

10477

10477

NOAA FORM 78-35A
 U.S. DEPARTMENT OF COMMERCE
 NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
 NATIONAL OCEAN SERVICE

DESCRIPTIVE REPORT

Type of Survey Hydrographic.....
 Field No. RA-20-1-93.....
 Registry No. H-10477.....

LOCALITY

State Alaska.....
 General Locality..... Alaska Peninsula.....
 Sublocality Five Miles South of.....
 Ugaiushak Island.....

19 93

CHIEF OF PARTY
 CAPT R.C. Arnold.....

LIBRARY & ARCHIVES

DATE September 23, 1994.....

HYDROGRAPHIC TITLE SHEET

H-10477

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-20-1-93

State Alaska

General locality Five Miles South of Ugaiushak Island

Locality Alaska Peninsula

Scale 1:20,000 Date of survey May 29 - June 15

Instructions dated 4/13/93, Change #1-4/23/93 Project No. OPR-P180-RA

Vessel RAINIER(2120), RA-3(2123), RA-4(2124), RA-5(RA-2125);RA-6(2126)

Chief of party CAPT. Russell C. Arnold, NOAA

Surveyed by LT M. Brown, LT D. Neander, LTJG S. Lemke, ENS D. Pitts, ENS G. Glover,
ENS J. Graham, ENS A. Caron, ENS G. Johnson

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.N. Mihailov Automated plot by PHS Xynetics Plotter

Verification by R.N. Mihailov

Soundings in meters and decimeters at ~~MHW~~ MLLW

REMARKS: All times are UTC. North American Datum of 1983. 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.

Surf & Annot 11/21/94 MCR

PROGRESS SKETCH

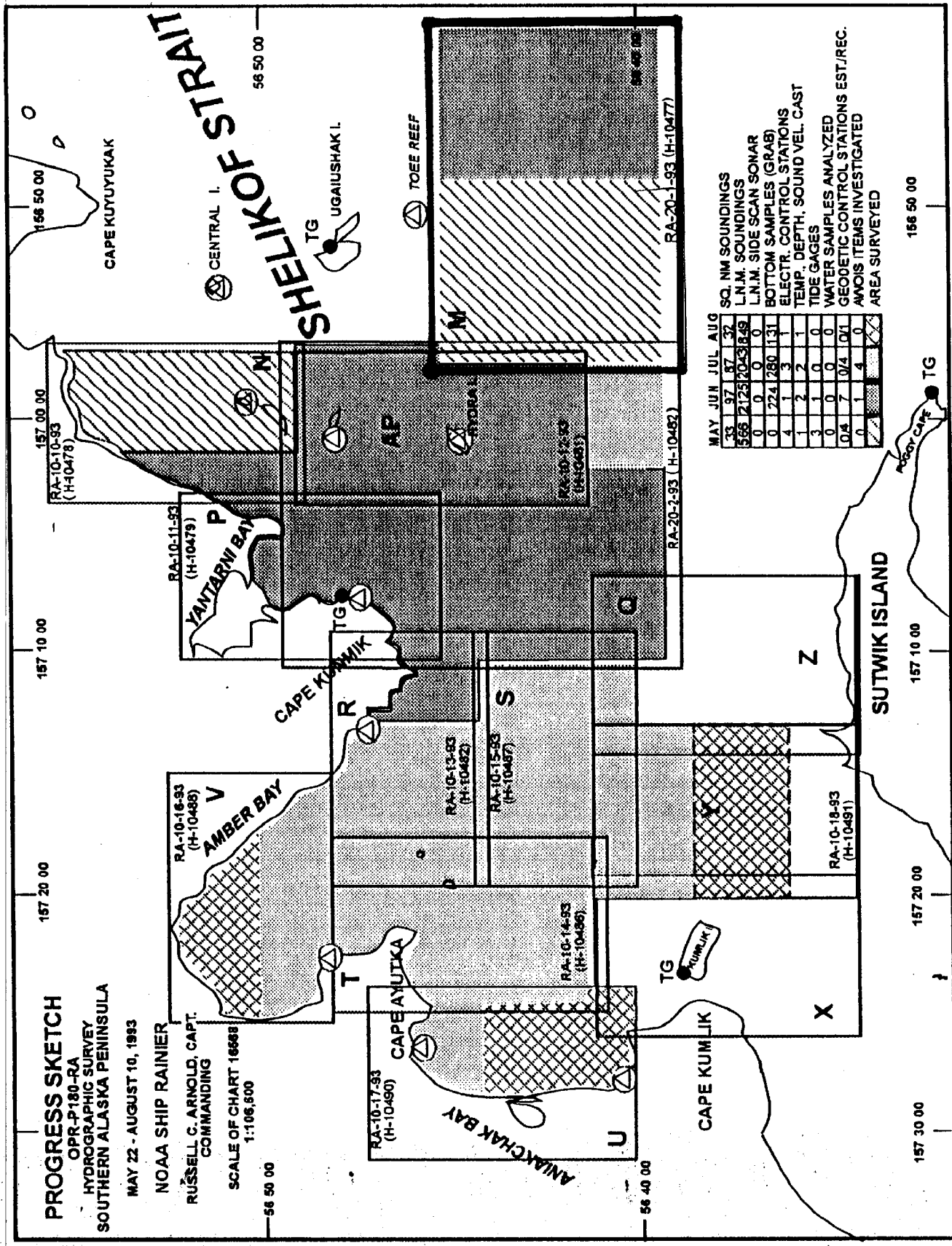
OPR-P180-RA
HYDROGRAPHIC SURVEY
SOUTHERN ALASKA PENINSULA

MAY 22 - AUGUST 10, 1993

NOAA SHIP RAINIER

RUSSELL C. ARNOLD, CAPT.
COMMANDING

SCALE OF CHART 16668
1:106,800



	MAY	JUN	JUL	AUG
SQ. NM SOUNDINGS	33	97	87	32
L.N.M. SOUNDINGS	566	2125	2043	849
L.N.M. SIDE SCAN SONAR	0	0	0	0
BOTTOM SAMPLES (GRAB)	0	724	280	131
ELECTR. CONTROL STATIONS	4	1	3	1
TEMP. DEPTH. SOUND VEL. CAST	1	2	2	1
TIDE GAGES	3	1	0	0
WATER SAMPLES ANALYZED	0	7	0	0
GEODETIC CONTROL STATIONS EST./REC.	0	4	7	0
ANNOIS ITEMS INVESTIGATED	0	1	4	0
AREA SURVEYED	2.2	1.2	1.2	1.2

Descriptive Report to Accompany Hydrographic Survey H-10477

Field Number RA-20-1-93

Scale 1:20,000

May - June 1993

NOAA Ship RAINIER

Chief of Party: Captain Russell C. Arnold

A. PROJECT ✓

This basic hydrographic survey was completed along the Southern Alaskan Peninsula as specified by Project Instructions OPR-P180-RA dated April 13, 1993, and change No. 1 dated April 23, 1993.

Survey H-10477 corresponds to "Sheet M" as defined in the Project Instructions.

This survey will provide contemporary hydrographic survey data for updating existing nautical charts, and for constructing two new 1:100,000 scale metric charts. The new charts will cover inshore and offshore areas between Sutwik Island and Mitrofanina Island, along the southern Alaska Peninsula. Requests for hydrographic surveys and updated charts have been received from the U.S. Coast Guard, Alaskan congressional delegates, NOAA, Defense Mapping Agency, and local fishermen.

B. AREA SURVEYED ✓

This survey area is located five nautical miles south of Ugaiushak Island off the Southern Alaskan Peninsula. The survey limits are $156^{\circ}57'W$ to the west, $156^{\circ}41'W$ to the east, $56^{\circ}45'N$ to the north, and $56^{\circ}39'N$ to the south. There is no shoreline on this survey.

Data acquisition was conducted from May 29, Day Number (DN) 149, through June 15, DN 166.

C. SURVEY VESSELS

Data were acquired by the NOAA SHIP RAINIER and four survey launches as noted below:

<u>Vessel</u>	<u>EDP No</u>	<u>Operation</u>
RAINIER	2120	Bottom Samples / SV Casts
RA-3	2123	Hydrography
RA-4	2124	Hydrography
RA-5	2125	Hydrography
RA-6	2126	Hydrography

D. AUTOMATED DATA ACQUISITION AND PROCESSING ✓

Data acquisition and processing were accomplished with the following HDAPS programs:

<u>Program Name</u>	<u>Version</u>	<u>Date Installed</u>
AUTOST	3.00	9/24/92
BACKUP	2.00	9/24/92
BASELINE	1.13	9/24/92
BIGABST	2.03	9/24/92
BLKEDIT	2.00	9/24/92
CARTO	2.04	3/1/93
CONTACT	2.01	9/24/92
CONVERT	3.51	9/24/92
DAS_SURV	6.33	5/17/93
DIAGNOSE	3.01	9/24/92
DISC_UTIL	1.00	9/24/92
DP	2.13	3/1/93
EXCESS	4.10	9/24/92
FILESYS	3.02	5/17/93
GRAFEDIT	1.01	2/26/93
HIPSTICK	1.01	9/24/92
HPRAZ	1.26	9/24/92
INVERSE	2.00	9/24/92
INSTALL	4.00	9/24/92
LSTAWOIS	3.01	9/24/92
LISTDATA	1.00	9/24/92
LOADNEW	2.01	9/24/92
MAINMENU	1.00	9/24/92
MAN_DATA	2.00	9/24/92
NEWPOST	6.00	9/24/92
PLOTALL	2.08	2/26/93
POINT	2.10	9/24/92
PREDICT	2.00	9/24/92
PRESURV	7.01	2/26/93
PRINTOUT	4.01	9/24/92
QUICK	2.03	2/26/93
RAMSAVER	1.01	9/24/92
RECOMP	2.02	9/24/92
REAPPLY	2.01	9/24/92
SCANNER	1.00	9/24/92
SELPRINT	2.02	9/24/92
SYMBOLS	2.00	9/24/92
ZOOMEDIT	2.10	9/24/92

Velocity corrections were determined using:

<u>Program Name</u>	<u>Version</u>	<u>Date Installed</u>
VELOCITY	2.0	24 Mar 1993

E. SONAR EQUIPMENT ✓

Sonar equipment was not used on sheet M.

F. SOUNDING EQUIPMENT ✓

DSF-6000N serial numbers are included on the headers of the daily Raw Master Printouts.

G. CORRECTIONS TO ECHO SOUNDINGS ✓

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

<u>Velocity Table No.</u>	<u>Cast No.</u>	<u>Deepest Depth (m)</u>	<u>Applicable DN</u>	<u>Cast Position</u>	<u>Day</u>
1	1	239	149 - 155	56°45'58"N 156°56'18"W	149
2	2	220	159 - 169	56°45'54"N 156°56'07"W	163

Plot outside survey limits

The sound velocity casts were acquired with SBE SEACAT Profiler S/N 220.

Velocity correctors were computed using the PC program VELOCITY in accordance with Hydrographic Survey Guideline (HSG) #69. A printout of the Sound Velocity Corrector Tables 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 for launches 2123, 2124, 2125 and 2126 on March 19, 1993 and is in the offset tables* for each launch.

Settlement and Squat

Correctors were computed in accordance with Hydrographic Manual Section 4.9.4.2., using FPM Fig. 2.2 and 2.3, and are included with project data for OPR-P180-RA. The data used was collected in Shilshole Bay, Washington on March 11, 16, and 18 of 1992. Revised settlement and squat correctors were received from Pacific Marine Center on October 21, 1992. Authorization was obtained from N/CG241 to use the 1992 data. These revised correctors were applied to the data on sheet M.

Offset Tables

<u>Vessel</u>	<u>Offset Table No.</u>
2123	3
2124	4
2125	5
2126	6

* Filed with the survey records.

Heave

Data acquired during periods of significant sea action were scanned to account for inaccuracies caused by heave.

Bar Check and Lead Lines

Bar check and lead lines were calibrated by RAINIER personnel on February 19, 1993 at PMC. Calibration forms are included with project data for OPR-P180-RA. ✕

Tide Correctors

The tidal reference station used for this survey was Ugaiushak Island, Alaska (945-8553). Tidal correctors as provided in the project instructions for sheet M are.

	<u>TIME</u> <u>(min)</u>	<u>HEIGHT</u> <u>(ft)</u>
Low Water	0	0
High Water	0	0

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

Tide gages were installed and maintained by RAINIER personnel at Foggy Cape, Sutwik Is., Alaska (945-8582) and Ugaiushak Island, Alaska (945-8553). The control station was Sand Point, Alaska (945-9450). Bracketing levels will be completed by RAINIER personnel at the end of June, and the control station will be levelled at the conclusion of the project.

The station descriptions, field tide records, and Field Tide Notes will be forwarded to N/OES212 monthly in accordance with HSG 50 and FPM 4.3, ~~and at the end of the project.~~ Requests for approved tides will be forwarded to N/OES2. *Tide Note dated January 5, 1994 is attached.*

H. CONTROL STATIONS ✓

A listing of the geodetic stations used to control this survey is included in ~~Appendix III~~ of this report.

Positions for all existing stations are from the National Geodetic Survey (NGS) data base. All existing stations were recovered in accordance with methods stated in Section 5.2.4 of the Field Procedures Manual. Further information can be found in the "Summer 1993 Horizontal Control Report for OPR-P180-RA."

I. HYDROGRAPHIC POSITION CONTROL ✓**Method of Position Control**

All soundings and features were positioned using differential GPS. Falcon was used solely for GPS system checks. Serial numbers for Falcon R/T units, RPU's and Ashtech GPS equipment are annotated on the data printouts.

* Filed with the survey records.

Calibrations & Systems Check Methods

Falcon 484

Baseline calibrations were conducted in accordance with FPM 3.1.2.1 and 3.1.3.2. Calibrations were performed at the MATTHEWS PARK BEACH BASELINE on May 4-7, 1993. Calibration data and a description of the baseline is included with project data for OPR-P180-RA. *

Ashtech GPS

A VHF differential shore station was established at station HYDRA. After the station was established, a remote sensor was directly connected to the MXII shore station and its antenna was collocated with the shore station. The computed position was transmitted back to the ship via VHF radio modem link. The difference between the computed location and the station's published position was recorded by the MONITOR program on a PC. Data from a 24-hour period were recorded and examined for signs of multi-path signal reflection, which was not evident at the station.

Launch system checks were made by a direct comparison of the Falcon position with the GPS position. HDAPS Survey Screen Two was used for the Falcon comparison, and was dumped to the system printer to record the results. Three such dumps were made for each system check. System checks were made every day and the results were transferred to forms which are included in the "Separates to be Included with Survey Data, III. Horizontal Position Control and Corrections to Position Data." *

Problems

The differential GPS station on HYDRA ran without problem for sheet M. - CONCUR

Offset

The launch GPS antenna is mounted on the mast of the Falcon R/T unit. Antenna offsets are stored in the HDAPS Offset Tables as listed in Section G. *Copies of the Offset Tables are included in the "Separates to be Included with Survey Data, III. Horizontal Position Control and Corrections to Position Data." *

J. SHORELINE ✓

There was no shoreline on sheet M.

K. CROSSLINES ✓

Crosslines are in good agreement with mainscheme hydrography. Crosslines totaled 42.17 nautical miles, representing 7.6% of the total mainscheme hydrography.

L. JUNCTIONS See Evaluation Report, Section 5

This survey junctions with survey H-10314 (1:10,000, 1989), H-10308 (1:10,000, 1990), and H-10301 (1:20,000, 1989) to the north. No irregularities were found when comparing soundings and depth curves. Final comparisons will be made at the Pacific Hydrographic Section (PHS). The survey also junctions with H-10481 (1:10,000, 1993), H-10482 (1:20,000, 1993) and H-10495 (1:10,000, 1993).

* Filed with the survey records.

M. COMPARISON WITH PRIOR SURVEYS ✓

There were no prior surveys for sheet M.

N. ITEM INVESTIGATIONS ✓

One AWOIS item was investigated.

AWOIS ITEM 51991**1. Area of Investigation**

State:	Alaska
Locality:	5 nm south of Ugaiushak Island.
Reported Latitude:	56°40'11.76" N
Reported Longitude:	156°42'23.01" W
Datum:	NAD83
Depth:	66 meters
Feature:	Shoal

2. Description of Source of Item

CL92/33--D-72, SP-PMC-1-87; Descriptive report; trackline survey by NOAA Ship MILLER FREEMAN found a depth of 66 meters. Positioning system was LORAN C. The feature located at this position rises abruptly from surrounding depths of approximately 160 meters.

3. Survey Requirements

Determine the nature, extent, and least depth of the shoal.

4. Method of Investigation

The area around the shoal was split to 25 meter line spacing using echo sounding.

5. Results of Investigation

The shoal was found at the reported location. The shoal rises abruptly from surrounding depths of 160 meters. A least depth of 43 meters was located at position 156°42'38.9"W longitude, 56°40'03.6"N latitude, HDAPS Fix No. ~~3536.64~~ on June 11 at 18:57:27 (UTC). The shoal radius was 300 meters. ^{3536/7}

Raw Depth	45.1
Correctors Applied	45.5 meters
	Tide -1.4 meters
	Draft 0.5 meters
	S. Vel. -0.9 meters
Corrected Least Depth	43.7 meters
	43.0 meters with the application of smooth tides.

6. Comparison with Prior Surveys

There were no prior surveys for sheet M.

7. Comparison with chart and charting recommendations

The largest scale chart depicting this area is NOS Chart 16568, 9th edition, March 21, 1992, 1:106,600 (NAD83). The item does not constitute a danger to navigation.

AWOIS item No. 51991 has been resolved. Recommend charting a shoal depth at the position stated above. - *concur, chart 23 Fathoms (43 meters) as found by this survey.*

O. COMPARISON WITH THE CHART *See Evaluation Report, Section 7.*

This survey was compared to NOS chart 16568, 9th Edition, March 21, 1992, 1:106,600 (NAD83).

There are only 2 tracklines with soundings on the chart and these soundings were found to be in general agreement with this survey. There are, however, numerous features in this area which are not depicted on the chart. Final comparisons will be made at PHS.

Dangers to Navigation

One danger to navigation within the limits of this survey was reported to the Seventeenth Coast Guard District and DMAHTC. Copies of the radio message and correspondence are included in ~~Appendix I~~ of this report.

P. ADEQUACY OF SURVEY ✓

This survey is complete and adequate to supersede previous chart letters and soundings in their common areas. *concur*

Q. AIDS TO NAVIGATION ✓

None.

R. STATISTICS ✓

<u>Vessel:</u>	<u>2123</u>	<u>2124</u>	<u>2125</u>	<u>2126</u>	<u>Total</u>
# of Pos	298	899	333	.197	1727
NM Hydro	137.33	292.15	134.14	67.01	630.63

NM ² Hydrography	47.52
Velocity Casts	2
Detached Position	0
Tide Stations	2
Reference Numbers	0
Bottom Samples	39

S. MISCELLANEOUS ✓

LORAN C comparisons were required by the Project Instructions, and will be submitted to PHS at the end of the project.

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

The Coast Pilot current and predicted current comparisons were made in accordance with the Project Instructions. The current predictions were adequate and the descriptions accurate.

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>
Summer 1993 Horizontal Control Report for OPR-P180-RA	1993	N/CG2333
Summer 1993 Coast Pilot Report for OPR-P180-RA	1993	N/CG245
Project related data for OPR-P180-RA	Incremental	N/CG245

Respectfully Submitted,

John D. Graham
Ensign, NOAA

Approved and Forwarded,

Russell C. Arnold
Captain, NOAA
Commanding Officer

CONTROL STATIONS as of 28 May 1993

No	Type	Latitude	Longitude	H Cart	Freq	Vel Code	MM/DD/YY	Station Name
100	F	056:44:35.925	157:00:57.249	36	250	0.0	0 05/26/93	HYDRA(M/R GDCPS STATIONS), 1944
101	F	056:45:36.294	156:51:13.289	17	250	0.0	5 05/27/93	TOEE, 1989
102	F	056:50:12.455	156:59:01.802	33	250	0.0	3 05/23/93	WOLFF, 1989
103	F	056:51:01.588	156:53:58.164	112	250	0.0	2 05/23/93	CENTRAL 1944
104	F	056:48:00.515	157:01:01.282	2	250	0.0	03/01/92	LONG, 1944

FB 5/28



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

June 17, 1993

**ADVANCE
INFORMATION**

Director
DMAHTC
Attn: MCNM
6500 Brookes Lane
Washington, DC 20315-0030

Dear Sir:

While conducting hydrographic survey operations in Shelikof Strait, Alaska, NOAA Ship RAINIER discovered three dangers to navigation. They have been reported to DMAHTCNAVWARN and the Seventeenth Coast Guard District. A copy of the correspondence describing the dangers is enclosed.

Sincerely,

Russell C. Arnold
Russell C. Arnold
Captain, NOAA
Commanding Officer

Enclosures





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

June 17, 1993

**ADVANCE
INFORMATION**

Commander
Seventeenth Coast Guard District
Post Office Box 25517
Juneau, AK 99802-5517

Dear Sir:

Attached is a confirmation copy of the radio messages sent to your office regarding the dangers to navigation which I recommend for inclusion in the Local Notice to Mariners for the Seventeenth Coast Guard District. A copy of the chart showing the areas in which the dangers exist is also attached.

Sincerely,

Russell C. Arnold
Russell C. Arnold
Captain, NOAA
Commanding Officer

Enclosures

cc: DMAHTC
N/CG221
PMC



P 14 Z JUN 93
FM NOAAS RAINIER
TO CCGDSEVENTEEN JUNEAU AK
DMAHTCCNAVWARN WASHINGTON DC//MCNM//
INFO NOAAMOP SEATTLE WA
ACCT CM-VCAA

**ADVANCE
INFORMATION**

BT

UNCLAS

NOAA SHIP RAINIER HAS LOCATED 1 DANGER TO NAVIGATION SOUTH OF
UGAIUSHAK ISLAND. SOUTHERN ALASKAN PENINSULA (PROJECT OPR-P180-
RA) WITHIN THE LIMITS OF HYDROGRAPHIC SURVEY H-10477. THE
FOLLOWING INFORMATION IS PROVIDED FOR PUBLICATION IN LOCAL NOTICE
TO MARINERS:

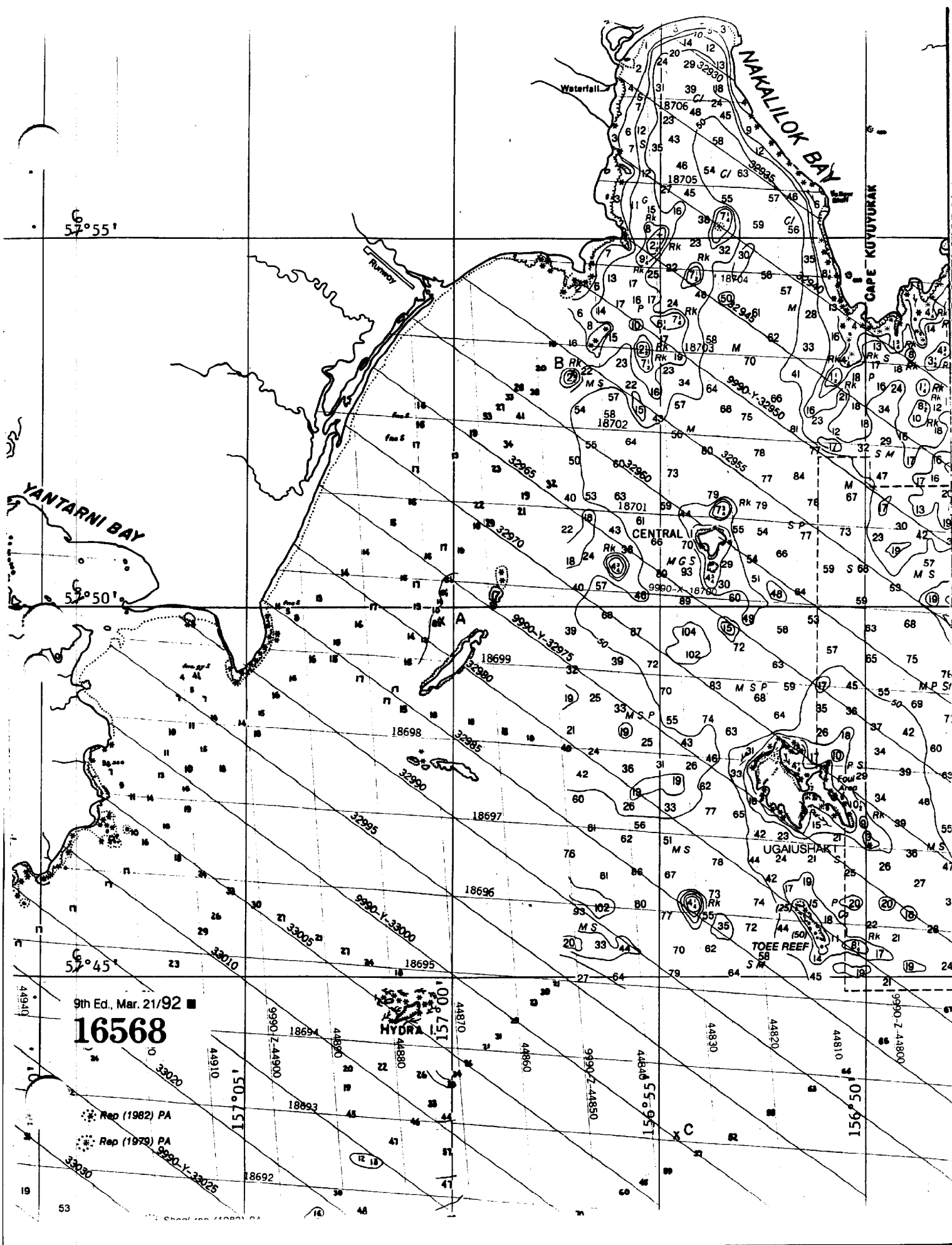
CHARTS AFFECTED: 16568 9TH ED MAR 21/92 1:106,600 NAD 83

DEPTHS ARE REDUCED TO MLLW BASED ON PREDICTED TIDES.

ITEM	DANGER	CHART	DEPTH	LATITUDE	LONGITUDE	Fix #
A.C.	SHOAL	16568	12 fms	56/43/01.48N	156/54/39.77W	3892.5

THIS IS ADVANCE INFORMATION SUBJECT TO OFFICE REVIEW. QUESTIONS
CONCERNING THIS MESSAGE SHOULD BE DIRECTED TO THE CHIEF, PACIFIC
HYDROGRAPHIC SECTION AT (206)526-6835. A LETTER WITH ATTACHED
CHARTLET IS BEING MAILED TO CONFIRM THIS MESSAGE.

BT



57°55'

57°50'

57°45'

9th Ed., Mar. 21/92 ■

16568

Rep (1982) PA

Rep (1979) PA

9990-Y-33025

HYDRA

NAKALILOK BAY

CAPE KUYUYUK

YANTARNI BAY

Waterfall

Runway

CENTRAL

UGAIUSHAKT

TOEE REEF

APPROVAL SHEET

for

H-10477
RA-20-1-93

Standard procedures were followed in accordance with the Hydrographic Manual, Fourth Edition; the Hydrographic Survey Guidelines; and 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.



Russell C. Arnold
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

ORIGINAL

DATE: January 5, 1994

MARINE CENTER: Pacific

OPR: P180

HYDROGRAPHIC SHEET: H-10477

LOCALITY: Five Miles South of Ugaiushak Island,
Shelikof Strait, Alaska

TIME PERIOD: May 29, 1993 - June 15, 1993

TIDE STATION USED: 945-8553 Ugaiushak Island, Alaska
Lat. $56^{\circ} 47.7'N$ Lon. $156^{\circ} 51.1'W$

PLANE OF REFERENCE (MEAN LOWER LOW WATER): = -2.72 feet

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: = 9.5 feet

REMARKS: RECOMMENDED ZONING

1. East of longitude $156^{\circ} 50.0'W$, times and heights are direct on Ugaiushak Island, Ak. (945-8553).
2. West of longitude $156^{\circ} 50.0'W$, times are direct and apply a $\times 0.97$ range ratio to heights at Ugaiushak Island, Ak. (945-8553).

NOTE: Hourly heights are tabulated on Greenwich Mean Time.

William M. Fisher
CHIEF, DATUMS SECTION

S.F. &



GEOGRAPHIC NAMES

H-10477

Name on Survey	<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">A ON CHART NO. 16568</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 GRAND 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>											
	A	B	C	D	E	F	G	H	K			
ALASKA (title)	X											1
ALASKA PENINSULA (title)	X											2
UGAIUSHAK ISLAND (title)	X											3
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Approved:

Charles E. Hastings

Chief Geographer - N/CG 275

FEB - 2 1994

HYDROGRAPHIC SURVEY STATISTICS

H-10477

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

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

SHORELINE DATA					
SHORELINE MAPS (List):					
PHOTOBATHYMETRIC MAPS (List):					
NOTES TO THE HYDROGRAPHER (List):					
SPECIAL REPORTS (List):					
NAUTICAL CHARTS (List):					

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			1773
POSITIONS REVISED			
SOUNDINGS REVISED			
CONTROL STATIONS REVISED			
	TIME-HOURS		
	VERIFICATION	EVALUATION	TOTALS
PRE-PROCESSING EXAMINATION			
VERIFICATION OF CONTROL			
VERIFICATION OF POSITIONS	80.0		
VERIFICATION OF SOUNDINGS	30.0		
VERIFICATION OF JUNCTIONS			
APPLICATION OF PHOTOBATHYMETRY			
SHORELINE APPLICATION/VERIFICATION			
COMPILATION OF SMOOTH SHEET			
COMPARISON WITH PRIOR SURVEYS AND CHARTS		2.0	
EVALUATION OF SIDE SCAN SONAR RECORDS			
EVALUATION OF WIRE DRAGS AND SWEEPS			
EVALUATION REPORT		30.0	
GEOGRAPHIC NAMES			
OTHER			
*USE OTHER SIDE OF FORM FOR REMARKS	TOTALS	110.0	32.0

Pre-processing Examination by LTJG D. Haines	Beginning Date 6/24/93	Ending Date 8/17/94
Verification of Field Data by R. Davies, E. Domingo, R. Shipley, J. Stringham	Time (Hours) 110.0	Ending Date 3/7/94
Verification Check by R. Mihailov J. Green	Time (Hours) 1.0	Ending Date 3/18/94
Evaluation and Analysis by R.N. Mihailov	Time (Hours) 32.0	Ending Date 4/11/94
Inspection by B.A. Olmstead	Time (Hours) 10	Ending Date 9/6/94

EVALUATION REPORT

H-10477

1. INTRODUCTION

Survey H-10477 is a basic hydrographic survey accomplished by the NOAA Ship *Rainier*, under the following Project Instructions.

OPR-P180-RA, dated April 13, 1993
CHANGE NO. 1, dated April 23, 1993

This survey was conducted in Alaska, and is located approximately five nautical miles south of Ugaiushak Island off the Southern Alaskan Peninsula. The surveyed area is bounded by latitude 56/45/10N to the north and latitude 56/39/20N to the south. The eastern limit is longitude 156/41/30W and the western limit is longitude 156/57/10W. There is no shoreline on this survey. The bottom consists mainly of mud and sand. Depths range from 22.8 meters to 190 meters.

Depth curves depicted on the smooth sheet were selected from those authorized through HSG 69. However, instead of drafting all authorized curves only those curves considered necessary for the reasonable portrayal of the bottom topography were drafted. The selected curves were the 50, 90 and 120 meter. A note was added to the smooth sheet to identify these values. A few supplemental depth curves have been added to the smooth sheet in brown as warranted.

Predicted tides for Ugaiushak Island, Alaska were used for the reduction of soundings during field processing. Approved hourly heights zoned from Ugaiushak Island, Shelikof Strait, Alaska, gage 945-8553, were used during office processing.

The field sheet parameters have been revised to center the hydrography on the smooth sheet and to change the projection to polyconic. NAD 83 is used as the horizontal datum for plotting and position computations. The offset values and velocity correctors are adequate. An accompanying computer printout contains the parameters and the correctors.

A digital file has been generated for this survey that includes categories of information required to comply with Hydrographic Survey Guideline No. 52, Standard Digital Data Exchange Format, April 15, 1986. Certain descriptive information, however, may not be in the digital record due to the restrictions of the presently available cartographic codes. The user should refer to the smooth sheet for complete information.

2. CONTROL AND SHORELINE

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

Additional detailed information on horizontal control is found in the Summer Horizontal Control Report for OPR-P180-RA, 1993.

Differential GPS (DGPS) was used to control this survey. Daily system checks by comparison with Miniranger positions confirmed the DGPS was operating properly. A horizontal dilution of precision (HDOP) not to exceed 7.5 was computed for survey operations. The quality of 186 positions exceeded the limit 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.

The positions of the horizontal control stations used during hydrography are published values based on NAD 83.

The smooth sheet and accompanying overlays are annotated with NAD 27 adjustment ticks based on values determined with 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: -2.679 seconds (-82.855 meters)
Longitude: 7.377 seconds (125.208 meters)

The year of establishment of the control station shown on the smooth sheet originates with the above mentioned horizontal control reports and the hydrographer's signal list.

There is no shoreline on survey H-10477.

3. HYDROGRAPHY

Hydrography is adequate to:

- a. delineate the bottom configuration, determine least depths, and draw the required depth curves;
- b. Reveals there are no significant discrepancies or anomalies requiring further investigation; and
- c. show the survey was properly controlled and soundings are correctly plotted.

4. CONDITION OF SURVEY

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, March 1993 Edition.

5. JUNCTIONS

Survey H-10477 junctions with the following surveys.

<u>Survey</u>	<u>Year</u>	<u>Scale</u>	<u>Area</u>
H-10308	1989	1:10,000	North
H-10314	1989	1:10,000	Northwest
H-10301	1989	1:20,000	Northeast
H-10481	1993	1:10,000	Northwest
H-10482	1993	1:20,000	Southwest
H-10495	1993	1:10,000	West

The junctions with surveys H-10308, H-10314 and H-10301 have not been formally completed since the surveys were previously processed and forwarded for charting. The junctions were made using copies. These surveys are plotted in fathoms and survey H-10477 is plotted in meters. Soundings are in good agreement, however the depth curves shown on this survey delineate different depths and therefore, do not agree. Soundings have been transferred to survey H-10477 from survey H-10314 to better portray the bottom in the common areas.

The junctions with surveys H-10481, H-10482 and H-10495 are complete and the soundings are in good agreement.

6. COMPARISON WITH PRIOR SURVEYS

There are no prior surveys for survey H-10477.

7. COMPARISON WITH CHART

Survey H-10477 was compared with the following chart.

<u>Chart</u>	<u>Edition</u>	<u>Date</u>	<u>Scale</u>	<u>Datum</u>
16568	9th edition	March 21, 1992	1:106,600	NAD83

a. Hydrography

Charted hydrography originates from a 1945 USC&GS reconnaissance survey (BP-40351) and 1987 NOS trackline survey (BP-134011, D-72).

Comparison with the chart indicates a 10-20 meter difference with the present survey depths generally shoaler.

Survey H-10477 is adequate to supersede charted hydrography within the common area.

b. AWOIS

AWOIS item 51991 originates with a miscellaneous source BP-134011 (D-72), a 1987 NOS trackline survey. The disposition of this AWOIS item can be found in the AWOIS item investigation write-up included in the hydrographer's report.

c. Controlling Depths

There are no channels with controlling depths located within the limits of survey H-10477.

d. Aids to Navigation

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

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

e. Geographic Names

Names appearing in the survey title have been approved by the Chief Geographer. There are no geographic names appearing on the smooth sheet.

f. Dangers to Navigation

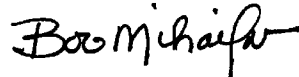
The hydrographer reported one shoal as a danger to navigation to the local United States Coast Guard District, DMAHTC and N/CG221, during the survey. A copy of this report is attached . No additional dangers to navigation were discovered during office processing.

8. COMPLIANCE WITH INSTRUCTIONS

Survey H-10477 adequately complies with the Project Instructions.

9. ADDITIONAL FIELD WORK

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



Bob Mihailov
Cartographer

APPROVAL SHEET
H-10477

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 digital data have been completed and all revisions and processing have been entered in the magnetic tape record for this survey. Final control, position, and sounding printouts have been made and are included with the survey records. The survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.

for *Lawrence A. Oomsted* Date: 9/8/94
Dennis J. Hill
Chief, Hydrographic Processing Unit
Pacific Hydrographic Section

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: 9/14/94
Commander Kathy Timmons, NOAA
Chief, Pacific Hydrographic Section

Final Approval

Approved:

Thomas W. Yeager Date: 12-6-94
for J. Austin Yeager
Rear Admiral, NOAA
Director, Coast and Geodetic Survey

