 8/3/96 is the largest scale chart covering the survey area. Soundings from this survey are generally shoaler than charted soundings. Eight charted soundings were shoaler than those from H-10765. The table below summarizes the results of 50 meter line spacing in the areas noted.

SOUNDING	POSITION	PRIOR SURVEY	LEAST DEPTH	RECOMMENDATIONS
9 fm (16 m) ✓	Lat. 56° 27' 44"N Lon. 158° 09' 33"W	H-4397	10.1 fm (18m) Fix 20235	Chart soundings from current survey <i>Concur</i>
11fm (20 m) ✓	Lat. 56° 27' 33"N Lon. 158° 09' 36"W	H-4397	11.3 fm (21m) Fix 50153	Chart soundings from current survey <i>Concur</i>
17fm (31 m) ✓	Lat. 56° 27' 31"N Lon. 158° 08' 27"W	H-4397	20.2 fm (37m) Fix 20271+1	Chart soundings from current survey <i>Concur</i>
16fm (29 m) ✓	Lat. 56° 27' 38"N Lon. 158° 07' 12"W	H-4397	17.5 fm (32m) Fix 20298	Chart soundings from current survey <i>Concur</i>
12fm (22 m) ✓	Lat. 56° 28' 05"N Lon. 158° 06' 58"W	H-4397	15.5 fm (28m) Fix 40052+4	Chart soundings from current survey <i>Concur</i>
12fm (22 m) ✓	Lat. 56° 30' 06"N Lon. 158° 07' 56"W	H-4397	30.1 fm (55m) Fix 30237+2	Chart soundings from current survey <i>Concur</i>
	Lat. 56° 27' 57"N Lon. 158° 06' 57"W		15.9 fm (29m) Fix 40052+3	
3.25fm (6 m) ✓	Lat. 56° 30' 37"N Lon. 158° 05' 43"W	H-4397	6 fm (11m) Fix 30202+5	Chart soundings from current survey <i>Concur</i>

SAME

* Similar depths on the present survey could be found within fifty meters of these prior depths.

Soundings from the prior surveys and the current survey are generally in good agreement and the soundings from this survey used for the comparison in the table above compare with the prior soundings within 50 meters. The questionable charted soundings in the table above did not agree with any of the prior survey findings and appear to have been placed incorrectly on the chart. The hydrographer recommends that all charted soundings within the survey area be superseded by H-10765. *Concur*

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

One danger to navigation was reported to the 17th Coast Guard by the hydrographer. A depth of 7.8 meters, 4 ¼ fathoms, was found at 56° 30' 20.1"N, 158° 02' 56.4"W. *Danger letter, dated Aug 28, 1997 is attached. No additional danger were found.*

P. ADEQUACY OF SURVEY

Survey H-10765 is complete and adequate to supersede prior soundings and features in their common areas. *Concur*

Q. AIDS TO NAVIGATION *See Eutec Report, section Q*

Chignik Spit Light was positioned using static GPS 3rd order class 1 from station ANG. *This light is beyond the sheet limits.*

R. STATISTICS ✓

This survey contained 13,418 selected soundings; additional statistics are listed in the Survey Information Summary included with this report.

S. MISCELLANEOUS ✓

Bottom samples were collected and sent to the Smithsonian in accordance with Project Instructions. No unusual tidal currents or magnetic variations were found during this survey.

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-P182-RA Horizontal Control Report	September 1997	N/CS34
OPR-P182-RA 1997 Coast Pilot Report	September 1997	N/CS26
Project related data for OPR-P182-RA	Incremental	N/CS34
Secchi Disk Observations for OPR-P182-RA	September 1997	N/CS31

Respectfully Submitted,



Steven A. Lemke
Lieutenant, NOAA

Approved and Forwarded,



Alan D. Anderson
Captain, NOAA
Commanding Officer

CONTROL STATIONS as of 9 Oct 1997 ✓

No	Type	Latitude	Longitude	H	Cart	Freq	Vel Code	MM/DD/YY	Station Name
001	G	056:30:09.724	157:43:12.024	162	250	0.0	0.0	00/00/97	SHAK
002	G	056:26:06.935	158:17:01.986	33	250	0.0	0.0	00/00/97	ANG
100	G	057:37:07.800	152:11:21.000	0	250	0.0	0.0	A 03/01/96	KODIAK 313 KHZ USCG DGPS
101	G	055:05:30.000	162:31:54.000	0	250	0.0	0.0	B 06/25/96	COLD BAY 289 KHZ USCG DGPS
003	G	056:21:50.308	157:50:26.735	310	250	0.0	0.0	00/00/97	NAK
004	G	056:18:34.550	158:23:01.380	24	0	0.0	0.0	00/00/97	CHIGNIK LT



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
 August 28, 1997

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

**ADVANCE
 INFORMATION**

Dear Sir:

The following dangers to navigation should be included in the Local Notice to Mariners. They were positioned by the NOAA Ship RAINIER while a conducting hydrographic surveys in the vicinity of Chignik Bay, Alaska. The dangers are shown on the three pages of attached chartlet and affect chart 16566, 8TH ED., 96/08, 1:77,477, NAD 83. Depths of features are referenced to Mean Lower Low Water using predicted tides.

FEATURE	DEPTH (Fathoms)	LATITUDE (N)	LONGITUDE (W)	POSITION	Depth (Meters)	Survey Number
Shoal	8 3/4	56:21:02.864	157:47:54.013	"10511+3"	16.1	H-10770
Shoal	4 3/4	56:20:56.574	157:54:28.371	"20031+6"	8.9	""
Shoal	3 1/4	56:21:03.582	157:48:16.931	"10521+4"	6.2	""
Shoal	7 3/4	56:20:14.131	158:23:47.644	"20999+4"	14.3	H-10759
Rock	5 3/4	56:21:45.730	158:25:05.943	"60000+0"	10.8	H-10760
Rock	5 3/4	56:22:36.980	158:23:54.010	"60479+0"	10.8	""
Rock	5 1/2	56:22:13.660	158:25:48.307	"60480+0"	10.3	""
Rock	2 1/2	56:24:49.525	158:24:13.456	"60514+0"	4.8	""
Rock	1 3/4	56:23:35.287	158:26:00.622	"60515+0"	3.4	""
Rock	1 1/2	56:26:12.124	158:24:02.193	"60482+0"	3.1	""
Shoal	3	56:25:51.506	158:14:57.358	"10563+6"	5.5	H-10767
Shoal	4	56:30:20.082	158:02:56.410	"30303+6"	7.8	H-10765
Shoal	7 3/4	56:26:07.352	157:48:41.918	"10082+1"	14.6	H-10761

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-P182-RA-97 and Danger to Navigation message RA-5-97. More information on current RAINIER survey projects may be obtained by e-mail; contact the Field Operations Officer at FOO.RAINIER@NOAA.GOV.

Sincerely,

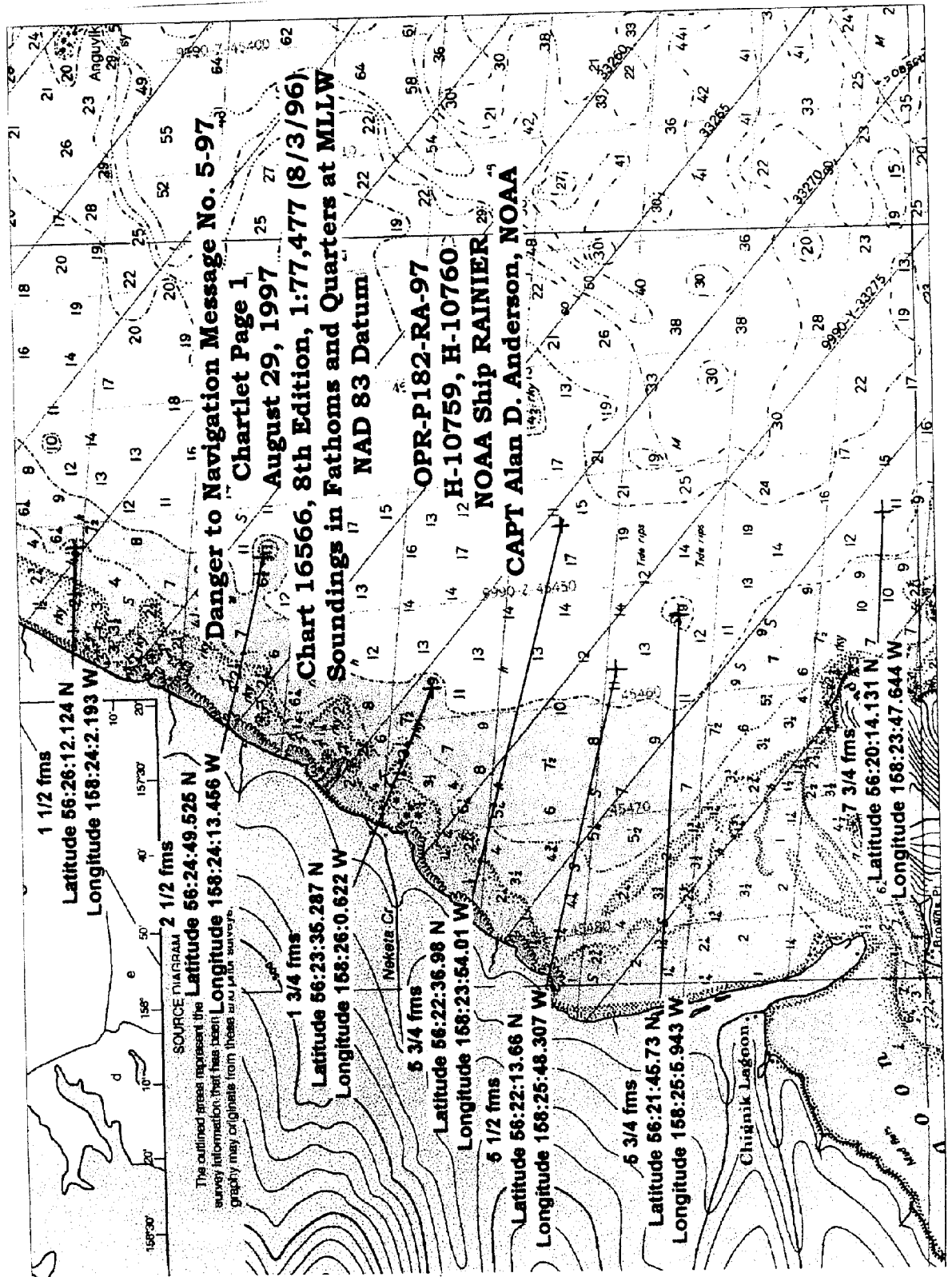
Alan D. Anderson
 Alan D. Anderson
 Captain, NOAA
 Commanding Officer

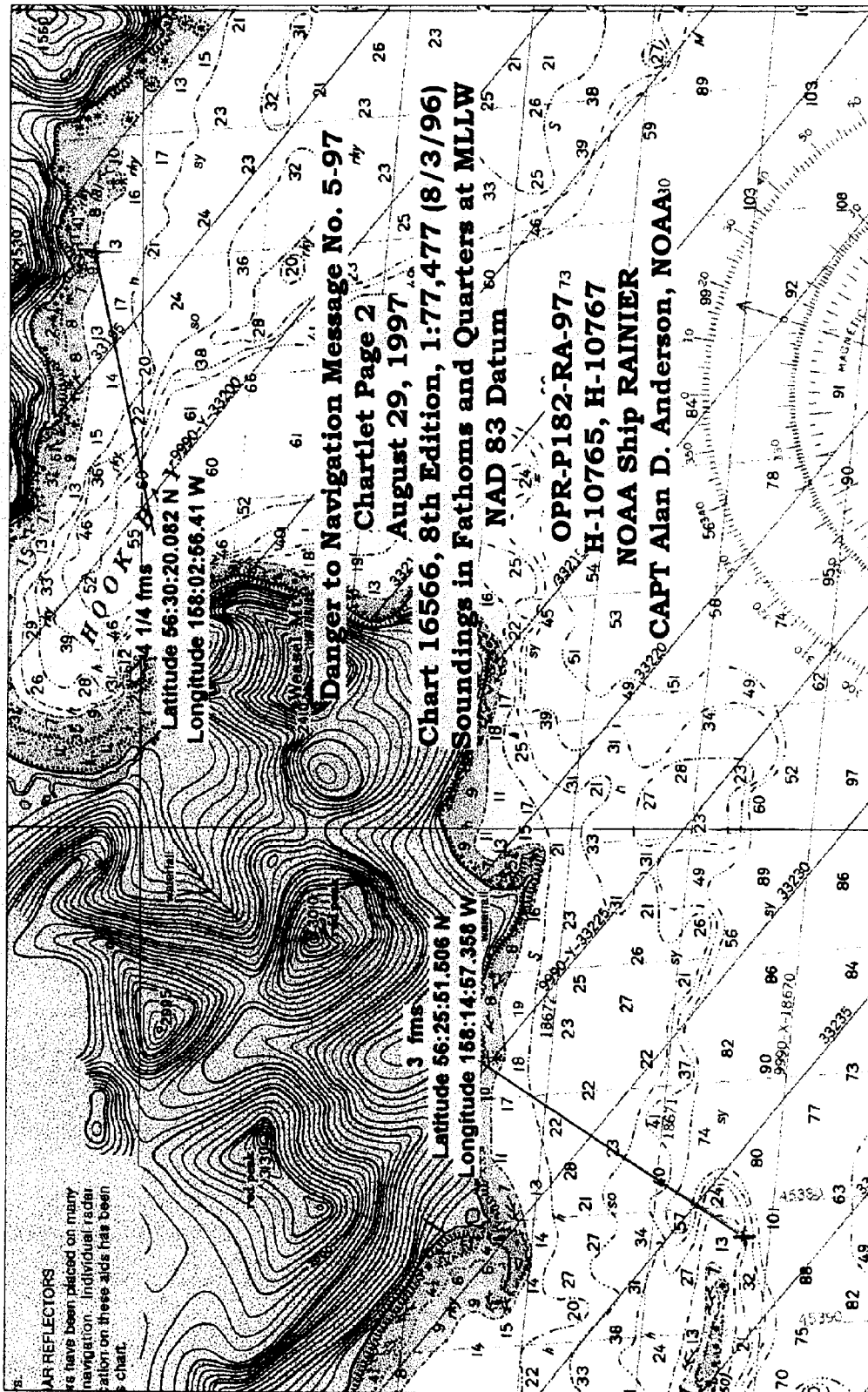
Attachment

cc: NIMA
 PMC
 N/CS261
 N/CS34



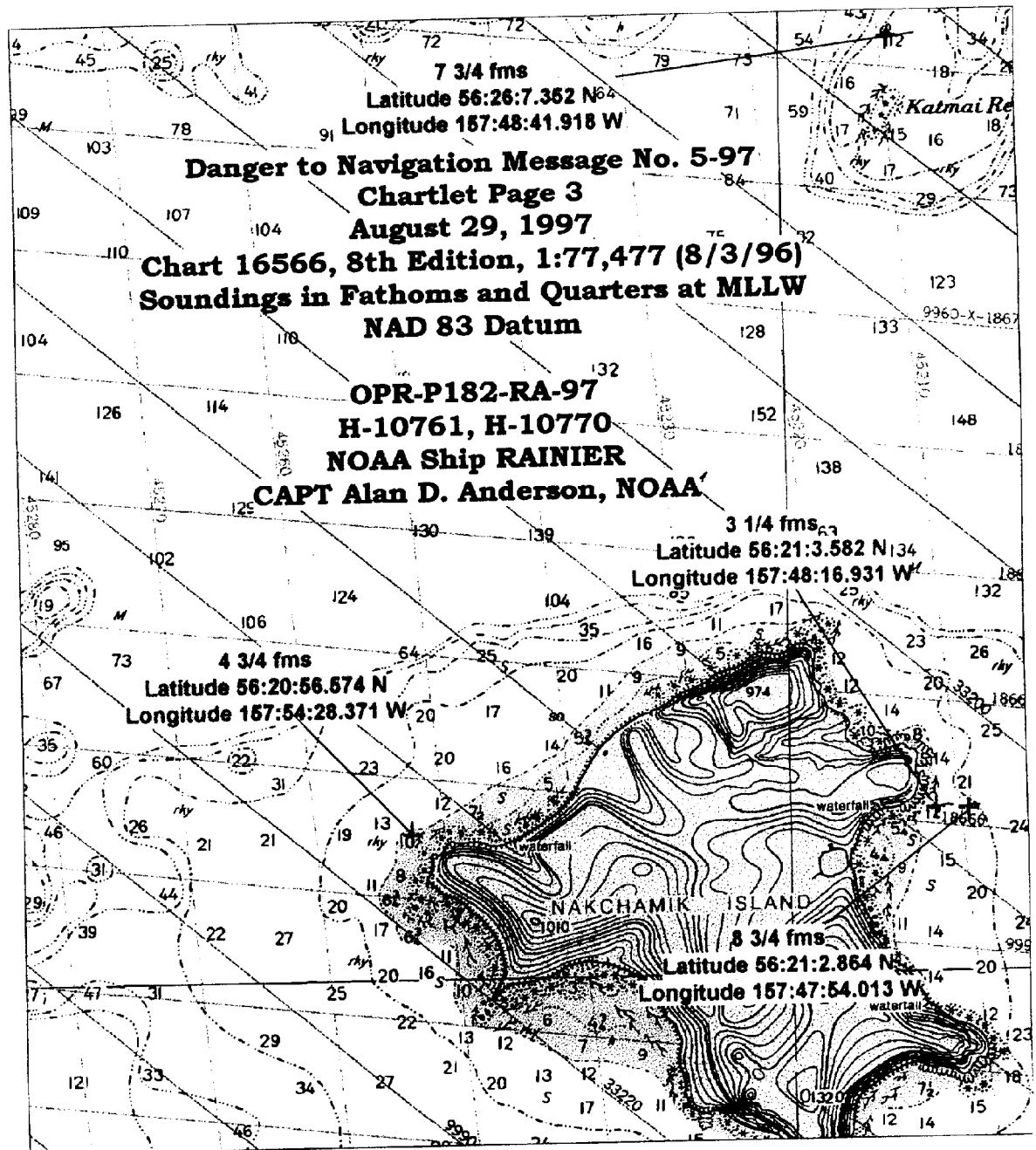
ADVANCE
INFORMATION





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INFORMATION**



APPROVAL SHEET

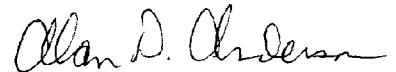
for

H-10765

RA-10-20-97

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.



Alan D. Anderson
Captain, NOAA
Commanding Officer

Survey Information Summary

Project: **Project Name:**

Instructions Dated: **Project Change Info:**

Change #	Dated
1	6/3/97

Sheet Letter: **Registry Number:**

Sheet Number:

Survey Title:

Data Acquisition Dates: **From:** **To:**

Vessel Usage Summary

VESNO	MS	SPLITS	DEV	XL	S/L	DP	BS	DIVE
2121			1					
2122	2	1		1	1	1		
2123	2	2		2	2	1		
2124	3	2						
2125	1	2	1	3	1	1	2	
2126	2				3	2		

Sound Velocity Cast Information

Launch Table #	Ship Table #	Cast DN	Max Depth	Position	Applicable DN
4	0	211	205.2	56/25/27	212-226
				158/09/14	
3	13	205	165	56/26/57	203-211
				158/02/56	
1	0	192	287	56/25/15	200-202
				157/51/28	

Tide Zone Information

Zone #	Time Corr.	Height Corr.
SAP11	000 hr 00 min	X0.97

Tide Gage Information

Tide Gage #	Gage Name	Installed	Removed
945-8762	UNAVIKSHAK IS	7/9/97	8/27/97
945-9450	SAND POINT, AK	1/1/90	12/31/99

Statistics Summary

Type	Total:
BS	43
DEV	5.38
DP	7
MS	207.18
S/L	11.22
SPLIT	88.78
XL	17.41

Percent XL:

SQNM:



TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: January 5, 1998

HYDROGRAPHIC BRANCH: Pacific
HYDROGRAPHIC PROJECT: OPR-P182-RA
HYDROGRAPHIC SHEET: H-10765

LOCALITY: Southwest Alaska Peninsula

TIME PERIOD: Jul 19 - Aug 20, 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
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.



CHIEF, OPERATIONAL ANALYSIS BRANCH



GEOGRAPHIC NAMES

H-10765

Name on Survey	<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">A ON CHART NO. 16500</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">B ON PREVIOUS SURVEY NO.</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">C ON U.S. QUADRANGLE MAPS</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">D FROM LOCAL INFORMATION</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">E ON LOCAL MAPS</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">F P.O. GUIDE OR MAP</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">G RAND McNALLY ATLAS</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">H U.S. LIGHT LIST</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">K</div> </div>										
	ALASKA (title)	X									
ALASKA PENINSULA (title)	X										2
CAPE KUMLIUN	X		X								3
CHIGNIK BAY	X		X								4
HOOK BAY	X		X								5
HOOK CREEK			X								6
RED PEAK	X										7
WEASEL MOUNTAIN	X										8
											9
											10
											11
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											25

Approved

Dwight Rosebury

FEB 20 1998

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
DESCRIPTION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR-GRAMS
ACCORDION FILES	1		
ENVELOPES			
VOLUMES			
CAHIERS			
BOXES			

SHORELINE DATA

SHORELINE MAPS (List): **TP-00907**

PHOTOBATHYMETRIC MAPS (List): **NA**

NOTES TO THE HYDROGRAPHER (List): **NA**

SPECIAL REPORTS (List): **NA**

NAUTICAL CHARTS (List): **Chart 16566 Edition 8, Aug 3, 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			
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	73		73
COMPARISON WITH PRIOR SURVEYS AND CHARTS			
EVALUATION OF SIDE SCAN SONAR RECORDS			
EVALUATION OF WIRE DRAGS AND SWEEPS			
EVALUATION REPORT		21	21
GEOGRAPHIC NAMES			
OTHER*			
*USE OTHER SIDE OF FORM FOR REMARKS	TOTALS	73	21
		73	94

Pre-processing Examination by M. Bigelow	Beginning Date 10/16/97	Ending Date 10/17/97
Verification of Field Data by M. Bigelow, R. Mayor, R. Davies	Time (Hours) 73	Ending Date 3/3/98
Verification Check by B. Olmstead	Time (Hours) 6	Ending Date 3/13/98
Evaluation and Analysis by R. Davies	Time (Hours) 21	Ending Date 3/12/98
Inspection by B. Olmstead	Time (Hours) 4	Ending Date 3/17/98

EVALUTAION REPORT

H-10765

A. PROJECT

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

B. AREA SURVEYED

The survey area is adequately described in the hydrographer's report. A page-size plot of the charted area depicting the limits of supersession accompanies this report as Attachment 1.

The hydrographer has determined the inshore limits of safe navigation by defining a Navigable Area Limit Line throughout the survey area. Charted features and soundings inshore of this limit line have not been specifically addressed during survey operations and should be retained as charted.

The bottom consists mainly of mud, sand and silt. Depths range from 0 to 85 fathoms.

C. SURVEY VESSELS

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

D. AUTOMATED DATA ACQUISITION AND PROCESSING

Survey data were processed using the same Hydrographic Data Acquisition/Processing System (HDAPS) software used by the hydrographer, the Hydrographic Processing System (HPS) and 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 smooth sheet drawing is filed in the MicroStation format, i.e., dgn (extension). Copies of these files will be forwarded to the Hydrographic Surveys Division and a backup copy will be 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 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 Guidelines 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

Neither side scan sonar nor multibeam echo sounder operations were conducted on survey H-10765.

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 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 Unavikshak Island, AK. gage 945-8762 and Chignik, Anchorage Bay, AK., gage 945-8917. The tide gage at Unavikshak Island was not used for final reduction of sounding data due to an inoperable tide gage. This gap in corrector values from August 3 at 220600 to August 6 at 204200 coincides with times of data collection. Therefore, Chignik tide gage was used to reduce all sounding data on the present survey.

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:	-2.780 seconds	(-85.980 meters)
Longitude:	7.363 seconds	(126.022 meters)

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

I. HYDROGRAPHIC POSITION CONTROL

Differential GPS (DGPS) was used to control this survey. A horizontal dilution of precision (HDOP) not to exceed 3.75 meters was computed for survey operations. The quality of several positions exceeds limits in terms of horizontal dilution of precision (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.

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

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

J. SHORELINE

Shoreline from TP-00907 has been shown in black on the smooth sheet. TP-00907 is a class III shoreline map at a scale of 1:20,000, with a date of photography of July 1987, and has been compiled on NAD83. Shoreline drawn on the smooth sheet originates from a digital file created by the Pacific Hydrographic Branch. This digitized file and the survey file were merged during MicroStation processing.

The shoreline map and the results of the fieldwork as portrayed on the smooth sheet should supersede charted shoreline.

K. CROSSLINES

Crosslines are discussed in the hydrographer's report.

L. JUNCTIONS

Survey H-10765 junctions with the following surveys:

<u>Survey</u>	<u>Year</u>	<u>Scale</u>	<u>Area</u>
H-10701	1996-97	1:20,000	South
H-10767	1997	1:10,000	Southwest
H-10762	1997	1:10,000	East

The junctions with surveys H-10762 and H-10767 are complete. A "Joins" note has been added to the smooth sheet where applicable. One sounding from junction survey H-10762 has been transferred within the common area to better delineate the bottom configuration. The junction with survey H-10701 was not formally completed since this survey was processed previously. However, depths are in good agreement within the common area. An "Adjoins" note has been added to the smooth sheet.

M. COMPARISON WITH PRIOR SURVEYS

H-4397 (1925)	1:20,000
H-4427 (1924)	1:20,000
H-4508 (1925)	1:20,000
H-4509 (1925)	1:60,000

Prior surveys H-4397, H-4427, H-4508 and H-4509 cover the entire area of the present survey. Sounding agreement is fair with the present survey depth generally shoaler between 1 and 5 fathoms shoaler. A few larger differences of up to 10 fathoms were noted in a few instances. The present survey reveals a consistent pattern of shoaler depths than collected in 1924-25. This is reflected in the standard depth curves that show a movement seaward of approximately 50 to 100 meters. These differences may be attributed to greater sounding coverage, improved positioning and sounding methods and relative accuracy of the data acquisition techniques.

Survey H-10765 is adequate to supersede the prior surveys within the common area.

N. ITEM INVESTIGATIONS

There were no AWOIS items assigned to this survey.

O. COMPARISON WITH CHART

Survey H-10765 was compared with the following chart.

<u>Chart</u>	<u>Edition</u>	<u>Date</u>	<u>Scale</u>	<u>Datum</u>
16566	8th	Aug. 3, 1996	1:77,477	NAD83

a. Hydrography

Charted hydrography originates with the previously discussed prior surveys and miscellaneous source data. The prior surveys have been adequately addressed in section M and require no further discussion.

Charted soundings and features originating with miscellaneous source data have been satisfactorily addressed during survey operations.

The application of this survey to charts of a scale greater than 1:40,000 may require the generalization of features such as ledges, and reefs. The recommended charting disposition of specific ledges or reefs is their depiction as isolated rocks. The application of this survey to charts of a scale less than 1:40,000 may be accomplished without generalization of features. The areas containing features which might be subject to generalization are described as: The shoreline south of Cape Kumlium and the shoreline south and east of Weasel Mountain.

Survey H-10765 is adequate to supersede charted hydrography within the charted area.

b. Dangers To Navigation

One danger to navigation was discovered during survey operations and reported to the USCG on August 28, 1997. No additional dangers to navigation were found during office processing.

P. ADEQUACY OF SURVEY

Hydrography contained on survey H-10765 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.

Hydrography on survey H-10765 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 in 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 with the exception of the following. 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. Field work for survey H-10765 was completed on August 20, 1997 but not transmitted for office processing until October 15, 1997.

Q. AIDS TO NAVIGATION

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

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. No additional miscellaneous items were noted during office processing.

T. RECOMMENDATIONS

This is a good hydrographic survey. No additional work is recommended.


U. REFERRAL TO REPORTS

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


Charles R. Davies
Cartographer

M Morse code	R TR radio tower
N nun	Rot rotating
OBSC obscured	s seconds
Oc occulting	SEC sector
Or orange	St M statute miles
Q quick	VQ very quick
R red	W white

ATTACHMENT 1
H-10765 LIMITS DEPICTED ON CHART 16566,
8TH EDITION, AUGUST 3, 1996
LIMIT LINE DENOTES AREA OF SUPERSESSON

 **SUPERSEDED AREA OF CHART**

NOT TO SCALE

microwave tower

gy gray
h hard
M mud

struction
approximate
ept clear to the d
heights in feet abc
Preventing Collision
thus: - - - - -

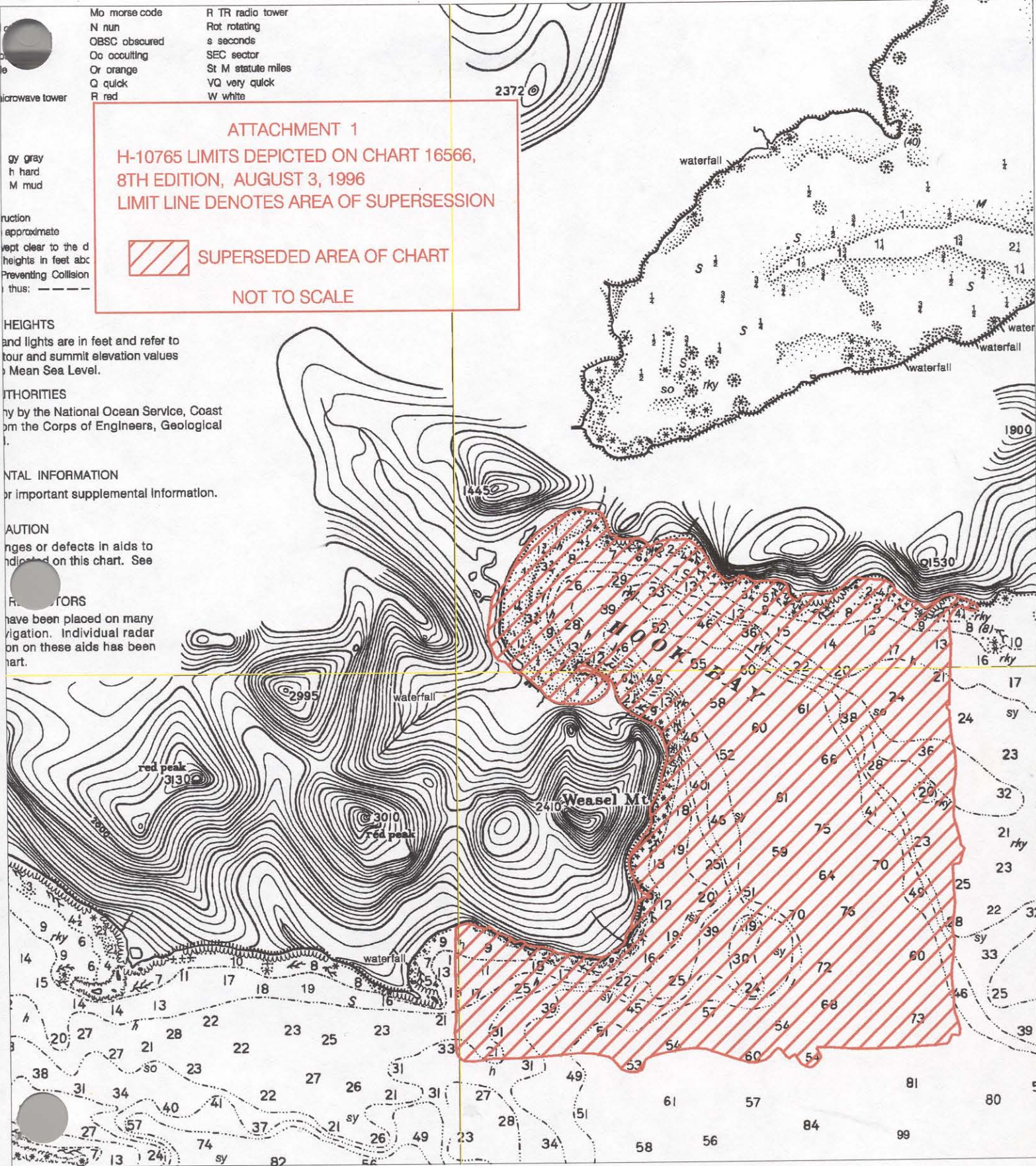
HEIGHTS
 and lights are in feet and refer to
 our and summit elevation values
 Mean Sea Level.

AUTHORITIES
 by the National Ocean Service, Coast
 om the Corps of Engineers, Geological

NTAL INFORMATION
 or important supplemental information.

AUTION
 nges or defects in aids to
 ndicated on this chart. See

RADAR BEACONS
 have been placed on many
 igation. Individual radar
 on on these aids has been
 hart.



APPROVAL SHEET
H-10765

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: 3/17/98
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: 3/28/98
Kathy Timmons
Commander, NOAA
Chief, Pacific Hydrographic Branch

Final Approval

Approved:

Andrew A. Armstrong III Date: May 22, 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-10765

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
16566	3/3/98	Russ Davies	Full Part Before After Marine Center Approval Signed Via Drawing No. Full application of soundings and features from smooth sheet.
16566	8/1/98	Juliah	Full Part Before After Marine Center Approval Signed Via Drawing No. Full application of BP-164945 to chart.
16013	8/7/98	Juliah	Full Part Before After Marine Center Approval Signed Via Drawing No. Exam NC scale.
16011	8/19/98	David Emery	Full Part Before After Marine Center Approval Signed Via Drawing No.
16006	8/17/98	Juliah	Full Part Before After Marine Center Approval Signed Via Drawing No. Exam NC scale.
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