H10976

NOAA FORM 76-35A

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

# DESCRIPTIVE REPORT

*Type of Survey* Hydrographic

*Field No.* RA-20-05-00

*Registry No.* H-10976

## LOCALITY

*State* Alaska

*General Locality* Shelikof Strait

*Sublocality* Offshore - Cape Nukshak to Cape Gull

**2000**

**CHIEF OF PARTY**
Commander Daniel R. Herlihy, NOAA

**LIBRARY & ARCHIVES**

**DATE** May 2, 2002

NOAA FORM 77-28
(11-72)

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

REGISTER NO.

# HYDROGRAPHIC TITLE SHEET

H-10976

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-20-05-00

State **Alaska**

General Locality **Shelikof Strait**

Sublocality **Offshore- Cape Nukshak to Cape Gull**

Scale **1:20,000** Date of Survey **5/26/00 - 6/20/00**

Instructions Date **5/8/00** Project No. **OPR-P164-RA-00**

Vessel **RAINIER (2120), RA-4 (2124)**

Chief of Party **Commander D. H. Herlihy, NOAA**

Surveyed by **RAINIER Personnel**

Soundings taken by echo sounder, hand lead, pole **SEABEAM 1050D, SEABEAM 1180**

Graphic record scaled by **RAINIER Personnel**

Graphic record checked by **RAINIER Personnel**

Evaluation by **I. Almacen** Automated plot by **HP Designjet 750C**

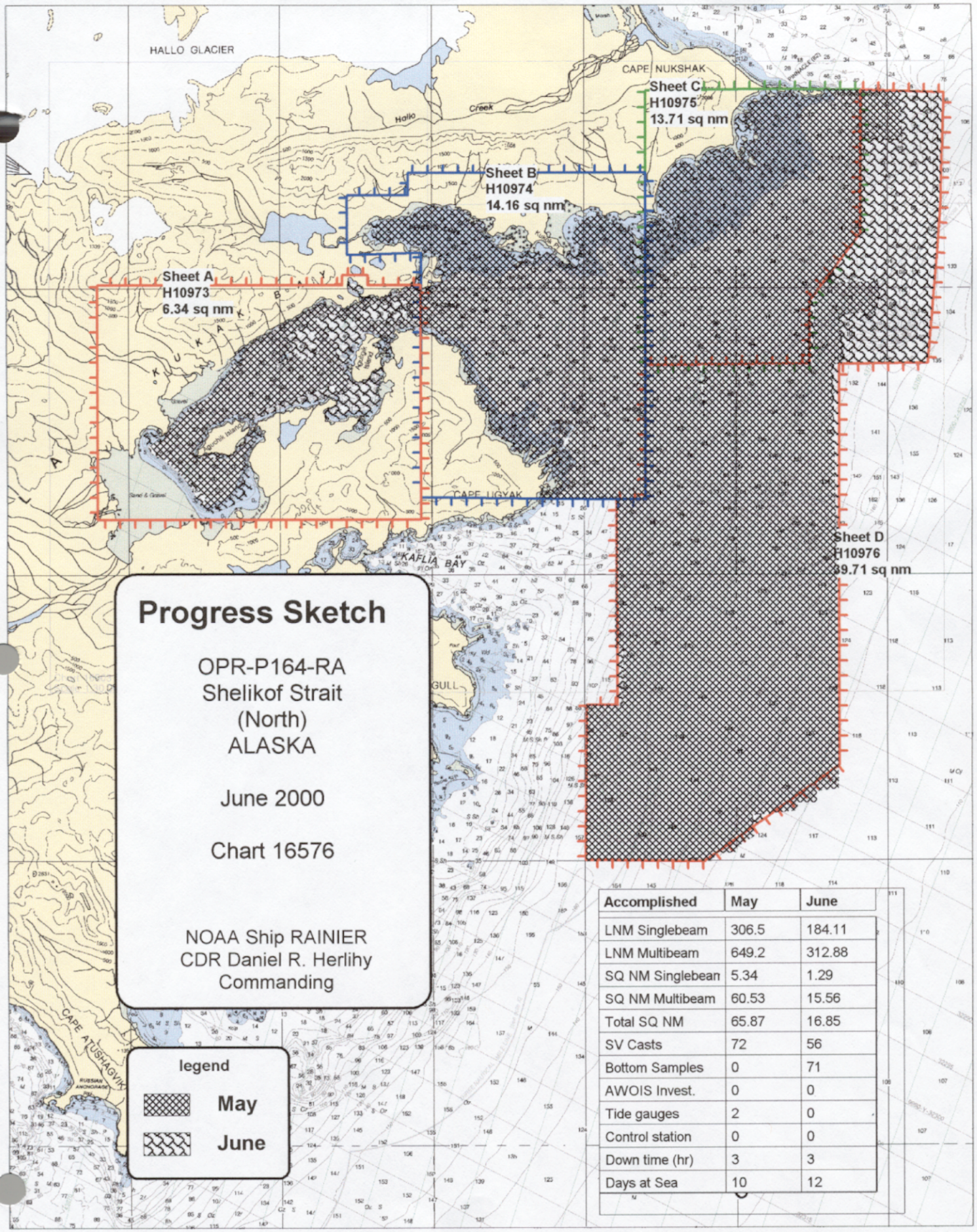
Verification by **E. Domingo, R. Mayor, R. Davies**

Soundings in **Fathoms** 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.**

AWDIS ✓ & SURF ✓ by DAS 4-25-02




# Progress Sketch

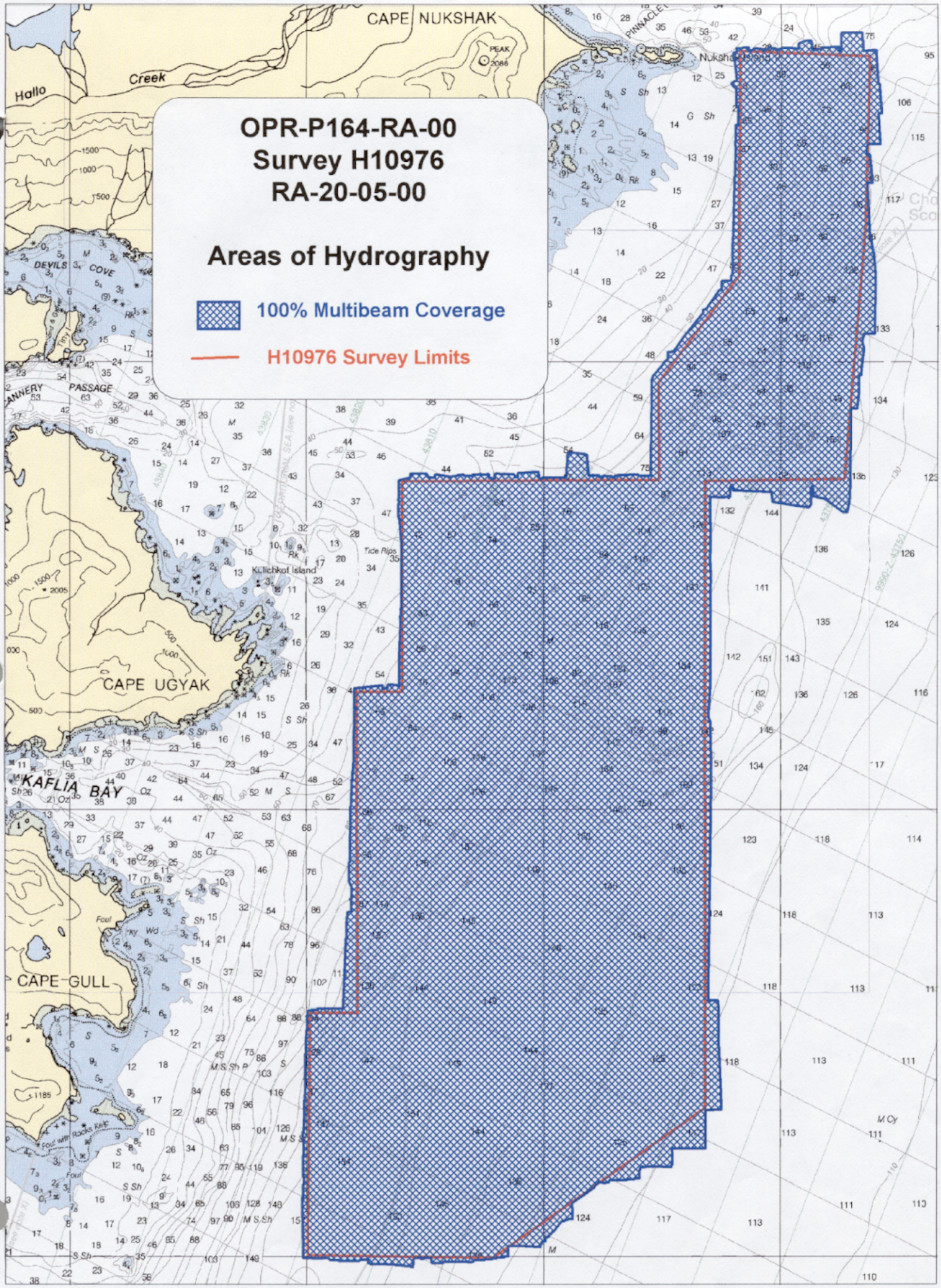
OPR-P164-RA
Shelikof Strait
(North)
ALASKA

June 2000

Chart 16576

NOAA Ship RAINIER
CDR Daniel R. Herlihy
Commanding

| Accomplished | May | June |
|---|---|---|
| LNM Singlebeam | 306.5 | 184.11 |
| LNM Multibeam | 649.2 | 312.88 |
| SQ NM Singlebean | 5.34 | 1.29 |
| SQ NM Multibeam | 60.53 | 15.56 |
| Total SQ NM | 65.87 | 16.85 |
| SV Casts | 72 | 56 |
| Bottom Samples | 0 | 71 |
| AWOIS Invest. | 0 | 0 |
| Tide gauges | 2 | 0 |
| Control station | 0 | 0 |
| Down time (hr) | 3 | 3 |
| Days at Sea | 10 | 12 |


OPR-P164-RA-00
Survey H10976
RA-20-05-00
Areas of Hydrography
100% Multibeam Coverage
H10976 Survey Limits
CAPE NUKSHAK
Hallo
Creek
DEVILS COVE
PASSAGE
Kallichkot Island
CAPE UGYAK
KAFLIA BAY
CAPE GULL

# Descriptive Report to Accompany Hydrographic Survey H10976

Project OPR-P164-RA-00 Shelikof Strait
Scale 1:20,000
May - June 2000
**NOAA Ship RAINIER**
Chief of Party: CDR Daniel R. Herlihy, NOAA

## A. AREA SURVEYED

This hydrographic survey was completed as specified by Hydrographic Survey Letter Instructions OPR-P164-RA-00, dated May 8, 2000, Change #1 dated June 12, 2000, and the Draft Standing Project Instructions dated April 6, 1998. Survey H10976 corresponds to Sheet D as defined in the sheet layout. This survey will provide data to supersede soundings on charts 16576 and 16603, which originated from Coast and Geodetic Survey (C&GS) hydrographic surveys conducted in 1949.

The survey area is located in Shelikof Strait, AK from Cape Nukshak to Cape Gull. The survey's northern limit is latitude 58°23'42"N and the southern limit is latitude 58°09'52"N. The survey's western limit is longitude 154°05'08"W and the eastern limit is longitude 153°52'34"W.

Data acquisition was conducted from May 26, 2000 to June 20, 2000 (DN 147 to 172).

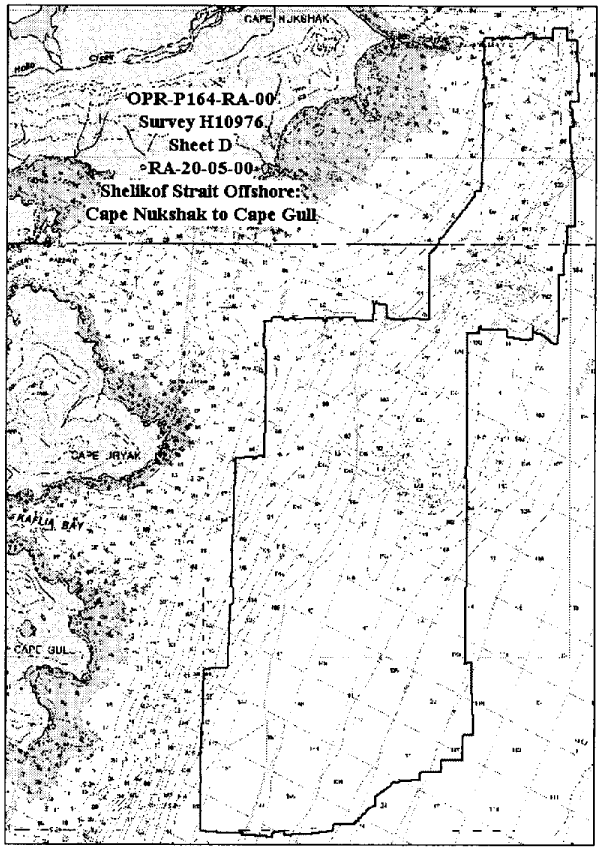



*Figure 1. Survey Limits of H10976*

## B. DATA ACQUISTION AND PROCESSING ✓

A complete description of data acquisition and processing systems, survey vessels, quality control procedures, and data processing methods, can be found in the *OPR-P164-RA-00 Data Acquisition and Processing Report** submitted under separate cover. Items specific to this survey and any deviations from the aforementioned report are discussed in the following sections.

### B.1. Equipment and Vessels ✓

Data were acquired by RAINIER and one of her survey launches (vessel numbers 2120 and 2124). RAINIER and Vessel 2124 were used to acquire intermediate-depth multibeam soundings and sound velocity profiles. No Vertical Beam Echosounder (VBES) data were acquired for this survey. No unusual vessel configurations or problems were encountered on this survey.

### B.2. Quality Control ✓

**Crosslines**

Mulibeam crosslines totaled 14.7 nautical miles, comprising 7.0% of hydrography. The Quality Control Report (CARIS HIPS) for the checkline file averaged 88.45786%, with a depth tolerance factor of 0.013 which conforms to International Hydrographic Organization Order 1 specifications detailed in Special Publication S-44, Edition 4, as well as NOS Hydrographic Surveys Specifications and Deliverables Manual. See Appendix V* for the detailed report.

**Junctions** (See EVAL RPT., Sec 2)

The following contemporary surveys junction with H10976:

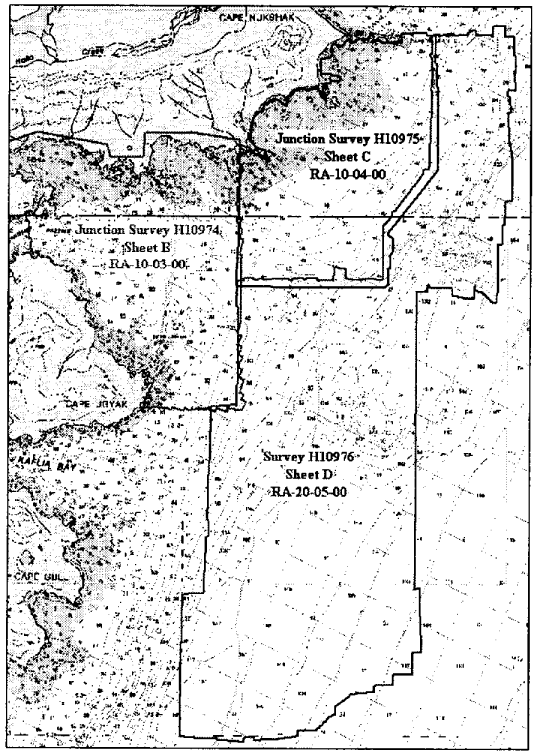



*Figure 2. Junction Surveys with H10976*



* Filed with the project reports for OPR-P164-RA-00

| Registry # | Scale | Date | Junction side |
|---|---|---|---|
| H10974 | 1:10,000 | 2000 | North ✓ |
| H10975 | 1:10,000 | 2000 | Northwest ✓ |

Surveys H10974 and H10975 junction well with this survey, with differences generally one fathom or less.

Final comparisons will be made at the Pacific Hydrographic Branch (PHB) after the application of smooth tides.

**Data Quality Factors** ✓

No unusual conditions were encountered during survey H10976 that affected the expected accuracy and quality of survey data.

## B.3. Data Reduction ✓

Data reduction procedures for survey H10976 conform to those detailed in the *OPR-P164-RA-00 Data Acquisition and Processing Report.* *

## C. VERTICAL AND HORIZONTAL CONTROL ✓

A complete description of vertical and horizontal control for survey H10976 can be found in the *OPR-P164-RA-00 Horizontal and Vertical Control Report* * submitted under separate cover. A summary of horizontal and vertical control for this survey follows.

**Horizontal Control** ✓

The horizontal datum for this project is the North American Datum of 1983 (NAD83). Differential GPS (DGPS) was the sole method of positioning. The U.S. Coast Guard Beacons at Kodiak, AK, and Kenai, AK, were the sources of differential correctors. Launch-to-launch DGPS performance checks were performed in accordance with Section 3.2 of the Field Procedures Manual (FPM). Copies of the performance checks are included in the *OPR-P164-RA-00 Horizontal and Vertical Control Report.* *

**Vertical Control** ✓

The vertical datum for this project is Mean Lower-Low Water (MLLW). The operating National Water Level Observation Network (NWLON) primary tide station at Kodiak, Alaska (945-7292) will serve as control for datum determination. RAINIER personnel installed Sutron 8200 "bubbler" tide gauges at the following subordinate stations in accordance with the Project Instructions:

| Station Name | Station Number | Type of Gauge | Date of Installation | Date of Removal |
|---|---|---|---|---|
| Aguchick Island | 945-6901 | 30-day | 23 May 2000 | 24 June 2000 |
| Nukshak Island | 945-6717 | 30-day | 24 May 2000 | 30 June 2000 |

✓

Raw water level data from these gauges were forwarded to N/OPS1 throughout the project period, with the final package submitted on August 18, 2000 in accordance with Hydrographic Survey Guideline (HSG) 50 and FPM 4.7. The Pacific Hydrographic Branch (PHB) will apply final approved (smooth) tides to the survey data during final processing. A request for delivery of final approved (smooth) tides



* Filed with the project reports for OPR-P164-RA-00.

for survey H10976 was forwarded to N/OPS1 on July 14, 2000 in accordance with FPM 4.8. Field tide notes, final tide notes, and a copy of the "Request for Approved Tides/Water Levels" are included in Appendix IV* of this report. Approved Tide Note dated November 17, 2000 is attached.

## D. RESULTS AND RECOMMENDATIONS ✓

### D.1. Automated Wreck and Obstruction Information System (AWOIS) Investigations

No AWOIS Items were within the limits of survey H10976. concur.

### D.2. Chart Comparison ✓

Survey H10976 was compared with chart 16576 (3rd Ed.; Mar. 14, 1998, 1:80,000) and chart 16603 (7th Ed.; Jan. 4, 1992, 1:30,000).

Depths from charts 16576 and 16603 matched well with survey H10976. Most charted depths were found to be 1-2 fathoms deeper than the current survey, with a few larger differences of 5-7 fathoms noted as well.

A few charted depths were found to be shoaler than the current survey, with most of these soundings differing by one fathom or less. Soundings found to have a difference greater than one fathom are addressed below. These areas were fully developed with 100% multibeam coverage.

In the vicinity of a charted 53-fathom sounding on chart 16603 at 58°23'26.3"N, 153°53'54.7"W (E447468.9, N6472554.2), the present survey revealed a depth of 57 fathoms. ✓

In the vicinity of a charted 144-fathom sounding on chart 16576 at 58°13'00.5"N, 154°02'37.7"W (E438676.5, N6453323.4), the present survey revealed a depth 146 fathoms. ✓

In the vicinity of a charted 134-fathom sounding on chart 16576 at 58°15'37.6"N, 154°00'12.5"W (E441,118.0, N6458144.3), the present survey revealed a depth of 136 fathoms. ✓

### D.3. Shoreline (See EVAL. RPT. Sec. J)

No shoreline exists within the limits of survey H10976. Concur.

### D.4. Dangers to Navigation ✓

No dangers to navigation (DTONs) were found within the limits of survey H10976. Concur.

### D.5. Aids to Navigation ✓

No aids to navigation (ATONs) exist within the limits of survey H10976. Concur.

### D.6. Prior Surveys (See EVAL RPT., Sec. M)

Survey H10976 was compared with prior surveys H07812 and H07822. No significant discrepancies were found that have not already been addressed in comparisons with charts 16576 and 16603.



* Filed with the hydrographic data.

## E. APPROVAL ✓

As Chief of Party, I have ensured that standard field surveying and processing procedures were followed in producing this examination in accordance with the Hydrographic Manual, Fourth Edition; the Hydrographic Survey Guidelines; the Field Procedures Manual, and the NOS Hydrographic Surveys Specifications and Deliverables, as updated for 2000.

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

Survey H10976 is complete and adequate to supersede charted soundings and features in their common areas. No additional work is required on this survey. Concur.

Listed below are supplemental reports submitted separately which contain additional information relevant to this survey:

| Title | Date Sent | Office |
|---|---|---|
| Data Acquisition and Processing Report for OPR-P164-RA-00 | October 2, 2000 | N/CS34 |
| Horizontal and Vertical Control Report for OPR-P164-RA-00 | TBD | N/CS34 |
| Tides and Water Levels Package for OPR-P164-RA-00 | August 18, 2000 | N/OPS1 |
| Coast Pilot Report for OPR-P164-RA-00 | TBD | N/CS26 |

Approved and Forwarded: Daniel R. Herlihy

Daniel R. Herlihy
Commander, NOAA
Commanding Officer

In addition, the following individuals were also responsible for overseeing data acquisition and processing of this survey:

Survey Sheet Manager: Daniel K. Karlson

Daniel K. Karlson
Ensign, NOAA

Field Operations Officer: E. J. Van Den Ameele

Edward J. Van Den Ameele
Lieutenant, NOAA

NOAA FORM 76-155
(11-72)

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

# GEOGRAPHIC NAMES

SURVEY NUMBER

H-10976

| Name on Survey | A ON CHART NO. 16576 | B ON PREVIOUS SURVEY NO. | C ON U.S. QUADRANGLE MAPS | D FROM LOCAL INFORMATION | E ON LOCAL MAPS | F P.O. GUIDE OR MAP | G RAND MCNALLY ATLAS | H U.S. LIGHT LIST | K | |
|---|---|---|---|---|---|---|---|---|---|---|
| ALASKA (title) | X | | X | | | | | | | 1 |
| ALASKA PENINSULA | X | | X | | | | | | | 2 |
| CAPE GULL (title) | X | | X | | | | | | | 3 |
| CAPE NUKSHAK (title) | X | | X | | | | | | | 4 |
| CAPE UGYAK | X | | X | | | | | | | 5 |
| KUKAK POINT | X | | X | | | | | | | 6 |
| KULICHKOF ISLAND | X | | X | | | | | | | 7 |
| LITTLE BEACH | X | | X | | | | | | | 8 |
| SHELIKOF STRAIT | X | | X | | | | | | | 9 |
| YUGNAT ROCKS | X | | X | | | | | | | 10 |
| | | | | | | | | | | 11 |
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| | | | | [redacted] | | | | | | 19 |
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| | | | | | | | | | | 21 |
| | | | | [redacted] | | | | | | 22 |
| | | | | JAN 24 2001 | | | | | | 23 |
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NOAA FORM 76-155 SUPERSEDES C&GS 197

**UNITED STATES DEPARTMENT OF COMMERCE**
**National Oceanic and Atmospheric Administration**
NATIONAL OCEAN SERVICE
Silver Spring, Maryland 20910

# TIDE NOTE FOR HYDROGRAPHIC SURVEY

**DATE:** November 17, 2000

**HYDROGRAPHIC BRANCH:** Pacific
**HYDROGRAPHIC PROJECT:** OPR-P164-RA-2000
**HYDROGRAPHIC SHEET:** H-10976

**LOCALITY:** Northern Shelikof Strait, AK
**TIME PERIOD:** May 26 - June 20, 2000

**TIDE STATION USED:** 945-6717 Nukshak Island, AK
Lat. 58° 23.5'N Lon. 153° 57.6'W
**PLANE OF REFERENCE (MEAN LOWER LOW WATER):** 0.000 meters
**HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE:** 3.957 meters

**REMARKS:** RECOMMENDED ZONING
Use zone(s) identified as: SS14, SS25 & SS32.

Refer to attachments for zoning information.

**Note 1:** Provided time series data are tabulated in metric units (meters), relative to MLLW and on Greenwich Mean Time.

Thomas M. Meso 11/17/00

**CHIEF, REQUIREMENTS AND DEVELOPMENT DIVISION**

Final tide zone node point locations for OPR-P164-RA-2000,
Sheet H-10976.

Format: Longitude in decimal degrees (negative value denotes Longitude West),
Latitude in decimal degrees
Tide Station (in recommended order of use)
Average Time Correction (in minutes)
Range Correction

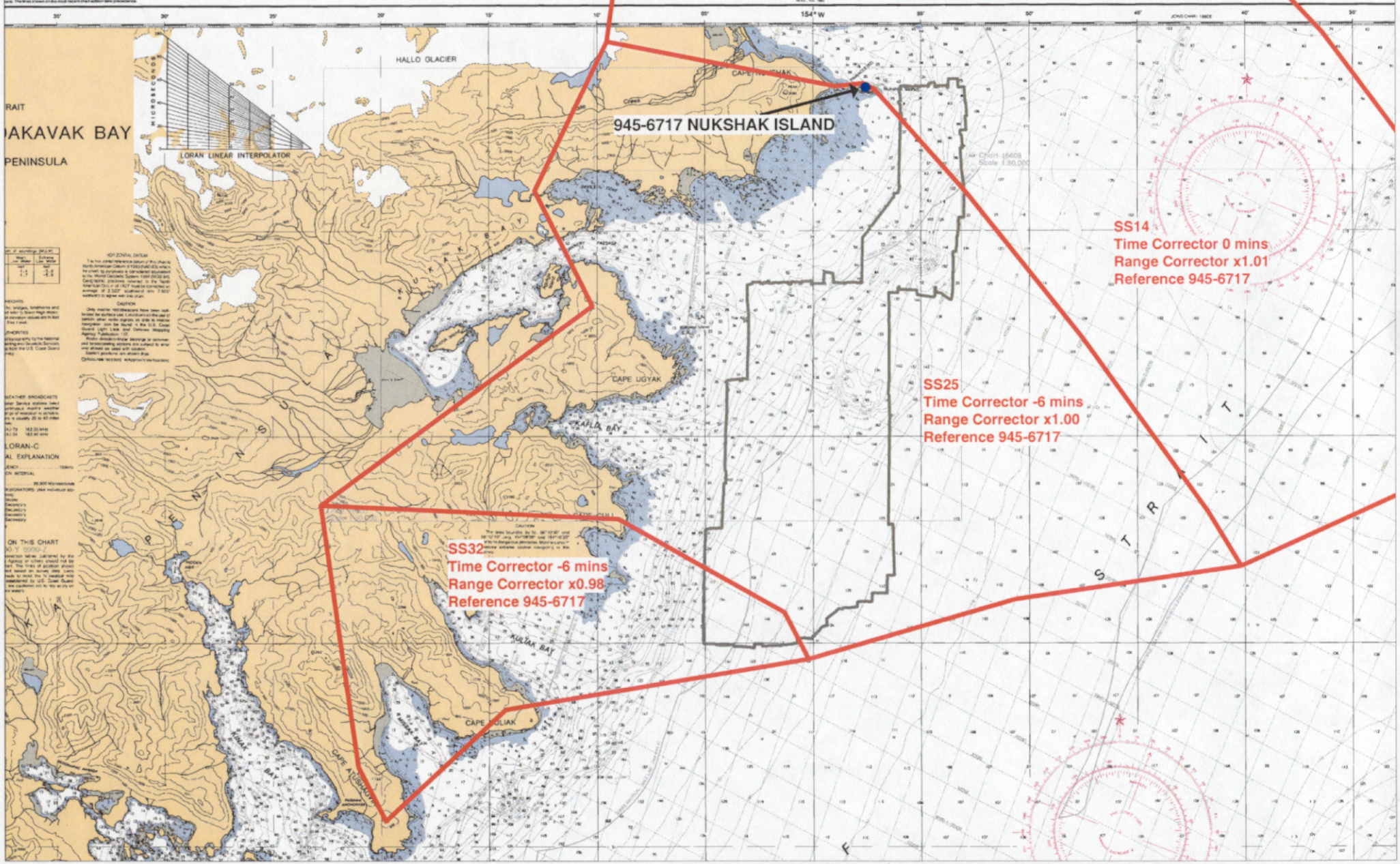
| | Tide Station Order | AVG Time Correction | Range Correction |
|---|---|---|---|
| Zone SS14 | 945-6717 | 0 | 1.01 |
| -154.159216 58.409726 | | | |
| -153.982972 58.391473 | | | |
| -153.961876 58.392684 | | | |
| -153.952909 58.390352 | | | |
| -153.881433 58.348206 | | | |
| -153.793241 58.289993 | | | |
| -153.695792 58.219459 | | | |
| -153.670059 58.197491 | | | |
| -153.532511 58.230034 | | | |
| -153.354739 58.227774 | | | |
| -153.43064 58.28924 | | | |
| -153.607381 58.413132 | | | |
| -153.898484 58.574627 | | | |
| -154.134751 58.503107 | | | |
| -154.159216 58.409726 | | | |
| Zone SS25 | 945-6717 | -6 | 1.00 |
| -153.670059 58.197491 | | | |
| -153.84431 58.18428 | | | |
| -154.003896 58.160123 | | | |
| -154.022405 58.178906 | | | |
| -154.150451 58.216542 | | | |
| -154.379911 58.2221 | | | |
| -154.170534 58.302669 | | | |
| -154.215019 58.349469 | | | |
| -154.159216 58.409726 | | | |
| -153.982972 58.391473 | | | |
| -153.961876 58.392684 | | | |
| -153.952909 58.390352 | | | |
| -153.881433 58.348206 | | | |

-153.793241 58.289993
-153.695792 58.219459
-153.670059 58.197491

| | | | |
|---|---|---|---|
| Zone SS32 | 945-6717 | -6 | 0.98 |

-154.022405 58.178906
-154.150451 58.216542
-154.379911 58.2221
-154.351093 58.115935
-154.330076 58.093663
-154.237436 58.139447
-154.003896 58.160123
-154.022405 58.178906

# Final Tidal Zoning for OPR-P164-RA-2000
# Northern Shelikof Strait, AK - Sheet H-10976



NOAA FORM 77-27(H)
(9-83)

U.S. DEPARTMENT OF COMMERCE

# HYDROGRAPHIC SURVEY STATISTICS

REGISTRY NUMBER
H-10976

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

| RECORD DESCRIPTION | AMOUNT | RECORD DESCRIPTION | AMOUNT |
|---|---|---|---|
| SMOOTH SHEET | 1 | SMOOTH OVERLAYS: POS., ARC, EXCESS | N/A |
| DESCRIPTIVE REPORT | 1 | FIELD SHEETS AND OTHER OVERLAYS | N/A |

| DESCRIPTION | DEPTH/POS RECORDS | HORIZ. CONT. RECORDS | SONAR-GRAMS | PRINTOUTS | ABSTRACTS/ SOURCE DOCUMENTS | |
|---|---|---|---|---|---|---|
| ACCORDION FILES | | | | | | |
| ENVELOPES | | | | | | |
| VOLUMES | | | | | | |
| CAHIERS | | | | | | |
| BOXES | | | | | | |

SHORELINE DATA

SHORELINE MAPS (List): T-13160, T-13163 and T-13166

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 | | | |
| POSITIONS REVISED | | | |
| SOUNDINGS REVISED | | | |
| CONTROL STATIONS REVISED | | | |
| | TIME-HOURS | | |
| | *VERIFICATION* | *EVALUATION* | *TOTALS* |
| PRE-PROCESSING EXAMINATION | | | |
| VERIFICATION OF CONTROL | | | |
| VERIFICATION OF POSITIONS | | | |
| VERIFICATION OF SOUNDINGS | | | |
| VERIFICATION OF JUNCTIONS | | | |
| APPLICATION OF PHOTOBATHYMETRY | | | |
| SHORELINE APPLICATION/VERIFICATION | | | |
| COMPILATION OF SMOOTH SHEET | | | 116 |
| COMPARISON WITH PRIOR SURVEYS AND CHARTS | | | |
| EVALUATION OF SIDE SCAN SONAR RECORDS | | | |
| EVALUATION OF WIRE DRAGS AND SWEEPS | | | |
| EVALUATION REPORT | | | 48 |
| GEOGRAPHIC NAMES | | | |
| OTHER: (Chart Compilation) | | | 62 |
| *USE OTHER SIDE OF FORM FOR REMARKS — TOTALS | | | 226 |

| | | |
|---|---|---|
| *Pre-processing Examination by* | *Beginning Date* 11/15/2000 | *Ending Date* |
| *Verification of Field Data by* F. Domingo, R. Davies, R. Mayor | *Time (Hours)* 116 | *Ending Date* |
| *Verification Check by* | *Time (Hours)* | *Ending Date* |
| *Evaluation and Analysis by* I. Almacen | *Time (Hours)* 48 | *Ending Date* 10/18/2001 |
| *Inspection by* L. Deodato | *Time (Hours)* 11 | *Ending Date* 12/04/2001 |

U.S. GOVT. PRINTING OFFICE 1983: 764-006/6061

**EVALUATION REPORT**
**H-10976**

## A. PROJECT
Project information is adequately discussed in the hydrographer's report.

## B. AREA SURVEYED
This survey covers an offshore area along Shelikof Strait from Cape Nukshak to Cape Gull and is adequately described in the hydrographer's report

Page-size plots of the area on charts 16576 and 16603 depicting the specific limits of supersession accompanies this report as Attachments 1 and 2.

Depths range from 17.0 to 158.0 fathoms.

## C. SURVEY VESSELS
Survey vessels are adequately discussed in the hydrographer's report.

## D. AUTOMATED DATA ACQUISITION AND PROCESSING
The acquisition and processing of data in the field has been adequately discussed in the hydrographer's report and in the Data Acquisition and Processing Report submitted by the ship for this project..

Office processing of survey data was conducted using the same Computer Aided Resource Information System (CARIS), and Hydrographic Processing System (HPS) used by the hydrographer. The smooth sheet was compiled with MicroStation 95.

Digital data for this survey exists in the standard HPS format, a database format using the .dbf extension. In addition, the smooth sheet drawing is filed in the MicroStation format, i.e., dgn extension. Copies of these files have been forwarded to the Hydrographic Surveys Division and a backup copy retained at PHB. Database records forwarded are in the Internal Data Format (IDF) and are in compliance with specifications in existence at the time of survey processing.

The drawing files necessarily contain information that is not part of the HPS data set such as geographic names text, line-type data, and minor symbolization. In addition, those soundings deleted from the drawing for clarity purposes remain unrevised in the HPS digital files to preserve the integrity of the original hydrographic data set. Cartographic codes used to describe the digital data are those authorized by the Specifications and Deliverables dated June 2000.

The data are plotted using a Universal Transverse Mercator (UTM) projection, Zone 5 and are depicted on a single sheet.

## E. SONAR EQUIPMENT
Side scan sonar was not utilized during this survey.

## F. SOUNDING EQUIPMENT
Sounding equipment has been adequately discussed in section B1 of the hydrographer's report. SEABEAM. 1050D and 1180 echosounders were used during survey operations. No Vertical Beam Echosounder (VBES) was utilized during this survey

## G. CORRECTIONS TO SOUNDINGS
Soundings have been reduced to Mean Lower Low Water (MLLW) with tide correctors obtained from the Center For Operational Oceanographic Products and Services. The approved tide correctors are zoned from Nukshak Island, Alaska, gage 945-6717.

Other sounding reducers include corrections for static draft, dynamic draft, sound velocity, heave, roll and pitch. These reducers have been reviewed and are consistent with NOS specification.

## H. CONTROL STATIONS

Section C of the hydrographer's report contains information concerning horizontal and vertical control used during this survey. A horizontal and vertical control report for OPR-P164 was submitted under separate cover and was included in the project file.

The positions of horizontal control stations used during hydrographic operations are published values based on NAD 83. The geographic positions of all survey data are based on NAD 83. The smooth sheet is annotated with an NAD27 adjustment tick based on values determined with the NGS program NADCON. Geographic positions based on NAD27 may be plotted on the smooth sheet utilizing the NAD 83 projection by applying the following corrections.

Latitude: -2.458 seconds (-76.062 meters)
Longitude: 7.592 seconds (123.732 meters)

## I. HYDROGRAPHIC POSITION CONTROL

Differential GPS (DGPS) was used to control this survey. The satellite configuration, as indicated by HDOP and number of satellites, is monitored by POS/MV software displays to insure position data quality. The maximum HDOP allowable limit of 2.5 has not been exceeded during this survey and the quality of data obtained is good. DGPS performance checks were conducted in the field and found adequate.

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

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

## J. SHORELINE

Shoreline maps T-13160, T-13163, and T-13166 in raster format were office compiled on NAD27 and apply to this survey. The shoreline was digitized at the Pacific Hydrographic Branch on NAD83. Shoreline drawn on the smooth sheet in black originates from the above raster data as provided by the Remote Sensing Division, NGS. Being an offshore survey, shoreline shown on the smooth sheet is for orientation purposes only. The digital shoreline files and the survey file were merged during Microstation processing.

## K. CROSSLINES

Crosslines are adequately discussed in section B2 of the hydrographer's report.

## L. JUNCTIONS

Survey H-10976 junctions with the following surveys.

| Survey | Year | Scale | Year |
|---|---|---|---|
| H-10974 | 2000 | 1:10,000 | Western Limit |
| H-10975 | 2000 | 1:10,000 | Western Limit |

The junctions with surveys H-10974 and H-10975 are complete A "Joins" notes have been added to the smooth sheet where applicable.

## M. COMPARISON WITH PRIOR SURVEYS

| Survey | Year | Scale | Datum |
|---|---|---|---|
| H-7812 | 1949 | 1:40,000 | NAD 27 |
| H-7822 | 1949 | 1:20,000 | NAD 27 |
| H-9201 | 1971-72 | 1:40,000 | NAD 27 |
| H-9306 | 1972 | 1:40,000 | NAD 27 |
| H-9523 | 1975-77 | 1:10,000 | NAD 27 |
| H-9524 | 1975 | 1:10,000 | NAD 27 |

The legibility of the prior survey digital image files is considered acceptable and was adequately registered to the present survey smooth sheet. The registration was accomplished by applying the corrections mentioned in section H of this report.

Prior survey H-7812 covers most of the survey area while survey H-7822 covers only the northeastern tip of the present survey. The soundings from the current survey generally agree with the priors to within 1.0-2.0 fathoms with no consistent pattern of shoaling or increase in depths noted around the area. Aside from the natural effects of past earthquake activity, the differences in depths with the prior surveys may well be attributed to the greater sounding coverage and improved surveying methods applied to the present survey.

Prior surveys H-9201 and H-9306 cover the southern and eastern edges of the present survey. The soundings from this prior surveys generally agree with the present survey to within 1.0-2.0 fathoms for depths greater than 100.0 fathoms.

Prior surveys H-9523 and H-9524 cover the area along the western limits of the present survey. The soundings from the present survey generally agree with the priors to within 1.0-2.0 fathoms.

A more thorough bottom coverage utilizing the shallow water multibeam (SWMB) system has generally provided a better portrayal of the bottom configuration of this deep offshore area along Shelikof Strait.

Survey H-10976 is adequate to supersede the prior surveys within the area of common coverage.

## N. ITEM INVESTIGATIONS

There were no AWOIS items assigned to this survey.

## O. COMPARISON WITH CHART

Survey H-10976 was compared with the following charts.

| Chart | Edition | Date | Scale | Datum |
|---|---|---|---|---|
| 16576 | 3rd | Mar. 14, 1998 | 1:80,000 | NAD 83 |
| 16603 | 7th | Jan. 4, 1992 | 1:30,000 | NAD 83 |

a. Hydrography

Charted hydrography originates with the previously discussed prior surveys and requires no further discussion.

Survey H-10976 is adequate to supersede charted hydrography within the common area.

b. Dangers to navigation

There are no dangers to navigation found within the area of the present survey and no dangers were identified during office processing.

## P. ADEQUACY OF SURVEY

The hydrography contained on survey H-10976 is adequate to:

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

The hydrographic records and reports received for processing are adequate and conform to the requirements of the Hydrographic Manual, 4th Edition, revised through Change No. 3, the Hydrographic Survey Guidelines, the Field Procedures Manual, April 1998 Edition, and the Specifications and Deliverables dated June 2000.

## Q. AIDS TO NAVIGATION

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

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

## R. STATISTICS

This section in the hydrographer's report is no longer required under the Specifications and Deliverables dated June 2000.

## S. MISCELLANEOUS

Miscellaneous information is adequately discussed in the hydrographer's report.

## T. RECOMMENDATIONS

Survey H-10976 is a good hydrographic survey. No additional work is recommended.

## U. REFERRAL TO REPORTS

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

Isagani A. Almacen
Cartographer

APPROVAL SHEET
H-10976

Initial Approvals:

The completed survey has been inspected with regard to survey coverage, delineation of the depth curves, development of critical depths, cartographic symbolization, comparison with prior surveys and verification or disproval of charted data. The survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.

Dennis Hill Date: 12-19-01

Dennis Hill,
Chief, Cartographic Team
Pacific Hydrographic Branch

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

J E Lowell Jr. Date: 2/14/02

John E. Lowell, Jr.
Commander, NOAA
Chief, Pacific Hydrographic Branch

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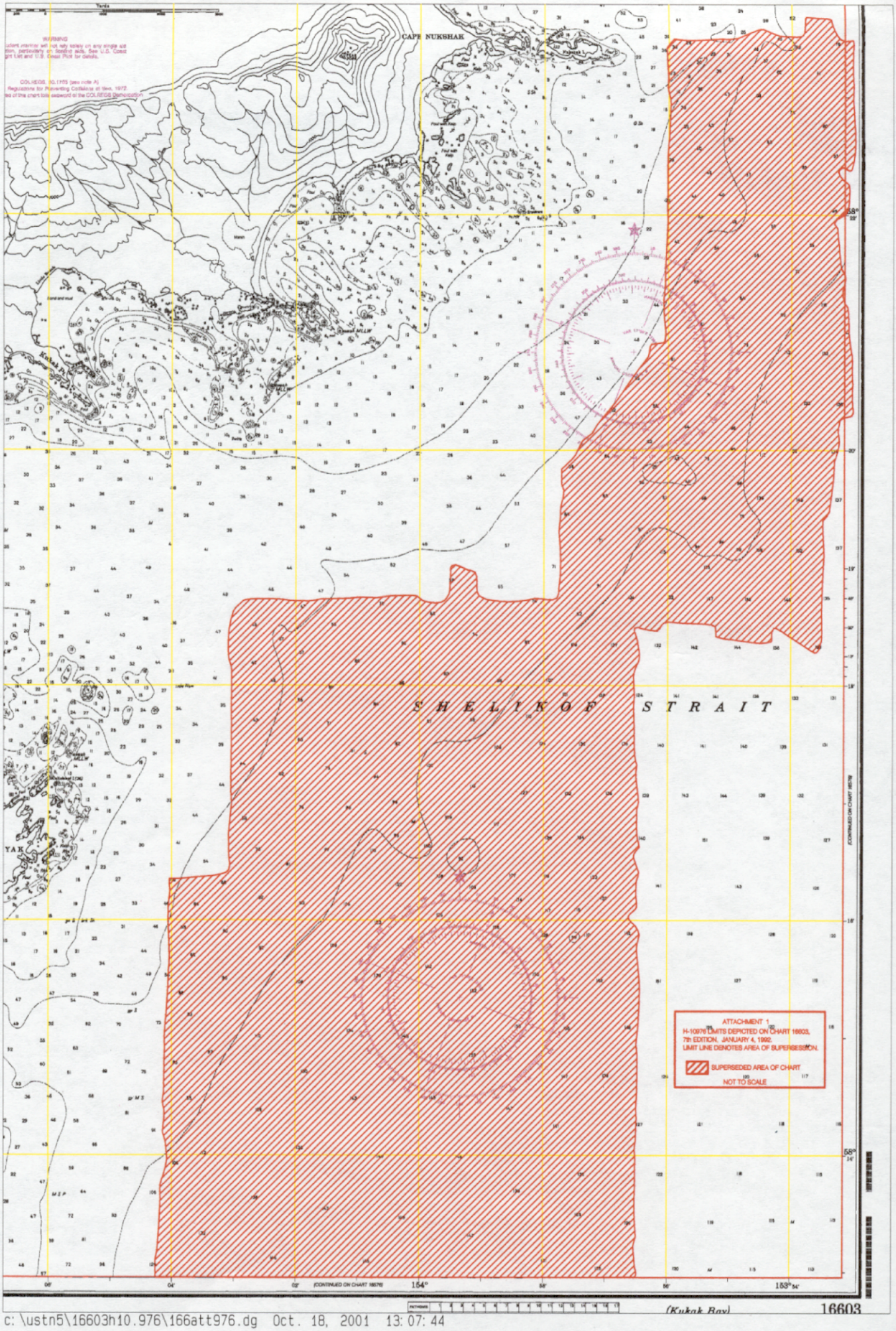
Final Approval

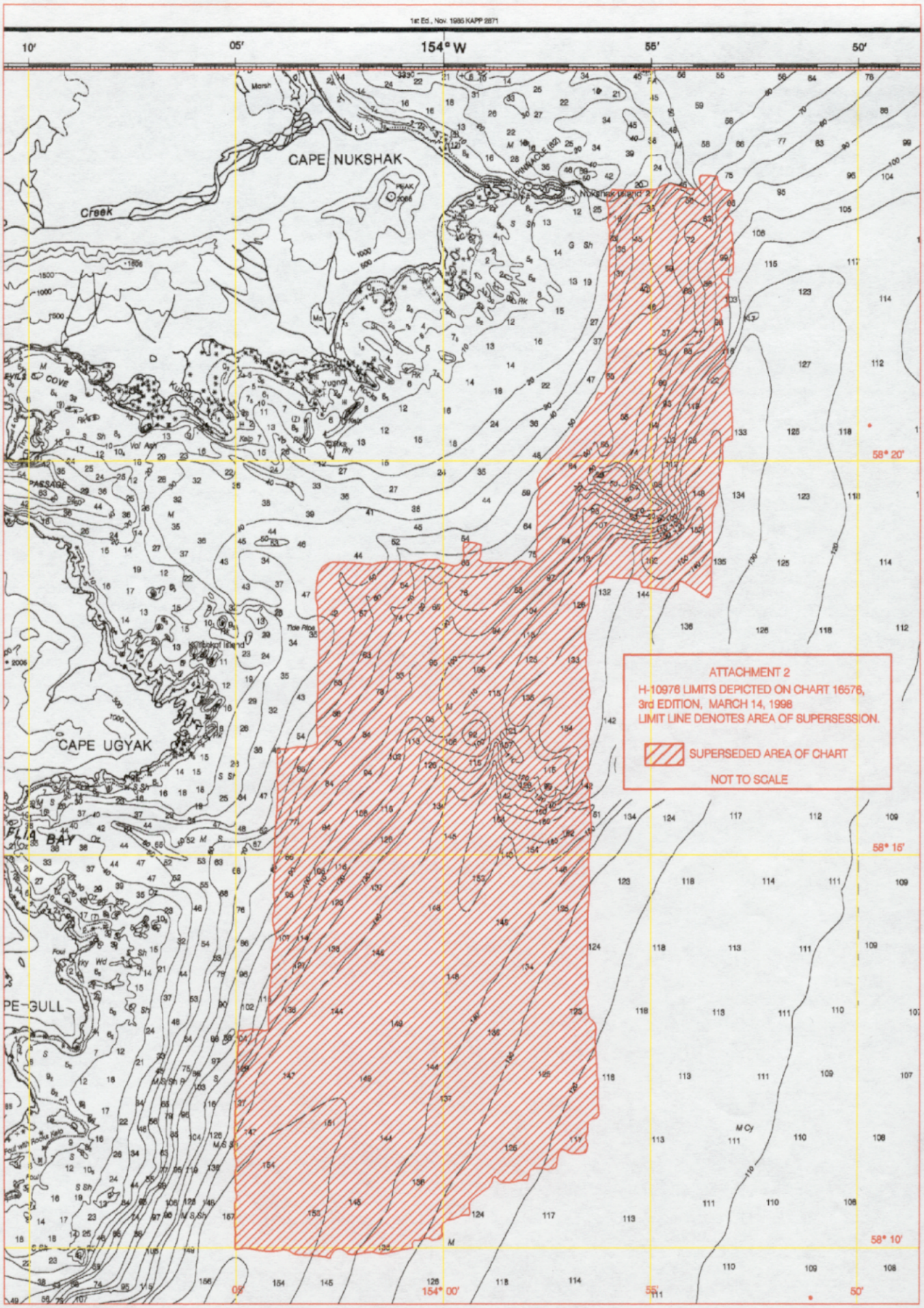
Approved:

Samuel P. De Bow, Jr. Date: May 2, 2002

Samuel De Bow, Jr.
Captain, NOAA
Chief, Hydrographic Surveys Division




c:\ustn5\16603h10.976\166att976.dg Oct. 18, 2001 13:07:44


1st Ed., Nov. 1993 KAPP 2871
10'
05'
154° W
55'
50'
CAPE NUKSHAK
Creek
CAPE UGYAK
FLIA BAY
PE-GULL
58° 20'
58° 15'
58° 10'
05'
154° 00'
55'
50'
ATTACHMENT 2
H-10976 LIMITS DEPICTED ON CHART 16576,
3rd EDITION, MARCH 14, 1998
LIMIT LINE DENOTES AREA OF SUPERSESSION.
SUPERSEDED AREA OF CHART
NOT TO SCALE

**NOAA FORM 75-96**
(10-83)

**U.S. DEPARTMENT OF COMMERCE**
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

MARINE CHART BRANCH

# RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10976

**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 |
|---|---|---|---|
| 16603 | 10/19/01 | | Full ~~Part~~ ~~Before~~ After Marine Center Approval Signed Via Full application of |
| | | | Drawing No. soundings from the smooth sheet. |
| | | | |
| 16576 | 10/24/01 | | Full ~~Part~~ ~~Before~~ After Marine Center Approval Signed Via Full application of |
| | | | Drawing No. soundings from smooth sheet thru chart 16603. |
| | | | |
| | | | Full Part Before After Marine Center Approval Signed Via |
| | | | Drawing No. |
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| | | | Full Part Before After Marine Center Approval Signed Via |
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SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED.