

H10500

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey .. Basic Hydrography ..
Field No. RA-10-21-93 ..
Registry No. H-10500 ..

LOCALITY

State Alaska ..
General Locality .. Prince William Sound ..
Sublocality North of Fairmount Island ..

1993

CHIEF OF PARTY
CAPT. R. C. Arnold

LIBRARY & ARCHIVES

APR 4 1995

DATE

HYDROGRAPHIC TITLE SHEET

H-10500

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-10-21-93

State Alaska

General locality Prince William Sound

Locality North of Faimount Island

Scale 1:10,000 Date of survey Sept. 6 - 27, 1993

Instructions dated July 19, 1993 Project No. OPR-P125-RA

Vessel NOAA Ship RAINIER (2120), Launches 2123, 2124, 2125, 2126

Chief of party CAPT Russell C. Arnold, NOAA

Surveyed by CAPT R. Arnold, LT D. Neander, LTJG S. Lemke, ENS D. Pitts,
ENS J. Graham, ENS G. Glover, ENS G. Johnson, SST J. Fleischmann,

Soundings taken by echo sounder, hand lead, pole ST B. Judson DSF-6000N

Graphic record scaled by RAINIER Personnel

Graphic record checked by RAINIER Personnel

Evaluation by: Gordon E. Kay Automated plot by PHS Xynetics Plotter

Verification by Elias Domingo

Soundings in ~~fathoms~~ ~~feet~~ at Meters and decimeters ~~at~~ MLLW

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.

AWOIS/SURF 6/1/95 MCR

Sc. 4-4-95

148 00

147 40

147 20

7 00

61 10

61 10

60 50

60 50

PROGRESS SKETCH

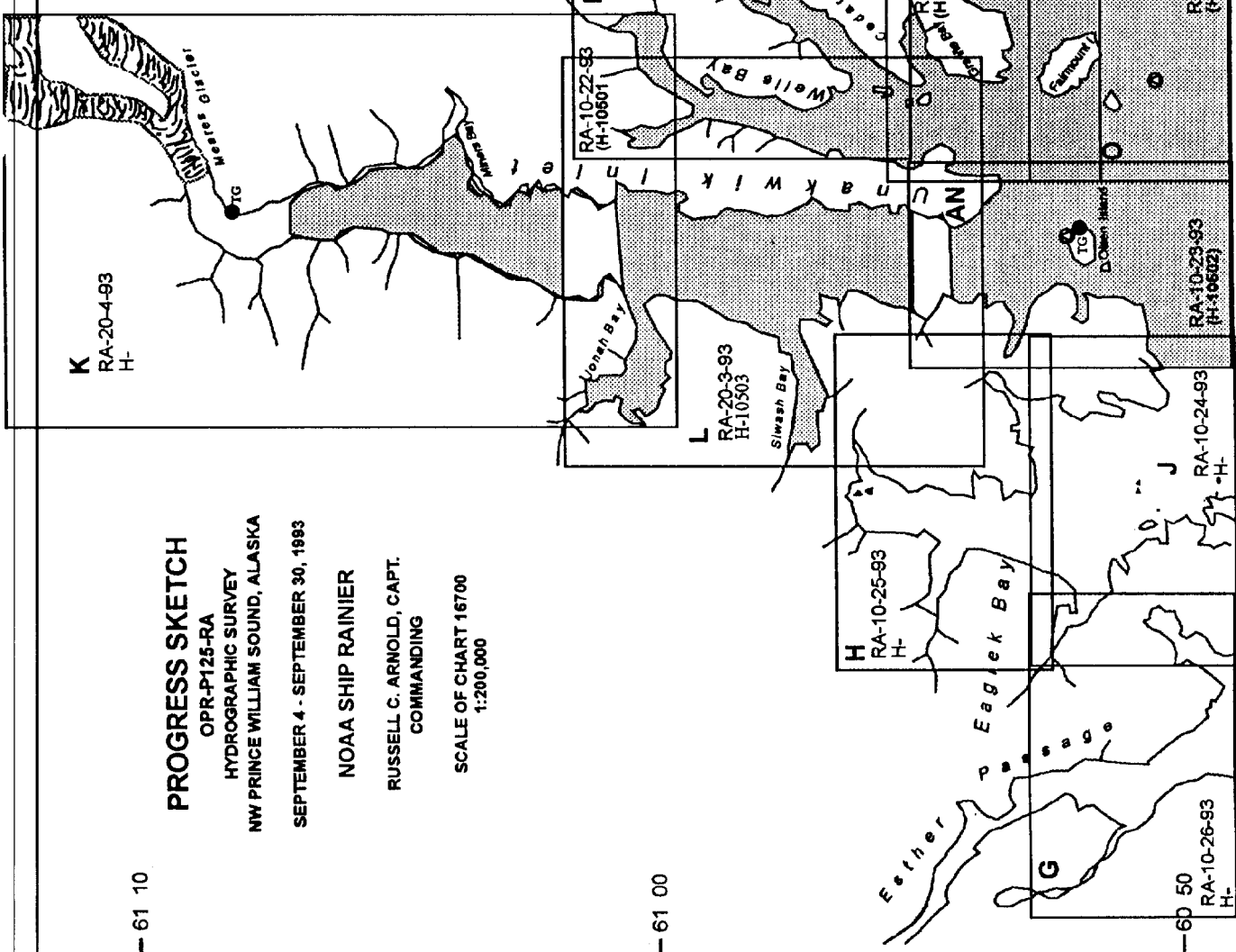
OPR-P125-RA
HYDROGRAPHIC SURVEY
NW PRINCE WILLIAM SOUND, ALASKA
SEPTEMBER 4 - SEPTEMBER 30, 1983

NOAA SHIP RAINIER

RUSSELL C. ARNOLD, CAPT.
COMMANDING

SCALE OF CHART 16700
1:200,000

SQ. NM SOUNDINGS
L.N.M. SOUNDINGS
L.N.M. SIDE SCAN SONAR
BOTTOM SAMPLES (GRAB)
ELECTR. CONTROL STATIONS
TEMP., DEPTH, SOUND VEL. CAST
TIDE GAGES
GEODETTIC CONTROL STATIONS EST./REC.
AWOIS ITEMS INVESTIGATED
AREA SURVEYED



Descriptive Report to Accompany Hydrographic Survey H-10500

Field Number RA-10-21-93

Scale 1:10,000

September 1993

NOAA Ship RAINIER

Chief of Party: Captain Russell C. Arnold *NOAA*

A. PROJECT

This basic hydrographic survey was completed in northwest Prince William Sound, Alaska, as specified by Project Instructions OPR-P125-RA dated July 19, 1993, change No. 1 dated August 25, 1993, ~~and change No. 2 dated September 2, 1993.~~ ✓

Survey H-10500 corresponds to "Sheet N" 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 covering the fiords and bays of northwest Prince William Sound. Requests for hydrographic surveys and updated charts have been received from the Defense Mapping Agency, Southwest Alaska Pilot's Association, cruise ship lines (particularly Holland America Line and Westours, Inc.), and local fishermen. ✓

B. AREA SURVEYED

This survey area includes the entrance of Wells Bay to the west and extends east to Glacier Island, covering the northern shoreline of Fairmount Island. The survey limits are 147°31'1¹/₇"W to the west, 147°18'15"W to the east, 60°56'00"N to the north, and 60°52'0⁶/₃"N to the south. ✓

Data acquisition was conducted from Sept. 6, Day Number (DN) 249, through Sept. 27, DN 270. ✓

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 Sound Velocity Casts
RA-3	2123	Hydrography Shoreline Verification ✓
RA-4	2124	Hydrography Shoreline Verification
RA-5	2125	Hydrography Shoreline Verification Bottom Samples
RA-6	2126	Hydrography Shoreline Verification

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
CONVERT	3.51	9/24/92
DAS_SURV	6.33	2/26/93
DP	2.13	3/1/93
EXCESS	4.10	9/24/92
FILESYS	3.02	5/17/93
GRAFEDIT	1.01	2/26/93
LSTAWOIS	3.01	9/24/92
LISTDATA	1.00	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
PRESURV	7.01	2/26/93
PRINTOUT	4.01	9/24/92
QUICK	2.03	2/26/93
RAMSAVER	1.01	9/24/92
REAPPLY	2.01	9/24/92
SCANNER	1.00	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 N.

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 cast 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	545	249 - 270	60°53'46"N 147°28'58"W	253	✓

The sound velocity cast was 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". *Filed with the survey records.*

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-P125-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 N. ✓

Offset Tables

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

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 the project data for OPR-P125-RA. ✓

Tide Correctors

The tidal reference station used for this survey was Cordova, Alaska (945-4050). Tidal correctors as provided in the project instructions for sheet N are:

Time Correction				Height Correction
<u>High Water</u>		<u>Low Water</u>		<u>Range Ratio</u>
0 hr	0 min	0 hr	0 min	X0.96

HDAPS listings of the data used in generating tide corrector tables are included in Appendix V of this report. *filed with the survey records.* ✓

Tide gages were installed and maintained by RAINIER personnel at Storey Island, Alaska (945-4553), and Olsen Island, Alaska (945-4596). The control station was Valdez, Alaska (945-4240). Opening levels for the Valdez station were completed by the Pacific Operations Section. Requirements for closing levels were waived in Change No. 1 of the Project Instructions. Bracketing levels for the field gages were run at the end of September. ✓

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. ✓

H. CONTROL STATIONS

A listing of the geodetic stations used to control this survey is *attached.* ~~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 "Fall 1993 Horizontal Control Report for OPR-P125-RA." ✓

I. HYDROGRAPHIC POSITION CONTROL

Method of Position Control

All soundings and features were positioned using differential GPS. System checks were performed by launch to launch comparisons of positions corrected from two independent differential GPS stations. Serial numbers for Ashtech GPS equipment are annotated on the data printouts. ✓

Calibrations & Systems Check Methods

Ashtech GPS

VHF differential shore stations were established at station QUOTE and INDIA. 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 either station. ✓

System checks were performed by launch to launch comparisons of position. Three observations of position were made by each launch using correctors from two independent DGPS base stations. System checks were made every day and the results were transferred to forms which are included in the project data for OPR-P125. An abstract of the system checks is included in the ("Separates to be Included with Survey Data, III. Horizontal Position Control and Corrections to Position Data"). * ✓

Problems

The differential GPS stations on QUOTE and INDIA ran without problems for sheet N. ✓

Offset

The launch GPS 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

The shoreline map (T-sheet) used to transfer shoreline detail to the final sheets was DM-10065 (1:10,000, NAD 83). ✓

Due to the tides and the timing of this survey the water levels during shoreline windows were higher than the near mean lower low water that is recommended by FPM 7.1. Shoreline verification was accomplished by assigning sequential reference numbers and taking detached positions (DPs), as explained later in this section. ✓

Inshore hydrography shows that photogrammetric and hydrographic positioning are in general agreement. ✓

Shoreline and T-sheet features verified via visual inspection were assigned sequential reference numbers, described, and recorded in the field using reference forms and corresponding 1:10,000 photocopies of the T-sheet. Reference numbers, descriptions, and heights corrected to MLLW using predicted tides are recorded on the reference form. Corresponding notes were annotated on the photocopies of the T-sheet when deemed necessary. The annotated photocopies of the T-sheet and the reference forms are included with the survey data. ✓

DPs taken during shoreline verification were recorded on the master printouts and on the DP forms. These indicate significant T-sheet features, features not found on the T-sheet, and locations of disprovals. Where possible, positions of some T-sheet features were verified during inshore mainscheme hydrography and annotated on the master printouts. ✓

**filed with the survey records.*

Detailed 1:10,000 "Rough Bottom Sample and Detached Position Plots" are provided showing all DPs, reference numbers, and notes relating to each feature. The information from these plots was transferred to a final field plot where possible. Where such information would interfere with the legibility of the final plot the appropriate cartographic symbol has been transferred, but height and position number information remains on the rough plot, which serves as an overlay (FPM 6.1.2.5). Verified T-sheet features were retained and shown in black. Changes to the shoreline were shown in red. Field cartographic codes were assigned using the HDAPS DP editor. Heights are recorded in meters and are corrected to predicted MLLW. ✓

Disprovals

The fish trap in the vicinity of 60°53'42"[✓]N, 147°26'45"[✓]W, Ref. No. R4-16, was not found.

The fish trap in the vicinity of 60°54'10"[✓]N, 147°23'45"[✓]W, Ref. No. R5-78, was not found.

The fish trap in the vicinity of 60°55'20"[✓]N, 147°24'10"[✓]W, Ref. No. R5-79, was not found. *Same as item 1, page 10*

The T-sheet rock in the vicinity of 60°52'48"[✓]N, 147°26'02"[✓]W, Ref. No. R5-40, is not an off-shore rock.

The T-sheet rock in the vicinity of 60°55'^{05.8"}08"³N, 147°25'17"[✓]W, Ref. No. R5-44, is not an off-shore rock.

The T-sheet rock in the vicinity of 60°55'12"[✓]N, 147°24'35"[✓]W, Ref. No. R5-45, is not an off-shore rock.

The T-sheet rock in the vicinity of 60°53'51"[✓]N, 147°24'19"[✓]W, Pos. No. 6664, is not an off-shore rock.

Changes *SEE Evaluation Report section 2*

The large number of changes are a result of inaccurate shoreline manuscripts. The errors are probably a result of photography being flown at a high tide.

The T-sheet rock in the vicinity of 60°54'20"¹N, 147°29'46"⁸W, Ref. No. R6-4, is a ledge.

The T-sheet rock in the vicinity of 60°54'27"³N, 147°29'42"[✓]W, Ref. No. R6-5, is a ledge.

The T-sheet rock in the vicinity of 60°54'18"^{19.5"}N, 147°30'18"⁴W, Ref. No. R6-10, is a ledge extending from the T-sheet islet.

The three T-sheet rocks in the vicinity of 60°53'40"[✓]N, 147°31'00"[✓]W, Ref. No. R6-19, are a ledge.

The T-sheet islet in the vicinity of 60°55'08"[✓]N, 147°30'20"[✓]W, Ref. No. R6-24, is connected to the mainland by a ledge.

The T-sheet rock in the vicinity of 60°55'08"^{07.5"}N, 147°30'30"^{29"}W, Ref. No. R6-25, is a ledge.

The T-sheet rock in the vicinity of 60°52'38"⁴N, 147°19'35"[✓]W, Ref. No. R6-28, is a ledge.

The T-sheet rock in the vicinity of 60°52'38"⁴N, 147°19'15"⁹W, Ref. No. R6-29, is a ledge.

The T-sheet rock in the vicinity of 60°52'34"^{32.5}N, 147°18'55"[✓]W, Ref. No. R6-31, is a ledge.

The T-sheet rock in the vicinity of 60°52'37"[✓]N, 147°18'45"[✓]W, Ref. No. R6-32, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}52'2\overset{7}{1}''$ N, $147^{\circ}18'42\overset{39.5}{2}''$ W, Ref. No. R6-33, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}52'4\overset{6}{8}''$ N, $147^{\circ}19'12''$ W, Ref. No. R6-35, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}54'20\overset{21.5}{2}''$ N, $147^{\circ}18'50''$ W, Ref. No. R6-36, is a ledge extending from the T-sheet islet.

The T-sheet rock in the vicinity of $60^{\circ}55'2\overset{1}{2}''$ N, $147^{\circ}24'25''$ W, Ref. No. R6-37, is a ledge.

The two T-sheet rocks in the vicinity of $60^{\circ}55'38\overset{9}{8}''$ N, $147^{\circ}26'50\overset{9}{0}''$ W, Ref. No. R6-44, are part of a ledge.

The three T-sheet rocks in the vicinity of $60^{\circ}55'1\overset{9}{8}''$ N, $147^{\circ}28'10\overset{08}{0}''$ W, Ref. No. R6-47, are a ledge.

The T-sheet rock in the vicinity of $60^{\circ}55'1\overset{16.5}{6}''$ N, $147^{\circ}28'0\overset{2}{4}''$ W, Ref. No. R6-49, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}55'1\overset{6}{6}''$ N, $147^{\circ}27'5\overset{6}{9}''$ W, Ref. No. R6-50, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}55'0\overset{5}{6}''$ N, $147^{\circ}28'00''$ W, Ref. No. R6-52, is a ledge.

The three T-sheet rocks in the vicinity of $60^{\circ}55'05''$ N, $147^{\circ}27'3\overset{1}{2}''$ W, Ref. No. R6-53, are part of a ledge.

The T-sheet rock in the vicinity of $60^{\circ}55'1\overset{08.3}{0}''$ N, $147^{\circ}27'40\overset{38}{0}''$ W, Ref. No. R6-54, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}55'14''$ N, $147^{\circ}27'45''$ W, Ref. No. R6-56, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}55'26''$ N, $147^{\circ}27'48''$ W, Ref. No. R6-57, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}55'4\overset{1}{2}''$ N, $147^{\circ}27'3\overset{3}{3}''$ W, Ref. No. R6-59, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}55'40''$ N, $147^{\circ}27'1\overset{9}{8}''$ W, Ref. No. R6-61, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}55'4\overset{7}{8}''$ N, $147^{\circ}27'2\overset{1}{0}''$ W, Ref. No. R6-62, is a ledge.

The two T-sheet islets in the vicinity of $60^{\circ}52'18''$ N, $147^{\circ}24'30''$ W, Ref. No. R6-66, are connected by a ledge.

The T-sheet rocks in the vicinity of $60^{\circ}52'1\overset{7}{6}''$ N, $147^{\circ}24'46''$ W, Ref. No. R6-67, are part of a ledge that extends from the T-sheet islet.

The T-sheet rocks in the vicinity of $60^{\circ}52'12''$ N, $147^{\circ}25'08''$ W, Ref. No. R6-68, are part of a ledge that connects the T-sheet islet to the mainland.

The T-sheet rock in the vicinity of $60^{\circ}52'08''$ N, $147^{\circ}25'02''$ W, Ref. No. R6-69, is a ledge that extends from the T-sheet islet.

The T-sheet rock in the vicinity of $60^{\circ}52'20''$ N, $147^{\circ}25'20''$ W, Ref. No. R6-70, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}52'16''^{\checkmark}$ N, $147^{\circ}23'00''^{\checkmark}$ W, Ref. No. R6-71, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}52'20''^{\checkmark}$ N, $147^{\circ}22'46''^{\checkmark}$ W, Ref. No. R6-73, is a ledge.

The T-sheet rock and islet in the vicinity of $60^{\circ}52'34''^{\checkmark}$ N, $147^{\circ}22'26''^{\checkmark}$ W, Ref. No. R6-75, are a ledge that extends from the mainland.

The T-sheet islet in the vicinity of $60^{\circ}52'30''^{\checkmark}$ N, $147^{\circ}22'12''^{\checkmark}$ W, Ref. No. R6-80, is a ledge that extends from the mainland.

The T-sheet rock in the vicinity of $60^{\circ}52'35''^{\checkmark}$ N, $147^{\circ}27'40''^{\checkmark}$ W, Ref. No. R6-82, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}52'37''^{\checkmark}$ N, $147^{\circ}27'40''^{\checkmark}$ W, Ref. No. R6-83, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}52'28''^{\checkmark}$ N, $147^{\circ}27'30''^{\checkmark}$ W, Ref. No. R6-84, is a ledge.

The T-sheet rock and islet in the vicinity of $60^{\circ}52'10''^{\checkmark}$ N, $147^{\circ}27'30''^{\checkmark}$ W, Ref. No. R6-87, ~~are part of a single reef.~~ *is a islet*

The T-sheet rock in the vicinity of $60^{\circ}52'10''^{\checkmark}$ N, $147^{\circ}27'16''^{\checkmark}$ W, Ref. No. R6-88, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}53'34''^{\checkmark}$ N, $147^{\circ}25'08''^{\checkmark}$ W, Ref. No. R3-1, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}53'38''^{\checkmark}$ N, $147^{\circ}27'16''^{\checkmark}$ W, Ref. No. R4-10, is a ledge extending from the T-sheet islet.

The two T-sheet rocks in the vicinity of $60^{\circ}53'32''^{\checkmark}$ N, $147^{\circ}27'20''^{\checkmark}$ W, Ref. No. R4-11, are part of a reef.

The T-sheet rock in the vicinity of $60^{\circ}53'36''^{\checkmark}$ N, $147^{\circ}26'55''^{\checkmark}$ W, Ref. No. R4-12, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}53'35''^{\checkmark}$ N, $147^{\circ}26'44''^{\checkmark}$ W, Ref. No. R4-14, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}53'30''^{\checkmark}$ N, $147^{\circ}25'44''^{\checkmark}$ W, Ref. No. R4-17, is a ledge.

The T-sheet islet in the vicinity of $60^{\circ}52'28''^{\checkmark}$ N, $147^{\circ}25'20''^{\checkmark}$ W, Ref. No. R4-21, is a rock covered at high water.

The T-sheet rock and islet in the vicinity of $60^{\circ}53'15''^{\checkmark}$ N, $147^{\circ}24'20''^{\checkmark}$ W, Ref. No. R4-23, ~~are a single rock.~~ *one islet*

The T-sheet rock and islet in the vicinity of $60^{\circ}53'16''^{\checkmark}$ N, $147^{\circ}24'44''^{\checkmark}$ W, Ref. No. R4-26, are a single rock.

The T-sheet rock in the vicinity of $60^{\circ}53'30''^{\checkmark}$ N, $147^{\circ}25'28''^{\checkmark}$ W, Ref. No. R4-27, is a ledge.

The T-sheet rocks and islet in the vicinity of $60^{\circ}53'15''^{\checkmark}$ N, $147^{\circ}25'14''^{\checkmark}$ W, Ref. No. R4-33, ~~are a single rock.~~ *one islet*

The T-sheet rocks and islet in the vicinity of $60^{\circ}53'15''^{\checkmark}$ N, $147^{\circ}25'05''^{\checkmark}$ W, Ref. No. R4-34, ~~are a single rock.~~ *one islet*

The T-sheet rock in the vicinity of $60^{\circ}53'16''^{\checkmark}$ N, $147^{\circ}24'56''^{\checkmark}$ W, Ref. No. R4-35, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}53'24''^{\checkmark}$ N, $147^{\circ}25'06''^{\checkmark}$ W, Ref. No. R4-37, is a ledge extending from the T-sheet islet.

The T-sheet rock in the vicinity of $60^{\circ}52'58.5''^{\checkmark}$ N, $147^{\circ}21'55''^{\checkmark}$ W, Ref. No. R5-1, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}53'01''^{\checkmark}$ N, $147^{\circ}21'53''^{\checkmark}$ W, Ref. No. R5-2, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}53'05''^{\checkmark}$ N, $147^{\circ}21'15''^{\checkmark}$ W, Ref. No. R5-3, is a ledge.

The five T-sheet rocks in the vicinity of $60^{\circ}53'10''^{\checkmark}$ N, $147^{\circ}21'30''^{\checkmark}$ W, Ref. No. R5-5, are a ledge.

The T-sheet rock and islet in the vicinity of $60^{\circ}53'18''^{\checkmark}$ N, $147^{\circ}21'07''^{\checkmark}$ W, Ref. No. R5-9, are part of a ledge.

The T-sheet rock in the vicinity of $60^{\circ}53'21.3''^{\checkmark}$ N, $147^{\circ}20'50''^{\checkmark}$ W, Ref. No. R5-10, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}53'25.5''^{\checkmark}$ N, $147^{\circ}20'45''^{\checkmark}$ W, Ref. No. R5-11, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}53'30''^{\checkmark}$ N, $147^{\circ}20'35''^{\checkmark}$ W, Ref. No. R5-12, is a ledge.

The three T-sheet rock in the vicinity of $60^{\circ}53'38''^{\checkmark}$ N, $147^{\circ}20'20''^{\checkmark}$ W, Ref. No. R5-14, are a ledge.

The T-sheet rock in the vicinity of $60^{\circ}53'42.3''^{\checkmark}$ N, $147^{\circ}20'15.20''^{\checkmark}$ W, Ref. No. R5-16, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}53'45.39''^{\checkmark}$ N, $147^{\circ}19'50''^{\checkmark}$ W, Ref. No. R5-18, is a ledge.

The T-sheet islet in the vicinity of $60^{\circ}54'32''^{\checkmark}$ N, $147^{\circ}19'18''^{\checkmark}$ W, Ref. No. R5-22, is connected to the mainland by a ledge.

The two T-sheet rocks in the vicinity of $60^{\circ}55'55''^{\checkmark}$ N, $147^{\circ}30'12''^{\checkmark}$ W, Ref. No. R5-31, are part of a ledge extending from the T-sheet islet.

The three T-sheet rocks in the vicinity of $60^{\circ}52'34''^{\checkmark}$ N, $147^{\circ}25'26''^{\checkmark}$ W, Ref. No. R5-35, are a ledge.

The three T-sheet rocks in the vicinity of $60^{\circ}52'36''^{\checkmark}$ N, $147^{\circ}25'40''^{\checkmark}$ W, Ref. No. R5-36, are a ledge.

The T-sheet rocks and islet in the vicinity of $60^{\circ}52'41''^{\checkmark}$ N, $147^{\circ}25'45''^{\checkmark}$ W, Ref. No. R5-37, are part of a ledge.

The T-sheet rock and islet in the vicinity of $60^{\circ}52'46.4''^{\checkmark}$ N, $147^{\circ}25'46''^{\checkmark}$ W, Ref. No. R5-38, are part of a ledge.

The T-sheet rock in the vicinity of $60^{\circ}52'50.49''^{\checkmark}$ N, $147^{\circ}26'25''^{\checkmark}$ W, Ref. No. R5-41, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}54'48''^{\checkmark}$ N, $147^{\circ}26'20.2''^{\checkmark}$ W, Ref. No. R5-42, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}55'05''^{\checkmark}$ N, $147^{\circ}25'42.1''^{\checkmark}$ W, Ref. No. R5-43, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}55'20''\text{N}$, $147^{\circ}24'10''\text{W}$, Ref. No. R5-46, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}54'08''\text{N}$, $147^{\circ}24'06''\text{W}$, Ref. No. R5-51, is part of a ledge extending from the T-sheet islet.

The T-sheet rock in the vicinity of $60^{\circ}54'08''\text{N}$, $147^{\circ}24'10''\text{W}$, Ref. No. R5-52, is part of a ledge extending from the T-sheet islet.

The T-sheet rock in the vicinity of $60^{\circ}54'08''\text{N}$, $147^{\circ}24'10''\text{W}$, Ref. No. R5-53, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}54'08''\text{N}$, $147^{\circ}24'02''\text{W}$, Ref. No. R5-54, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}54'16''\text{N}$, $147^{\circ}24'00''\text{W}$, Ref. No. R5-57, is a ledge connecting the T-sheet islet to the mainland.

The T-sheet rock in the vicinity of $60^{\circ}54'12''\text{N}$, $147^{\circ}23'56''\text{W}$, Ref. No. R5-58, is part of a ledge extending from the T-sheet islet.

The five T-sheet rocks in the vicinity of $60^{\circ}54'20''\text{N}$, $147^{\circ}23'30''\text{W}$, Ref. No. R5-59, are part of a ledge extending from the T-sheet islet. A gravel bar connects the T-sheet islet to the mainland.

The T-sheet rock in the vicinity of $60^{\circ}54'08''\text{N}$, $147^{\circ}23'08''\text{W}$, Ref. No. R5-64, is connected to the mainland by a gravel bar.

The T-sheet rock in the vicinity of $60^{\circ}54'10''\text{N}$, $147^{\circ}23'30''\text{W}$, Ref. No. R5-65, ~~is a ledge.~~

is the same rock as Position 6666

The seven T-sheet rocks in the vicinity of $60^{\circ}53'55''\text{N}$, $147^{\circ}23'00''\text{W}$, Ref. No. R5-67, are part of a foul area. The the rocks farthest off-shore define the limit of the foul area.

The T-sheet rock in the vicinity of $60^{\circ}53'48''\text{N}$, $147^{\circ}22'58''\text{W}$, Ref. No. R5-70, is a ledge.

The T-sheet islet in the vicinity of $60^{\circ}53'32''\text{N}$, $147^{\circ}23'18''\text{W}$, Ref. No. R5-72, is connected to the mainland by a ledge.

The T-sheet rock in the vicinity of $60^{\circ}53'20''\text{N}$, $147^{\circ}23'15''\text{W}$, Ref. No. R5-73, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}53'20''\text{N}$, $147^{\circ}23'10''\text{W}$, Ref. No. R5-74, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}52'58''\text{N}$, $147^{\circ}22'15''\text{W}$, Ref. No. R5-76, is an islet with numerous trees on it.

The T-sheet rock in the vicinity of $60^{\circ}55'40''\text{N}$, $147^{\circ}23'40''\text{W}$, Ref. No. R5-80, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}55'42''\text{N}$, $147^{\circ}23'14''\text{W}$, Ref. No. R5-81, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}53'34''\text{N}$, $147^{\circ}24'35''\text{W}$, Pos. No. 873, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}54'44''\text{N}$, $147^{\circ}26'38''\text{W}$, Pos. No. 3101, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}54'44''\text{N}$, $147^{\circ}26'41''\text{W}$, Pos. No. 3102, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}54'41''\text{N}$, $147^{\circ}26'44''\text{W}$, Pos. No. 3103, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}54'27''\text{N}$, $147^{\circ}26'49''\text{W}$, Pos. No. 3104, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}53'56''\text{N}$, $147^{\circ}27'07''\text{W}$, Pos. No. 3111, and Pos. No. 3250 are the off-shore limits of a ledge.

The T-sheet islet in the vicinity of $60^{\circ}53'52''\text{N}$, $147^{\circ}27'09''\text{W}$, Pos. No. 3251, is connected to the mainland by a ledge.

The two T-sheet rocks in the vicinity of $60^{\circ}53'51''\text{N}$, $147^{\circ}27'11''\text{W}$, Pos. Nos. 3255 and 3256, are part of a reef.

The T-sheet rock in the vicinity of $60^{\circ}53'42''\text{N}$, $147^{\circ}27'13''\text{W}$, is a ledge that extends to Pos. No. 3262.

The T-sheet rock in the vicinity of $60^{\circ}52'26''\text{N}$, $147^{\circ}25'27''\text{W}$, is a ledge that extends to Pos. No. 3440.

The T-sheet rock in the vicinity of $60^{\circ}52'24''\text{N}$, $147^{\circ}25'20''\text{W}$, is a ledge that extends to Pos. No. 3442.

The T-sheet rock in the vicinity of $60^{\circ}53'35''\text{N}$, $147^{\circ}27'14''\text{W}$, is part of a reef that extends to Pos. No. 4126 and 4127.

The T-sheet rock in the vicinity of $60^{\circ}53'34''\text{N}$, $147^{\circ}27'02''\text{W}$, Pos. No. 4328, is a ledge.

The two T-sheet rocks in the vicinity of $60^{\circ}53'19''\text{N}$, $147^{\circ}27'08''\text{W}$, are part of a reef extending to Pos. Nos. 4334 and 4335.

The two T-sheet rocks in the vicinity of $60^{\circ}53'15''\text{N}$, $147^{\circ}27'09''\text{W}$, are part of a reef extending to Pos. Nos. 4336, 4339, and 4340.

The T-sheet rock in the vicinity of $060^{\circ}53'36''\text{N}$, $147^{\circ}26'46''\text{W}$, is part of a ledge extending to Pos. Nos. 4341, 4342, and 4343.

The nine T-sheet rocks in the vicinity of $60^{\circ}53'28''\text{N}$, $147^{\circ}26'31''\text{W}$, are part of a foul area which extends to Pos. Nos. 4344, 4570, 4571, and 4372.

The T-sheet rock in the vicinity of $60^{\circ}53'36''\text{N}$, $147^{\circ}26'02''\text{W}$, is part of a ledge that extends to Pos. Nos. 4573 and 4574.

The T-sheet rock in the vicinity of $60^{\circ}53'38''\text{N}$, $147^{\circ}25'57''\text{W}$, is part of a ledge that extends to Pos. No. 4575.

The T-sheet rock in the vicinity of $60^{\circ}52'54''\text{N}$, $147^{\circ}26'24''\text{W}$, Pos. No. 6531, is the limit of a foul area that also extends to Pos. Nos. 6532 and 6533.

The T-sheet rock in the vicinity of $60^{\circ}52'57''\text{N}$, $147^{\circ}27'25''\text{W}$, is part of a ledge that extends to Pos. No. 6536.

The seven T-sheet rocks in the vicinity of $60^{\circ}52'50''\text{N}$, $147^{\circ}27'48''\text{W}$, are part of a foul area that extends to Pos. Nos. 6537, 6539, and 6541.

The T-sheet rock in the vicinity of $60^{\circ}54'29''\text{N}$, $147^{\circ}19'31''\text{W}$, is a ledge that extends to Pos. No. 6610.

The two T-sheet rocks in the vicinity of $60^{\circ}52'47''\text{N}$, $147^{\circ}22'43''\text{W}$, Pos. No. 6676, are part of a reef.

The T-sheet rock in the vicinity of $60^{\circ}54'29''\text{N}$, $147^{\circ}30'03''\text{W}$, Pos. No. 7702, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}54'23''\text{N}$, $147^{\circ}29'58''\text{W}$, Pos. No. 7704, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}54'21''\text{N}$, $147^{\circ}29'44''\text{W}$, Pos. No. 7706, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}54'40''\text{N}$, $147^{\circ}28'20''\text{W}$, Pos. No. 7709, is a ledge.

The five T-sheet rocks in the vicinity of $60^{\circ}54'14''\text{N}$, $147^{\circ}30'01''\text{W}$, are part of a reef that extends to Pos. Nos. 7710, 7713, and 7714.

The T-sheet rocks and islet in the vicinity of $60^{\circ}54'28''\text{N}$, $147^{\circ}30'24''\text{W}$, are part of a reef that extends to Pos. Nos. 7717 and 7718.

The four T-sheet rocks in the vicinity of $60^{\circ}53'34''\text{N}$, $147^{\circ}30'53''\text{W}$, are part of a reef that extends to Pos. Nos. 7869 and 7870.

The T-sheet rock in the vicinity of $60^{\circ}52'23''\text{N}$, $147^{\circ}24'16''\text{W}$, Pos. No. 8028, is a ledge.

The T-sheet rock in the vicinity of $60^{\circ}52'25''\text{N}$, $147^{\circ}24'23''\text{W}$, Pos. No. 8029, is a ledge.

The two T-sheet rocks in the vicinity of $60^{\circ}52'20''\text{N}$, $147^{\circ}24'42''\text{W}$, Pos. No. 8033 and 8034, are part of a single reef.

The two T-sheet rocks in the vicinity of $60^{\circ}52'11''\text{N}$, $147^{\circ}24'49''\text{W}$, ~~Pos. No. 8035, are part of a single reef.~~ *one rock see Position 8035*

The T-sheet rock in the vicinity of $60^{\circ}52'10''\text{N}$, $147^{\circ}24'59''\text{W}$, Pos. No. 8036, is a ledge.

The three T-sheet rocks in the vicinity of $60^{\circ}54'20''\text{N}$, $147^{\circ}18'43''\text{W}$, are part of a ledge that extends to Pos. No. 8915.

The two T-sheet rocks in the vicinity of $60^{\circ}54'60''\text{N}$, $147^{\circ}29'42''\text{W}$, Pos. No. 5483, are a reef.

The three T-sheet rocks and two islets in the vicinity of $60^{\circ}55'53''\text{N}$, $147^{\circ}29'10''\text{W}$, Pos. Nos. 5489 and 5491, are part of a reef.

The two T-sheet rocks and islet in the vicinity of $60^{\circ}55'47''\text{N}$, $147^{\circ}28'56''\text{W}$, Pos. Nos. 5493 and 5494, are part of a reef.

The two T-sheet rocks and islet in the vicinity of $60^{\circ}55'40''\text{N}$, $147^{\circ}28'49''\text{W}$, Pos. Nos. 5496 and 5497, are part of a reef.

The T-sheet rock and two islets in the vicinity of 60°55'54"✓N, 147°27'47"✓W, Pos. No. 5498, are part of a ledge.

The two T-sheet rocks in the vicinity of 60°55'51"✓N, 147°27'48"✓W, Pos. No. 5499, are a reef.

The T-sheet rock in the vicinity of 60°55'45"✓N, 147°27'43"✓W, Pos. No. 5500, is a ledge.

The three T-sheet rocks in the vicinity of 60°54'54"✓N, 147°29'41"✓W, Pos. No. 8499, are part of a ledge.

The T-sheet rock in the vicinity of 60°54'59"✓N, 147°29'44"✓W, Pos. No. 8500, is a ledge.

The T-sheet rock in the vicinity of 60°55'26"✓N, 147°24'22"✓W, Pos. No. 8918, is an islet.

The three T-sheet rocks in the vicinity of 60°55'07"✓N, 147°26'39"✓W, Pos. Nos. 8924 and 8925, are part of a ledge.

The four T-sheet rocks in the vicinity of 60°54'57"✓N, 147°27'36"✓W, Pos. No. 8931, are part of a ledge.

The ten T-sheet rocks in the vicinity of 60°55'29"✓N, 147°27'37"✓W, Pos. No. 8932, are part of a reef.

The three T-sheet rocks in the vicinity of 60°55'54"✓N, 147°27'11"✓W, Pos. No. 8936, are part of a reef.

Recommendations: The hydrographer recommends that the shoreline changes from this survey be used to supersede ~~prior~~ shoreline compiled on DM-10065. *Standard practice. Changes have been made to smooth sheet*
Map

K. CROSSLINES

Crosslines are in good agreement with mainscheme hydrography. Crosslines totaled 22.4 nautical miles, representing 9.6% of the total mainscheme hydrography. ✓

L. JUNCTIONS

This survey junctions with survey H-10501 (1:10,000,1993) to the north, H-10499 (1:10,000,1993) to the south, and H-10502 (1:10,000,1993) to the ~~east~~ ^{west}. No irregularities were found when comparing soundings and depth curves. Final comparisons will be made at the Pacific Hydrographic Section (PHS). ✓

M. COMPARISON WITH PRIOR SURVEYS

There were no prior surveys for sheet N. ✓

AWOIS ITEM 52000

1. Area of Investigation

State: Alaska
 Locality: North of Fairmount Island
 Reported Latitude (PA): 60°52'53.10" N
 Reported Longitude (PA): 147°25'37.43" W
 Datum: NAD83
 Depth: 0 meters
 Feature: Rock Awash

2. Description of Source of Item

BP108568/79--USGS and Austin Post, 1979; positioned by unverified radar fixes, visual observations, or dead reckoning; considerable positioning error may exist; sounding datum was approximately MLLW.

3. Survey Requirements

Search radius 200 M

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

4. Method of Investigation

The area around the reported rock was visually searched and split to 25 meter line spacing using echo sounding.

5. Results of Investigation

Distance from Awois to Position 4412/2 = 69.7 m's

In the vicinity of the reported location of AWOIS Item No. 52000, a shoal was found. The area was developed through hydrography from a 50m line spacing (Pos. Nos. 6005 - 6189), to 25m lines (Pos. Nos. 4408 - 4472). The least corrected depth found is 0.4m at 60°52'51.95"N, 147°25'33.387"W, Pos. No. 4412/2.

6. Comparison with Prior Surveys *There are no Prior Surveys, see Project Instructions 6.10*

Prior survey shows a submerged rock PA, in general agreement with this survey.

7. Comparison with chart and charting recommendations

The rock was charted on NOS 16700 as awash, and on NOS 16705 as sunken, in general agreement with this survey.

Deleted the Charted Rock
 AWOIS Item No. 52000 is resolved and should be charted as a ~~submerged rock~~ *SOUNDING* at the position of the 0.4m corrected depth noted above. *The term 'rock' has been added to this general location on the Smooth Sheet.*

Chart a 4 fathom depth

AWOIS ITEM 52001

1. Area of Investigation

State: Alaska
 Locality: North of Fairmount Island.
 Reported Latitude (PA): ~~56°41'44.11" N~~ 60°53'00.10"
 Reported Longitude (PA): ~~157°07'17.55" W~~ 147°25'28.43"
 Datum: NAD83
 Depth: not reported
 Feature: Shoal

2. Description of Source of Item

BP108568/79--USGS and Austin Post, 1979; positioned by unverified radar fixes, visual observations, or dead reckoning; considerable positioning error may exist; sounding datum was approximately MLLW.

3. Survey Requirements

Search radius 300 M

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

4. Method of Investigation

The area around the reported shoal was visually searched and split to 10 meter line spacing using echo sounding.

5. Results of Investigation

distance from Awois to position 1105/2 = 280 M's

In the vicinity of the reported location of AWOIS Item No. 52001, a rock was found. The area was developed through hydrography from a 50m line spacing (Pos. Nos. 6005 - 6189), to 25m lines (Pos. Nos. 4408 - 4472), and 10m lines (Pos. Nos. 1093 - 1106). The least corrected depth found is ~~0.2m~~ *0.0* at 60°53'01.891"N, 147°25'10.192"W, Pos. No. 1105/2.

6. Comparison with Prior Surveys *There are no Prior Surveys, see Project Instructions 6.10*

~~Prior survey~~ *Chart* shows a submerged rock PA, in general agreement with this survey.

7. Comparison with chart and charting recommendations

The rock was charted on NOS 16700 as awash, and on NOS 16705 as sunken, in general agreement with this survey.

delete the Charted rock *shoal soundings*
 AWOIS Item No. 52001 is resolved and should be charted as a ~~rock awash~~ at the position noted above. *Chart a 0-fathom depth*

N. ITEM INVESTIGATIONS

Four AWOIS items were investigated. *Reported positions are in NAD83*

AWOIS ITEM 51999

1. Area of Investigation

State: Alaska
 Locality: Northeast of Fairmount Island
 Reported Latitude (PA): 60°52'32.10" N
 Reported Longitude (PA): 147°24'19.43" W
 Datum: NAD83
 Depth: 0 meters
 Feature: Rock Awash

2. Description of Source of Item

BP108568/79--USGS and Austin Post, 1979; positioned by unverified radar fixes, visual observations, or dead reckoning; sounding datum was approximately MLLW.

3. Survey Requirements

Search radius = 200 M

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

4. Method of Investigation

*Distance from Awois to Position 6250 = 180m's
 1031/1 = 120m's*

The area around the reported rock was visually searched and split to 10 meter line spacing using echo sounding.

5. Results of Investigation

In the vicinity of the reported location of AWOIS Item No. 51999, a shoal was found to extend northeast of an islet to the east of Fairmount Island. The area was developed through hydrography from a 50m line spacing (Pos. Nos. 6193 - 6466), to 25m lines (Pos. Nos. 4492 - 4514), to 10m lines (Pos. Nos. 969 - 1054). The least corrected depth found is 0.7m at 60°52'26.62"N, 147°24'15.53"W, Pos. No. 6250, however, the shoal extended seaward to a corrected depth of 4.7m at 60°52'32.861"N, 147°24'10.435"W, Pos. No. 4498.1031/1
 11.6

6. Comparison with Prior Surveys

There are no Prior Surveys, see Project Instructions 6.10.

Prior survey shows a submerged rock, in general agreement with this survey.

7. Comparison with chart and charting recommendations

The rock was charted on NOS 16700 as awash, and on NOS 16705 as sunken, in general agreement with this survey.

Delete the Charted Rock.
 AWOIS Item No. 51999 is resolved, and should be charted as two ~~submerged rocks~~ *shoal soundings* at the positions of the 0.7m and 4.7m corrected depths noted above. *The term "rky" has been added to this general location on the Smooth Sheet.*
 Survey 9
 0.8m = 1/4 fathom *Charted*
 0.9m = 1/4 fathom

AWOIS ITEM 52006

1. Area of Investigation

State: Alaska
 Locality: East of Fairmount Island.
 Reported Latitude (PA): 60°52'23.09" N
 Reported Longitude (PA): 147°19'17.41" W
 Datum: NAD83
 Depth: not reported
 Feature: Shoal

2. Description of Source of Item

BP104500/78--USGS topo/hydro survey, 1978; A "dangerous rocks reported" notation shown south of Iceberg Point.

3. Survey Requirements

Search radius 500M

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

4. Method of Investigation

The area around the shoal was visually searched and split to 10 meter line spacing using echo sounding.

5. Results of Investigation

In the vicinity of the reported location of AWOIS Item No. 52006, three shoal areas were found to extend from Iceberg Point on Glacier Island. The area was developed through hydrography from a 50m line spacing (Pos. Nos. 3923 - 4080), to 10m lines (Pos. Nos. 8799 - 8910). One shoal extends southwest from the tip of Iceberg Point. The least depth found is 2.6m corrected at 60°52'32.620"N, 147°19'43.284"W, Pos. No. 8875/19, however, the shoal extends seaward where a depth of 4.0m corrected was recorded at 60°52'30.263"N, 147°19'50.529"W, Pos. No. 3966/2. Another shoal lies further southwest from Iceberg Point, at 60°52'22.281"N, 147°19'59.241"W, Pos. No. 8845/1 where the least corrected depth found is 4.9m. The third shoal extends south from Glacier Island, just east of Iceberg Point, with a least corrected depth found of 4.2m at 60°52'19.807"N, 147°18'37.543"W, Pos. No. 3929/1.

6. Comparison with Prior Surveys *there are no prior surveys, see Project Instructions 6.10*

Prior survey shows no indication of this feature.

7. Comparison with chart and charting recommendations

This feature is not currently charted.

delete the charted rock
 AWOIS Item No. 52006 is resolved, and submerged rocks should be charted at the positions of the 2.6m, 4.9m, and 4.2m corrected depths noted above.

<u>survey meters</u>	=	<u>Chart fathoms</u>
2.7	=	1 $\frac{1}{4}$
4.9	=	2 $\frac{1}{2}$
4.2	=	2 $\frac{1}{4}$

O. COMPARISON WITH THE CHART

This survey was compared to NOS chart 16700, 24th Edition, January 11, 1992, 1:200,000 (NAD83), and NOS chart 16705, 15th Edition, September 1, 1990, 1:80,000 (NAD83). ✓

The charted soundings were found to be in general agreement with the survey. There are, however, numerous features in this area which are not depicted on the chart. Final comparisons will be made at PHS. *SEE Evaluation Report, section 7.* ✓

Dangers to Navigation

Ten dangers to navigation within the limits of this survey were reported to the Seventeenth Coast Guard District and DMAHTC. Copies of the radio message and correspondence are included in Appendix I of this report. *One additional Danger and three changes to previously reported dangers were reported to the 17th Coast Guard and DMA/HTC during office processing. See attached letters.* *attached*

P. ADEQUACY OF SURVEY

This survey is complete and adequate to supersede ~~the previous chart letters~~ in their common areas. *CONCUR* ✓

Q. AIDS TO NAVIGATION

None.

R. STATISTICS

<u>Vessel:</u>	<u>2120</u>	<u>2123</u>	<u>2124</u>	<u>2125</u>	<u>2126</u>	<u>Total</u>
# of Pos	16	415	1488	1285	1249	4453 4203
NM Hydro	0	33.8	125.7	140.2	135.8	435.5

NM ² Hydrography	14.6
Velocity Cast	1
Detached Positions	197
Tide Stations	2
Reference Numbers	188
Bottom Samples	60

S. MISCELLANEOUS

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:

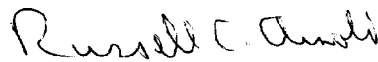
<u>Title</u>	<u>Date Sent</u>	<u>Office</u>
Fall 1993 Horizontal Control Report for OPR-P125-RA	1993	N/CG2333
Fall 1993 Coast Pilot Report for OPR-P125-RA	1993	N/CG245
Project related data for OPR-P125-RA	Incremental	N/CG245

Respectfully Submitted,



Gregory G. Glover
Ensign, NOAA

Approved and Forwarded,



Russell C. Arnold
Captain, NOAA
Commanding Officer

CONTROL STATIONS as of 27 Sep 1993

No	Type	Latitude	Longitude	H	Cart	Freq	Vel	Code	MM/DD/YY	Station Name
100	F	060:50:49.581	147:27:05.696	15	250	0.0	0.0		09/04/93	QUOTE 1947(DGPS)
101	F	060:52:35.967	147:33:15.597	6	250	0.0	0.0		09/04/93	INDIA 1947(DGPS)



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Office of NOAA Corps Operations
Pacific Marine Center
1801 Fairview Avenue East
Seattle, Washington 98102-3767

**ADVANCE
INFORMATION**

NOAA Ship RAINIER


September 30, 1993

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

Dear Sir:

While conducting hydrographic survey operations in Northwest Prince William Sound, Alaska, NOAA Ship RAINIER discovered ten 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
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

September 30, 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 message 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 30 Z SEP 93
FM NOAA S RAINIER
TO CCGDSEVENTEEN JUNEAU AK
DMAHTCCNAVWARN WASHINGTON DC//MCNM//
INFO NOAA MOP SEATTLE WA
ACCT CM-VCAA

**ADVANCE
INFORMATION**

BT

UNCLAS

NOAA SHIP RAINIER HAS LOCATED 10 DANGERS TO NAVIGATION IN
NORTHWEST
PRINCE WILLIAM SOUND ALASKA (PROJECT OPR-P125-RA) WITHIN THE
LIMITS OF
HYDROGRAPHIC SURVEY H-10500. THE FOLLOWING INFORMATION IS
PROVIDED
FOR PUBLICATION IN LOCAL NOTICE TO MARINERS:

CHARTS AFFECTED: 16700 24TH ED JAN 11/92 1:200,000 (NAD83).
16705 15TH ED SEP 1/90 1:80,000 (NAD83)

DEPTHS ARE REDUCED TO MLLW BASED ON PREDICTED TIDES.

ITEM	DANGER	CHART	DEPTH	LATITUDE	LONGITUDE
A.	ROCK	BOTH	-1 FM	60/53/57.7N	147/30/04.2W
B.	ROCK	16705	AWASH	60/52/52.0N	147/25/33.4W
C.	SHOAL	16705	1/4 FM	60/53/02.3N	147/24/55.2W
D.	SHOAL	BOTH	2 1/2 FMS	60/52/22.3N	147/19/59.2W
E.	SHOAL	BOTH	2 1/2 FMS	60/52/42.7N	147/24/46.0W
F.	SHOAL	BOTH	1 1/4 FMS	60/52/26.8N	147/23/27.6W
G.	SHOAL	BOTH	1 1/2 FMS	60/52/10.4N	147/23/34.2W
H.	SHOAL	BOTH	2 FMS	60/55/51.5N	147/29/31.2W
I.	SHOAL	BOTH	3/4 FM	60/54/57.5N	147/26/38.4W
J.	ROCK	BOTH	-1/4 FM	60/55/09.4N	147/26/06.9W

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

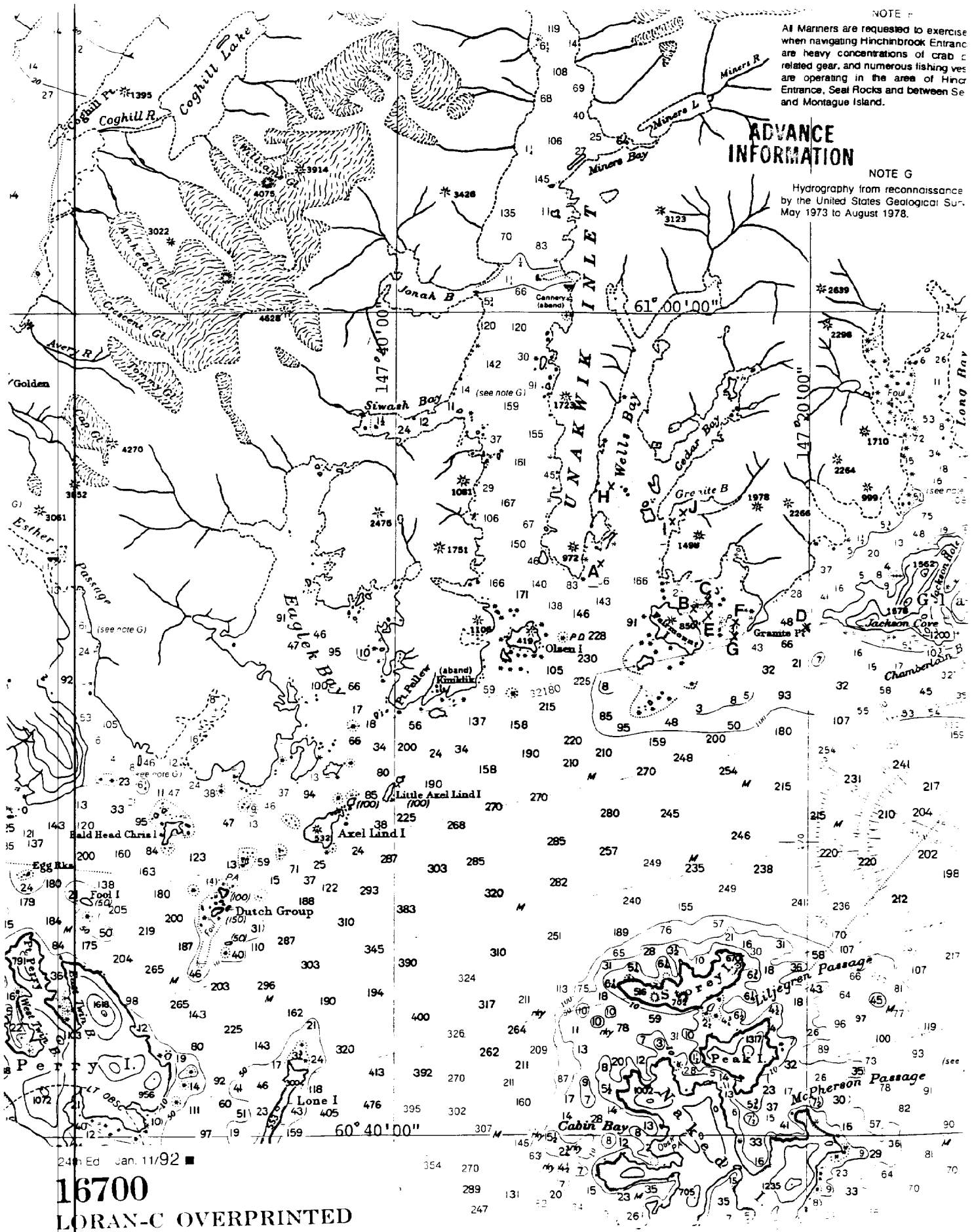
NOTE F

All Mariners are requested to exercise caution when navigating Hinchinbrook Entrance are heavy concentrations of crab related gear, and numerous fishing vessels are operating in the area of Hinchinbrook Entrance, Seal Rocks and between Seal and Montague Island.

ADVANCE INFORMATION

NOTE G

Hydrography from reconnaissance by the United States Geological Survey, May 1973 to August 1978.



24th Ed. Jan. 11/92
16700
LORAN-C OVERPRINTED



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Coast and Geodetic Survey
Seattle, Washington 98115-0070

**ADVANCE
INFORMATION**

October 27, 1993

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

Dear Sir:

During the office processing of hydrographic surveys H-10499 and H-10500 in Northwest Prince William Sound, five additional dangers to navigation have been discovered. These dangers affect the following charts:

<u>Chart</u>	<u>Edition/Date</u>	<u>Datum</u>
16700	24th Ed., 1/11/92	NAD83
16705	15th Ed., 9/1/90	NAD83

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

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

Sincerely,

Douglas G. Hennick
Commander, NOAA
Chief, Pacific Hydrographic Section

Enclosure

cc: DMA/HTC
PMC
RAINIER
N/CG221



H-10503

**ADVANCE
INFORMATION**

Hydrographic Survey Registry Number: H-10500

Survey Title: State: Alaska
 Locality: Northwest Prince William Sound
 Sublocality: North of Fairmount Island

Project Number: OPR-P125-RA

Survey Date: September 1993

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

Affected Nautical Charts:

<u>Chart</u>	<u>Edition/Date</u>	<u>Datum</u>
16700	24th Ed., 1/11/92	NAD83
16705	15th Ed., 9/1/90	NAD83

<u>Danger to Navigation</u>	<u>Latitude (N)</u>	<u>Longitude (W)</u>
Shoal, 0.2 Fathoms	60:55:16.5	147:25:57.0
Shoal, Uncovers 0.4 Fathoms	60:55:17.0	147:25:34.0

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



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Coast and Geodetic Survey
Seattle, Washington 98115-0070

**ADVANCE
INFORMATION**

June 27, 1994

Commander
Seventeenth Coast Guard District
P.O. Box 25517
Juneau, AK 99802-5517

Dear Sir:

During the office processing of hydrographic surveys H-10500 North of Fairmont Island, NW Prince William Sound, Alaska, it was determined that a shoal exists. This potential danger affects the following charts:

<u>Chart</u>	<u>Edition/Date</u>	<u>Datum</u>
16700	24th Ed., 1/11/92	NAD83
16705	15th Ed., 9/1/90	NAD83

It is recommended that this danger to navigation be included in the Local Notice to Mariners.

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

Sincerely,

Douglas G. Hennick
Commander, NOAA
Chief, Pacific Hydrographic Section

Enclosure

cc: DMA/HTC
N/CG221



Hydrographic Survey Registry Number: H-10500

Survey Title:
State: Alaska
Locality: NW Prince William Sound
Sublocality: North of Fairmont Island

**ADVANCE
INFORMATION**

Project Number: OPR-P125-RA

The following was discovered during hydrographic survey operations:

A shoal covered 1/2 fathom at MLLW

Feature is reduced to Mean Lower Low Water.

Affected Nautical Chart:

<u>Chart</u>	<u>Edition</u>	<u>Date</u>	<u>Survey Depth</u>	<u>Datum</u>	<u>Latitude</u>	<u>Longitude</u>
16705	15th Ed.	9/1/90	1/2 fm	NAD83	60/52/29.2N	147/23/21.1W

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



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Coast and Geodetic Survey
Seattle, Washington 98115-0070

**ADVANCE
INFORMATION**

June 28, 1994

Commander (OAN)
Seventeenth Coast Guard District
P.O. Box 25517
Juneau, AK 99802-5517

Dear Sir:

During office review of hydrographic survey H-10500, Alaska, Prince William Sound, Granite Bay, it was determined that the information concerning the two (2) shoals and a rock previously reported by the NOAA Ship RAINIER and the Pacific Hydrographic Section was incorrect.

These changes affect the following chart.

<u>Chart</u>	<u>Edition/date</u>	<u>Datum</u>
16700	24th ed., 1/11/92	NAD 83

It is recommended that this information be included in the Local Notice to Mariners.

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

Sincerely,

Douglas G. Hennick
Commander, NOAA
Chief, Pacific Hydrographic Section

Enclosure

cc: DMA/TC
N/CG221



REPORT OF DANGERS TO NAVIGATION

**ADVANCE
INFORMATION**

Hydrographic Survey Registry Number: H-10500
Survey Title: State: ALASKA
Locality: PRINCE WILLIAM SOUND
Sublocality: GRANITE BAY
Project Number: OPR-P125-RA

The following requirements for changes to field reports were discovered during an office review of previously reported dangers to navigation:

Change a rock uncovered -1/4 fm, previously reported at latitude 60/55/09.4N, longitude 147/26/06.9W, to a 4 fm shoal depth at latitude 60/55/09.4N, longitude 147/26/06.9W.

Change a shoal covered 0.2 fm, previously reported at latitude 60/55/16.5N, longitude 147/25/57.0N, to a rock awash at latitude 60/55/16.3N, longitude 147/25/57.1W.

Change a shoal which uncovers 0.4 fm, previously reported at latitude 60/55/17.0N, longitude 147/25/34.0W, to a reef at latitude 60/55/16.6N, longitude 147/25/33.9W which uncovers 1.2 fathoms.

All features reduced to Mean Lower Low Water using approved tides.

Affected nautical chart:

<u>Chart</u>	<u>Edition/date</u>	<u>Datum</u>
16700	24th Ed., 1/11/92	NAD 83

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


APPROVAL SHEET

for

H-10500
RA-10-21-93

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: March 8, 1994

MARINE CENTER: Pacific

HYDROGRAPHIC PROJECT: OPR-P125-RA

HYDROGRAPHIC SHEET: H-10500

LOCALITY: North of Fairmount Island, Prince William Sound, Alaska

TIME PERIOD: September 6 - 27, 1993

TIDE STATION USED: 945-4596 Olsen Island, Unakwik Inlet, Ak.
Lat. $60^{\circ} 52.6'N$ Lon. $147^{\circ} 33.1'W$

PLANE OF REFERENCE (MEAN LOWER LOW WATER): -4.33 ft.

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 11.0 ft.

REMARKS: RECOMMENDED ZONING

Times and heights are direct on Olsen Island, Ak. (945-4596).

Notes: 1. Times are tabulated in Greenwich Mean Time.

2. Data for Olsen Island, Ak. (945-4596) is temporarily stored in file #556-4596.

William M. Gibson

CHIEF, DATUMS SECTION



GEOGRAPHIC NAMES

Name on Survey	Source of Name											
	A	B	C	D	E	F	G	H	K			
	<small> A ON CHART NO 16700 B On Chart 16705 C TP-DM-10065 D FROM LOCAL INFORMATION E ON LOCAL MAPS F P.O. GUIDE OR MAP G RAND McNALLY ATLAS H U.S. LIGHT LIST </small>											
ALASKA (TITLE)												1
CEDAR BAY	X		X									2
FAIRMOUNT BAY		X										3
FAIRMOUNT ISLAND	X	X	X									4
FAIRMOUNT POINT			X									5
GLACIER ISLAND	X	X	X									6
GRANITE BAY	X		X									7
GRANITE POINT	X	X	X									8
ICEBERG POINT		X	X									9
PRINCE WILLIAM SOUND	X		X									10
UNAKWIK POINT			X									11
WELLS BAY	X		X									12
												13
												14
												15
												16
												17
												18
												19
												20
												21
												22
												23
												24
												25

Approved,

Charles H. Hattaway

Chief Geographer

JUN 27 1994

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

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

SHORELINE DATA

SHORELINE MAPS (List):	DM-10065
PHOTOBATHYMETRIC MAPS (List):	NA
NOTES TO THE HYDROGRAPHER (List):	NA
SPECIAL REPORTS (List):	NA
NAUTICAL CHARTS (List):	16700 15th Ed., 9/1/90

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			4202	
POSITIONS REVISED			40	
SOUNDINGS REVISED			63	
CONTROL STATIONS REVISED				
	TIME-HOURS			
	VERIFICATION	EVALUATION	TOTALS	
PRE-PROCESSING EXAMINATION				
VERIFICATION OF CONTROL				
VERIFICATION OF POSITIONS	34		34	
VERIFICATION OF SOUNDINGS	159		159	
VERIFICATION OF JUNCTIONS				
APPLICATION OF PHOTOBATHYMETRY				
SHORELINE APPLICATION/VERIFICATION				
COMPILATION OF SMOOTH SHEET	77		77	
COMPARISON WITH PRIOR SURVEYS AND CHARTS		14	14	
EVALUATION OF SIDE SCAN SONAR RECORDS				
EVALUATION OF WIRE DRAGS AND SWEEPS				
EVALUATION REPORT		15	15	
GEOGRAPHIC NAMES				
OTHER: Digitization				
*USE OTHER SIDE OF FORM FOR REMARKS	TOTALS	370	29	399

Pre-processing Examination by D. Haines	Beginning Date 9/6/93	Ending Date 10/27/93
Verification of Field Data by L. Deodato, A. Domingo	Time (Hours) 370	Ending Date 8/22/94
Verification Check by J. Stringham, L. Deodato	Time (Hours) 5	Ending Date 8/2/94
Evaluation and Analysis by G. Kay	Time (Hours) 29	Ending Date 10/23/94
Inspection by Russ Davies	Time (Hours) 6	Ending Date 1/26/95

EVALUATION REPORT SURVEY H-10500

1. INTRODUCTION

Survey H-104⁵⁰⁰99 is a basic hydrographic survey accomplished by the NOAA Ship *Rainier*, under the following Project Instructions.

OPR-P125 RA, dated July 19, 1993
CHANGE NO. 1, dated August 25, 1993
CHANGE NO. 2, dated September 2, 1993

This survey was conducted in Alaska, and covers an area in Prince William Sound. This survey area includes the entrance to Wells Bay to the west and extends east to Glacier Island, covering the northern shore of Fairmount Island. The surveyed area is bounded by latitude 60/56/00N to the north and latitude 60/52/03N to the south. The eastern limit is longitude 147/18/15W. The western limit is longitude 147/31/17W. The shoreline consists of a rocky shoreline along small islands. The bottom consists of mud. Depths range from less than a meter along the shoreline to a depth of 425 meters located in the waterway between Unakwik Point and Fairmont Point.

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 were drafted. The selected curves were the 0, 5 and 20 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. The bottom characteristics are annotated on a separate overlay.

Predicted tides for Valdez, Alaska, were used for the reduction of soundings during field processing. Approved hourly heights are zoned from Olsen Island, Unakwik Inlet, Alaska, gage 945-4596, 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 computation. The offset values and velocity 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 a complete depiction of the survey data.

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 Fall 1993 Horizontal Control Report for OPR-P125-RA.

Differential GPS (DGPS) was used to control this survey. A horizontal dilution of precision (HDOP) not to exceed 3.75 was computed for survey operations. The quality of 205 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, indicates that none of these fixes are used to position dangers to navigation. The soundings located by these fixes are consistent with the surrounding information. These fixes are considered acceptable.

Positions of horizontal control stations used during this survey are field values 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: -1.907 seconds (-59.039 meters)
Longitude: 7.433 seconds (112.071 meters)

The year of establishment of control stations shown on the smooth sheet originates with the previously referenced horizontal control report and the hydrographer's signal list.

The following digital shoreline map was compiled on NAD 83, enlarged to the scale of 1:10,000 and applies to this survey.

<u>Map Number</u>	<u>Photography date</u>	<u>Scale</u>
DM-10065	June-July 1989	1:20,000

The following shoreline changes were transferred from the field sheet in dashed red without supporting positional information. These revisions are considered adequate to supersede the common photogrammetrically delineated shoreline.

<u>Feature</u>	<u>Latitude North</u>	<u>Longitude West</u>
islet	60/55/07	147/30/21
islet	60/53/01.31	147/23/18
islet	60/53/16	147/25/12
islet	60/53/18.2	147/24/43.3
islet	60/53/16.8	147/24/19.1
islet	60/55/00.5	147/29/14.5

The following features were transferred from the field sheets without supporting positional information.

<u>Feature</u>	<u>Latitude North</u>	<u>Longitude West</u>
rock	60/55/06	147/25/14.1
rock	60/55/12	147/24/35
rock	60/53/57	147/23/00
rock	60/53/30	147/26/30

The above features are adequate to supersede the common photogrammetric delineated shoreline.

3. HYDROGRAPHY

Except for the following, hydrography is adequate to:

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

Standard depth curves were adequately drawn and developed except the zero curve. The inshore limit as defined by the Project Instructions (section 1.8), is the 3-meter depth curve. This was due to the extreme slope of the area and the limit of safe navigation.

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-10499⁵⁰⁰ junctions with the following surveys.

<u>Survey</u>	<u>Year</u>	<u>Scale</u>	<u>Area</u>
H-10499	1993	1:10,000	South
H-10501	1993	1:10,000	North
H-10502	1993	1:10,000	West

The junction with surveys H-10499, H-10501 and H-10502 are complete.

There are no contemporary surveys to the east. However, the present survey H-10500 was compared to chart 16705, 15th edition. Sounding data does not compare well to the charted data. These discrepancies are attributed the quality of the charted data.

6. COMPARISON WITH PRIOR SURVEYS

There are no prior surveys within the limits of survey H-10500.

7. COMPARISON WITH CHART

Survey H-10⁵⁰⁰~~499~~ was compared with the following charts.

<u>Chart</u>	<u>Edition</u>	<u>Date</u>	<u>Scale</u>	<u>Datum</u>
16705	15th	September 1, 1990	1:80,000	NAD 83
16700	24th	January 11, 1992	1:100,000	NAD 83

a. Hydrography

The charted hydrography on the above charts originate with miscellaneous sources. Survey H-10500 is adequate to supersede charted hydrography within the survey area.

b. AWOIS

There are four AWOIS items numbered 51999, 52000, 52001 and 52006 that originate with miscellaneous sources and were assigned for investigation. The disposition of these AWOIS items may be found in the AWOIS item investigation write-ups attached to the Descriptive Report.

c. Controlling Depths

There are no charted channels with controlling depths within the limits of this survey.

d. Aids to Navigation

There are no aids to navigation located within the limits of this survey. There are no charted landmarks there are located within the limits of this survey.

e. Geographic Names

Names appearing on the smooth sheet and in the survey title have been approved by the Chief Geographer.

f. Dangers to Navigation

The hydrographer reported ten dangers to navigation to the Seventeenth Coast Guard District, DMA/HTC and N/CG221, during this survey. Three additional dangers to navigation were discovered during office processing as follows:

<u>Feature</u>	<u>Depth Meters</u>	<u>Latitude North</u>	<u>Longitude West</u>
Shoal	0.4	60/55/15.4	147/25/59.1
Reef	-1.2	60/55/16.1	147/25/34.5
Shoal	7.3	60/55/09.4	147/26/06.9

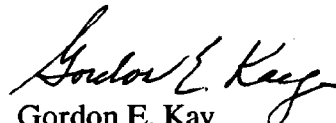
A copy of this danger to navigation has been forwarded to the Seventeenth Coast Guard District, DMA/HTC and N/CG221. Copies of these reports are attached.

8. COMPLIANCE WITH INSTRUCTIONS

Survey H-10499⁵⁰⁰ adequately complies with the Project Instructions, except where noted in this report.

9. ADDITIONAL FIELD WORK

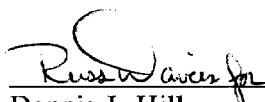
This is a good hydrographic survey. Additional field work is not required.


Gordon E. Kay
Cartographer

APPROVAL SHEET
H-10500

Initial Approvals:

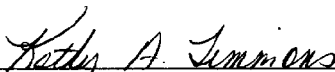
The completed survey has been inspected with regard to survey coverage, delineation of the depth curves, development of critical depths, cartographic symbolization, comparison with prior surveys and verification or disproval of charted data. The digital data have been completed and all revisions and processings 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.



Dennis J. Hill
Chief, Hydrographic Processing Unit
Pacific Hydrographic Section

Date: 1/26/95

I have reviewed the smooth sounding plot, 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.




Commander Kathy A. Timmons, NOAA
Chief, Pacific Hydrographic Section

Date: 2/8/95

Final Approval

Approved:



Thomas W. Richards
Captain, NOAA
Chief Nautical Chart Division

Date: 3-2-95

MARINE CHART BRANCH
RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10500

INSTRUCTIONS

- A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.
- 1. Letter all information.
- 2. In "Remarks" column cross out words that do not apply.
- 3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
16705	9/17/95	ALMACEN	Full Part Before After Marine Center Approval Signed Via Full application of Sudg ^{Sudgs} Drawing No. 2 features from SS
16700	9/21/95	ALMACEN	Full Part Before After Marine Center Approval Signed Via Full application of Sudgs ^{Sudgs} . Drawing No. 2 features from SS thru cht. 16705
16708	2/2/96	ALMACEN	Full Part Before After Marine Center Approval Signed Via Full application of Sudgs ^{Sudgs} . Drawing No. 2 features from SS thru cht. 16705.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.
			Full Part Before After Marine Center Approval Signed Via Drawing No.

SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED