

H11050

NOAA FORM 76-35A

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

## DESCRIPTIVE REPORT

*Type of Survey* Hydrographic

*Field No.* RA-10-07-01

*Registry No.* H-11050

### LOCALITY

*State* Alaska

*General Locality* Zimovia Strait

*Sublocality* Anita Bay

2001

CHIEF OF PARTY  
Commander D.R. Herlihy, NOAA

### LIBRARY & ARCHIVES

DATE

## HYDROGRAPHIC TITLE SHEET

H11049

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-10-08-01

State AlaskaGeneral Locality Zimovia StraitSublocality Nemo Point and VicinityScale 1:10,000Date of Survey April 11-May 3, 2001Instructions Dated March 23, 2001Project No. OPR-O327-RAChange No.1 dated May 1, 2001Vessel RA-1(2121), RA-2(2122), RA-3(2123), RA-4(2124), RA-5(2125),  
RA-6(2126), and RA-7(2127)Chief of Party Commander D. R. Herlihy, NOAASurveyed by Ship personnel and physical scientist from Atlantic Hydrographic Branch

Soundings taken by echo sounder, hand lead, pole

Knudsen 320M, Reson 8101, Seabeam 1180Graphic record scaled by Ship personnelGraphic record checked by Ship personnelEvaluation by L. DeodatoAutomated plot by HP DesignJet 1050CVerification by E. Domingo, R. Mayor, R. Davies, L. DeodatoSoundings in Fathoms and tenths

at

MLLWREMARKS: Time in UTC.Revisions and annotations appearing as endnotes were generatedduring office processing..All depths listed in this report are referenced tomean lower low water unless otherwise noted.

**MITKOF I**

Accomplished	April	May
LNM Singlebeam	452.8	68.44
LNM Multibeam	1364.4	595.92
SQ NM Singlebeam	4.20	0.37
SQ NM Multibeam	81.65	15.77
Total SQ NM	85.85	16.14
SV Casts	142	98
Bottom Samples	50	87
AWOIS Invest.	25	16
Tide gauges	5	0
Control station	0	0
Down time (hr)	29.8	11
Days at Sea	27	14
Current meters	2	2

**Progress Sketch**

OPR-O327-RA  
Northern Clarence Strait and  
Zimovia Strait, Alaska

May 2001

Chart 17360

NOAA Ship RAINIER  
CDR D. R. Herlihy  
Commanding

**Legend**



April



May

**Sheet Q  
H11053**

**Sheet J  
H10951**

**Sheet K  
H11048**

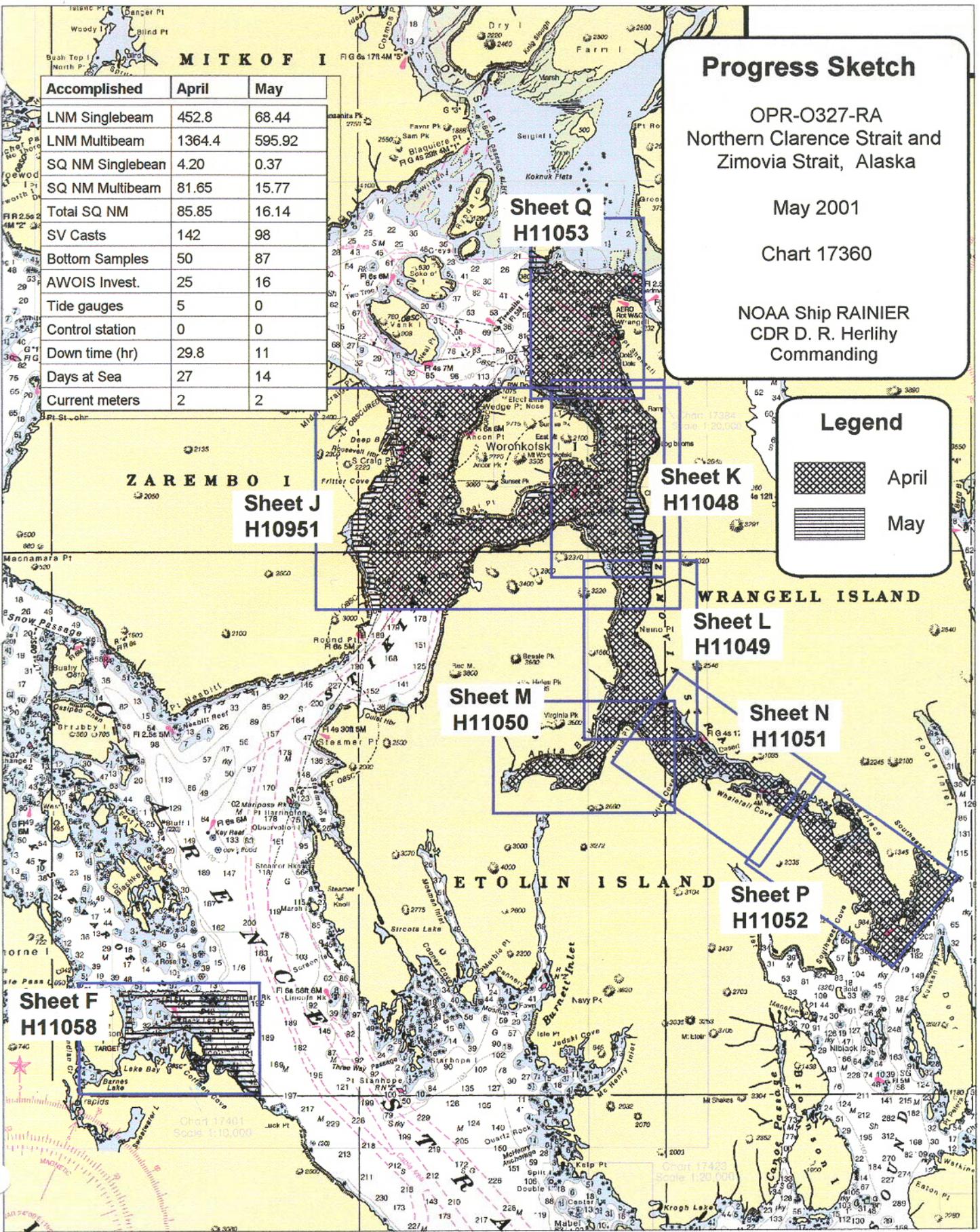
**Sheet L  
H11049**

**Sheet M  
H11050**

**Sheet N  
H11051**

**Sheet P  
H11052**

**Sheet F  
H11058**



# Descriptive Report to Accompany Hydrographic Survey H11050

Project OPR-O327-RA-01<sup>1</sup>

Northern Clarence Strait and Zimovia Strait, Alaska

Scale 1:10,000

April-May 2001

**NOAA Ship RAINIER**

Chief of Party: Commander Daniel R. Herlihy, NOAA

## A. AREA SURVEYED

This hydrographic survey was completed as specified by Hydrographic Survey Letter Instructions OPR-O327-RA-01<sup>2</sup>, dated March 23, 2001, and the Draft Standing Project Instructions dated April 6, 1998. The purpose of this project is to provide contemporary hydrography with full bottom multibeam coverage in Northern Clarence Strait and Zimovia Strait, Alaska. The project addresses inadequate chart data and responds to requests from the Seventeenth U.S. Coast Guard District, Southeast Alaska Pilots Association, and the Alaska Coastwise Pilots Association for contemporary hydrography in the vicinity of Zimovia Strait. Zimovia Strait is a connecting corridor for cruise ships and other commercial shipping traffic in Southeast Alaska, and serves as an alternate route for vessel thoroughfare through Snow Passage.

The survey area is located in Zimovia Strait in the vicinity Anita Bay, AK.<sup>3</sup> The survey's northern limit is latitude 56°14'00.34"N<sup>4</sup> and the southern limit is latitude 56°11'14.84"N<sup>5</sup>. The survey's western limit is longitude 132°30'24.03"W<sup>6</sup> and the eastern limit is longitude 132°22'26.23"W<sup>7</sup>.

Vertical-beam echo sounder (VBES) hydrography was obtained during shoreline verification to define the approximate inshore limit of hydrography. One hundred percent multibeam coverage was acquired seaward from the VBES defined inshore limit of hydrography over the entire survey area.<sup>8</sup>

Data acquisition was conducted from April 10 to May 2, 2001 (DN 96 to 122).

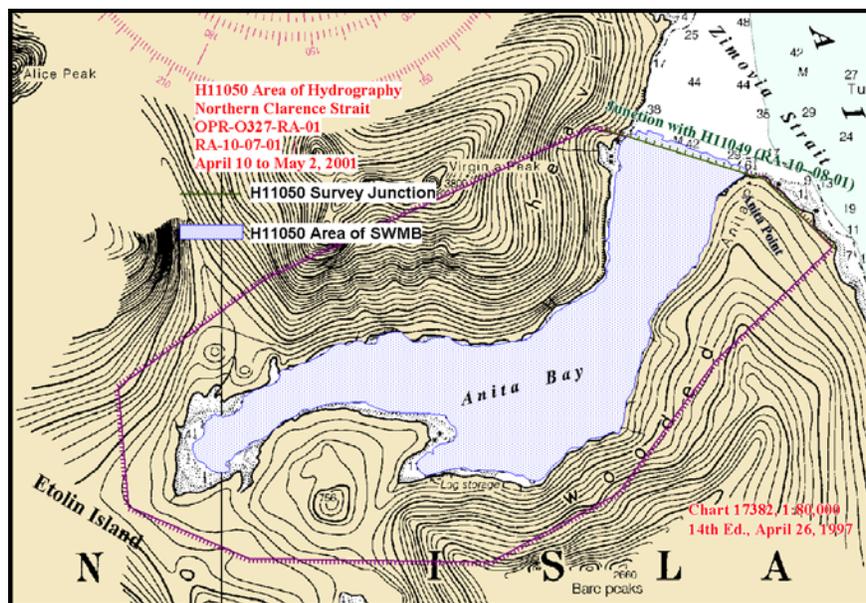


Figure 1. H11050 Survey Limits

**B. DATA ACQUISITION 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-O327-RA-01 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.

**B1. Equipment and Vessels**

Data were acquired by RAINIER’s survey launches (vessel numbers 2121, 2122, 2124, 2125, and 2126. Vessels 2121, 2124, and 2126 were used to acquire shallow-water multibeam (SWMB) soundings and sound velocity profiles. Vessels 2122 and 2125 were used to acquire vertical-beam echo soundings (VBES) and detached positions (DPs) for shoreline verification. Vessel 2125 was also used to collect bottom samples. No unusual vessel configurations or problems were encountered during this survey.

**B2. Quality Control**

**Crosslines**

Shallow-Water Multibeam (SWMB) crosslines totaled 9.36 nautical miles, comprising 7.81% of SWMB hydrography. The Quality Control Report (CARIS HIPS) for the checkline file averaged 99.0%, 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<sup>9</sup> for the detailed report.

**Junctions**

The following contemporary survey junctions with H11050:

<b>Registry #</b>	<b>Scale</b>	<b>Date</b>	<b>Junction side</b>
H11049	1:10,000	2001	North

Survey H11049 junctions well with this survey, with differences generally less than one fathom.<sup>10</sup> Final comparisons will be made at the Pacific Hydrographic Branch (PHB) after the application of smooth tides.<sup>11</sup>

**Data Quality Factors**

During data cleaning in HDCS subset mode, errors in the preliminary tidal zoning scheme were apparent. This made subset cleaning difficult, due to numerous vertical shifts of approximately 0.3 meters in the data. These errors were apparent both for predicted tides and observed water level data from the operating primary station at Ketchikan, AK (945-0460). Tide errors observed with this survey are within the allowable error budget (between 0.2 and 0.45 meters) for tides and water levels, as specified in NOS Hydrographic Surveys Specifications and Deliverables Manual section 4.1.6. The Hydrographer expects these shifts to be resolved upon application of smooth tides and final approved zoning.<sup>12</sup>

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

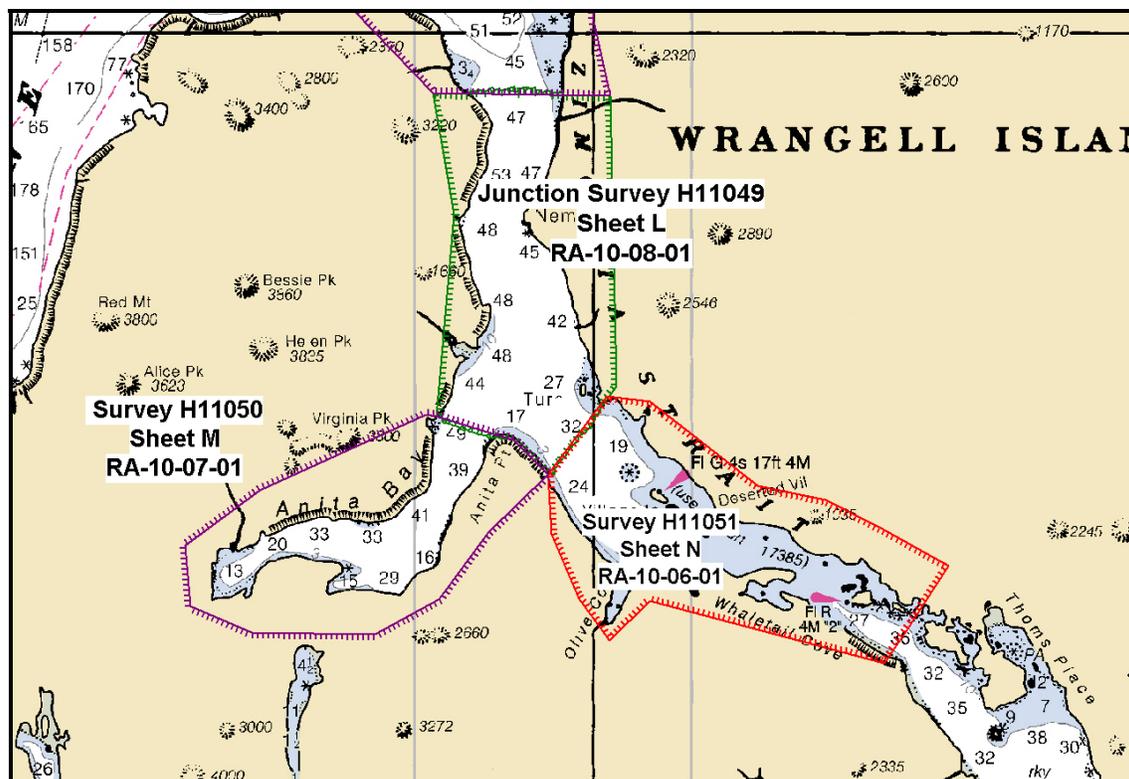


Figure 2. H11050 Junction Surveys

### B3. Data Reduction

HDSCS sounding data, both SWMB and VBES, were reduced to mean lower-low water (MLLW) using unverified observed tides from station Ketchikan (945-0460), adjusted using a height ratio corrector of 1.09 and a time corrector of (+)12 minutes. These data were used in creating the tide corrector file "SheetM\_Observed.tid" which was applied in CARIS. Detached position (DP) data were reduced to Mean Lower-Low Water (MLLW) using unverified observed tides from station Ketchikan (945-0460). These data were used in creating HPS tide table 09, which was utilized in HPTools to apply zoned tide correctors to the detached positions.

All other data reduction procedures for survey H11050 conform to those detailed in the *OPR-O327-RA-01 Data Acquisition and Processing Report*.

### C. VERTICAL AND HORIZONTAL CONTROL

A complete description of vertical and horizontal control for survey H11050 can be found in the *OPR-O327-RA-01 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. Differential corrections from U.S. Coast Guard beacons at Annette Island (323 kHz) and Point Gustavus (288 kHz) were utilized during this survey. Launch-to-

launch DGPS performance checks were performed weekly in accordance with Section 3.2 of the FPM. Copies of the performance checks are included in the *OPR-O327-RA-01 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 Ketchikan, AK (945-0460) will serve as control for datum determination and as the primary source for water level reducers for survey H11050. RAINIER personnel installed Sutron 8210 “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
Entance to Zimovia Strait	945-0970	30-day	April 6, 2001	May 12, 2001
Village Rock	945-1037	30-day	April 6, 2001	May 16, 2001
Wrangell Harbor	945-1204	30-day	April 7, 2001	May 16, 2001

The station at Village Rock (945-1037) was occupied in lieu of the station at Olive Cove (945-1015) as required by the Letter Instructions, after consultation with N/OPS1. The new station was occupied after several unsuccessful attempts to contact the property owner at Olive Cove.

The Pacific Hydrographic Branch will apply final approved (smooth) tides to the survey data during final processing.<sup>13</sup> A request for delivery of final approved (smooth) tides for survey H11050 was forwarded to N/OPS1 on May 7, 2001 in accordance with FPM 4.8.<sup>14</sup>

**D. RESULTS AND RECOMMENDATIONS<sup>15</sup>**

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

One (1) AWOIS item was located within the limits of H11050 and investigated during this survey. Investigation methods, results, and charting recommendations have been entered into the Microsoft Access AWOIS database and are submitted with the digital data. Printouts of the AWOIS Database forms are included in Appendix VI<sup>16</sup> of this report.<sup>17</sup>

**D.2 Chart Comparison**

Survey H11050 was compared with charts 17382 (14<sup>th</sup> Ed.; April 26, 1997, 1:80,000) and 17385 (13<sup>th</sup> Ed., July 24<sup>th</sup> 1993, 1:80,000).<sup>18</sup>

**Chart 17382**

Depths from survey H11050 were generally one to two fathoms shoaler than depths on chart 17382. In many instances, this survey found shoaler soundings between charted soundings even though agreement at the position of the charted depths was good. This can likely be attributed to increased bottom coverage using SWMB.<sup>19</sup> Two considerable trends that differed from the general agreement of charted and survey depths were noticeable in the east section of Anita Bay. These trends and other significant differences are addressed below.

The survey depths along the northeast shore, from Anita Point to the first westerly bend of shoreline, revealed depths ten to thirty fathoms deeper than the charted depths. The position of the charted depths generally agree with the survey depths located approximately 150 meters inshore of the charted depths. This general offset can likely be attributed to the steep gradient of this area.<sup>20</sup>

The survey depths located in the center of the north section of Anita Bay were three to six fathoms shoaler than charted depths. The differences can likely be attributed to increased bottom coverage using SWMB.<sup>21</sup>

The survey depths along the mud flats located at the head of Anita Bay along the northern shore revealed a general shoaling trend.<sup>22</sup> Comparable survey soundings were revealed 130 meters offshore of the charted 4<sup>1</sup>/<sub>4</sub>-fathom sounding at 56°11'36.74"N, 132°30'25.80"W (654,676.1E, 6,230,416.9N) and the charted 8-fathom sounding at 56°11'41.71"N, 132°30'14.23"W (654,869.9E, 6,230,577.7N). The shoaling can likely be attributed to sediment deposits into the mud flats from the stream located at the head of Anita Bay.<sup>23</sup>

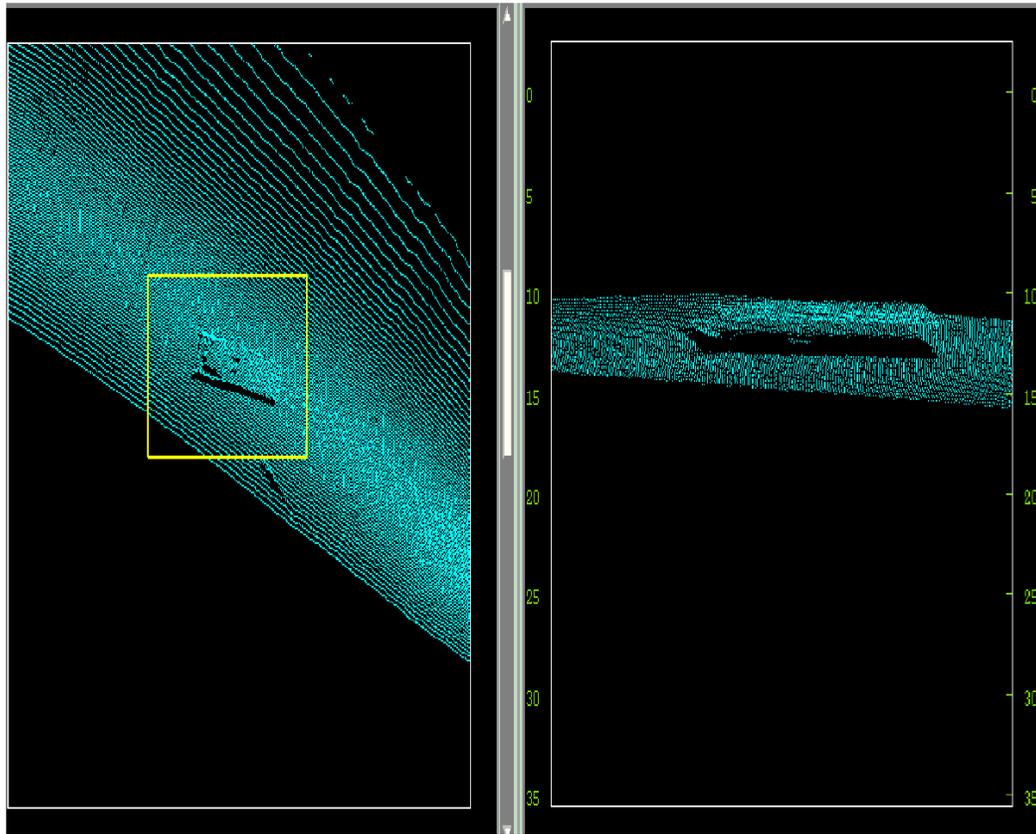
In the vicinity of a charted 33-fathom sounding at 56°12'09.30"N, 132°27'37.62"W (657,537.2E, 6,231,523.8N) the present survey revealed depths of 27 to 28 fathoms. This area was covered by 100% SWMB.<sup>24</sup>

In the vicinity of a charted 11<sup>25</sup>-fathom sounding at 56°11'21.85"N, 132°27'12.13"W (658,030.4E, 6,230,078.7N) the present survey revealed depths of 0.6 to 2.8 fathoms. The shoaling can likely be attributed to sediment deposits from the streams located in this area. This area was covered by 100% SWMB.<sup>26</sup>

A new wreck was located at 56°11'20.40"N, 132°25'57.78"W (659,313.2E, 6,230,081.5N) with a least depth of 10.3 meters (see figures 4 & 5). The least depth was obtained with SWMB and verified by divers. The dive investigation report is included in Section I<sup>27</sup> of *Separates to be Included with Survey Data*. The dimensions of the wreck measured 4.9 meters (16.2 feet) wide, 1.8 meters (6.0 feet) tall, and 17.7 meters (49.0 feet) long. The wreck appeared to be a wooden barge. The Hydrographer recommends charting a wreck of known depth in this position.<sup>28</sup>

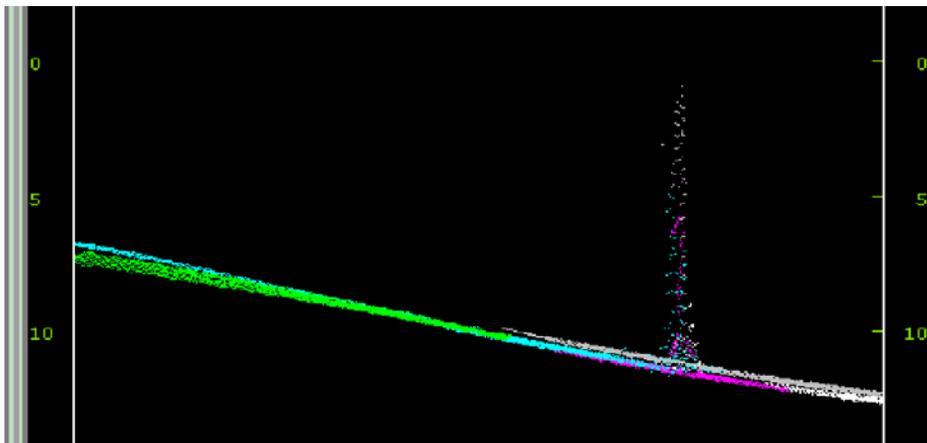


Figure 4. HDCS DTM of wreck



*Figure 5. HDCS subset data of wreck*

A tree was located at the head of Anita bay, at 56°11'28.17"N, 132°30'15.56"W (654,862.2E, 6,230,158.5N)<sup>29</sup> Position # 20288. The tree was firmly anchored to the bottom and oriented at a slight angle. The tree was present in the same position throughout the duration of the survey. During shoreline verification, the tree was exposed approximately four meters above low water. SWMB depths acquired over the tree were flagged as outstanding in HDCS. The following (Figure 6) is the SWMB data acquired over the tree, displayed in HDCS subset mode. This includes data from RA1 DN-101 (line 013\_1834) and DN-2 (lines 034\_1834 and 033\_2245).<sup>30</sup>



*Figure 6. Obstruction (tree) in HDCS subset mode*



*Figure 7. Digital photograph of tree (Position # 20288)*

### **Chart 17385**

Chart 17382 is at a scale common with chart 17385, and all soundings and features are identical on both charts.<sup>31</sup> The comparison between H11050 and chart 17382 is therefore identical to the comparison with chart 17385<sup>32</sup>.

Final sounding comparisons will be made at the Pacific Hydrographic Branch after the application of smooth tides.<sup>33</sup>

### **D.3 Shoreline**

#### **Method of Shoreline Verification**

N/NGS3 supplied photogrammetric shoreline data in vector format as Cartographic Feature Files (CFF) from project AK-9702D. The CFF vector shoreline data were converted for use in HYPACK for field verification and were used as the primary shoreline source. In the area of Zimovia Strait (project AK-9702D), approximate MLLW features and a very limited portion of mean high-water shoreline were included in the CFF. The remainder of the high-water line (HWL) and high-water features were digitized by RAINIER personnel from T-sheets TP00576 and TP00575. In addition, features shown on the current editions of charts 17382 and 17385 that were not depicted on any shoreline source document were digitized in MapInfo by RAINIER personnel and displayed in HYPACK for field verification. In instances in which charted features were digitized, RAINIER personnel attempted to identify the source of the feature by reviewing prior surveys, although in many instances the quality of the prior surveys images was poor and RAINIER was unable to register them in MapInfo.

Shoreline verification was conducted near predicted low water in accordance with the Standing Project Instructions and FPM 6.1 and 6.2. For this survey the general limit of safe navigation of a survey launch was five to 50 meters offshore of the apparent mean lower-water line. Water depths along this limit of safe navigation were approximately four meters at Mean Lower-Low Water (MLLW). Features inshore of this limit unreachable by survey launch are depicted on the Detached Position and Bottom Sample Plot<sup>34</sup> as the Hydrographer's approximate representation of the shoreline.

Detached positions (DPs) taken during shoreline verification were recorded in HYPACK and on DP forms, and processed in HPS and Pydro. These indicate revisions to features, and features not found on the CFF, T-Sheet, or chart. In addition, annotations describing shoreline were recorded on hard copy plots of digital shoreline. DP forms are included in Section I of the *Separates to be Included with Survey Data*. A detailed Detached Position and Bottom Sample plot, in both paper copy and MapInfo format, is provided showing all detached positions and bottom samples with notes relating to each feature. The updated shoreline and features are also depicted on the final sounding plot.

The features found during this survey generally matched those of the source and charted shoreline. The CFF shoreline was found to be very accurate in its depiction of low and high water features, requiring little revision. In many cases the MLLW line on the CFF was found to actually be ledges, and the changes are reflected on the DP and BS Plots.<sup>35</sup>

The Pacific Hydrographic Branch will complete a further review of shoreline data upon receipt of the complete Cartographic Feature Files data set.<sup>36</sup>

### **Source Shoreline Changes and New Features**

Several changes and new features were found and are depicted on the final DP plot. T-sheet and charted rocks were often identified as boulders on the beach. Several new rocks and ledges were found and are depicted on the final Detached Position and Bottom Sample Plot.<sup>37</sup>

A new foul area, located at the northwest corner of Anita Bay, centered on position 56°13'46.83"N, 132°24'20.03"W (660,827.3E, 6,234,670N), was delineated by detached positions 20126 and 20127. The area is foul with boulders. Refer to Appendix VII<sup>38</sup> for digital photographs of the new foul area.

A new fish hatchery was located in a small inlet along the northwest shore of Anita Bay, centered on position 56°12'07.28"N, 132°29'06.06"W (656015.7E, 6,231,410.6N). A log boom was positioned across the inlet, delineated by positions 20284 and 20285. A mooring buoy was positioned 40 meters offshore of the log boom (Pos.#20286) at 56°12'4.62"N, 132°29'5.26"W (656,033.3E, 6,231,328.5N). The Southeast Alaska Regional Agriculture Association (SARAA) operates the fish hatchery. Refer to Appendix VII<sup>39</sup> for digital photographs of the hatchery.

A new floating pier located in the small inlet in the south center of Anita Bay centered on position 56°11'27.98"N, 132°27'01.89"W (658,212.5E, 6,229,930.1N) was delineated by Pos.#50187 and #50189. Two new pilings were positioned at the base of the pier, Pos.# 50190 and Pos.#50188. Refer to Appendix VII<sup>40</sup> for digital photographs of the floating pier.

A new bulkhead, located along the southern shoreline in the center of Anita Bay, centered on position 56°11'16.83"N, 132°27'03.55"W (658,183.9E, 6,229,929.1N) was delineated with Pos.#20297 and Pos.#20298.<sup>41</sup>

The T-sheet (TP 00576) rock located at 56°11'40.38"N, 132°24'15.83"W (661,046.9E, 6,230,764.8N) was disproved after conducting a 10-minute visual and VBES search. The T-sheet rock was charted on the HWL and was not visible during shoreline acquisition. The bottom was visible up to 10 meters offshore with a bottom type of sand, gravel, and eelgrass. The VBES search was conducted in a star pattern 50 meters offshore of the TS rock. Soundings could not be obtained closer to the position of the TS rock due to the shoal nature of the area. The photograph below was taken where the TS rock was positioned (Figure 8). A sandy shoal 310 meters southeast of the TS rock was positioned at 56°11'40.77"N, 132°24'17.08"W (661,024.9E, 6,230,774.2N) during shoreline acquisition (Pos.# 20296). The Hydrographer believes the TS rock is the sandy shoal found during shoreline verification and the TS rock should not be charted.<sup>42</sup>



*Figure 8. TS rock disproval (Position # 20296)*

### Charted Features

The charted (17382) rock at 56°13'55.08"N, 132°24'17.68"W (660,858.2E, 6,234,926.5N) was disproved after conducting a five-minute visual search and a VBES star pattern search (RA2, DN102). Due to the shoal nature of the surrounding area, the VBES star pattern disproval was conducted only on the offshore half of the 50-meter radius of the charted rock. Additionally, the rock's charted position was partially covered with 100% SWMB. Water visibility in this area was clear to the bottom with a depth of four meters (Pos. #20,120). The Hydrographer recommends removal of the charted rock.<sup>43</sup>

The position of the two charted (17382) rocks located at 56°13'49.29"N, 132°24'26.37"W and 56°13'46.79"N, 132°24'26.40"W were positioned 80 meters east-southeast at 56°13'48.68"N, 132°24'21.60"W (660,798.3E, 6,234,726.0N, Pos. # 20,124) and 56°13'47.08"N, 132°24'21.07"W (60,809.1E, 6,234,677.0N, Pos. # 20,125), respectively, during shoreline verification. The Hydrographer recommends revising the positions of the charted rocks.<sup>44</sup>

### Recommendations

The Hydrographer recommends that the shoreline as depicted on the Detached Position and Bottom Sample plot and Final Field Sheet supersede and complement shoreline information compiled on the CFF and charts as noted.<sup>45</sup> These revisions are recorded in the MapInfo digital files named "H11050\_Shoreline" and "H11050\_ShorelineUpdates". In addition, field notes made by the Hydrographer, including verification of source features and descriptions of shoreline classification, are submitted in the digital MapInfo file "H11050\_ShorelineNotes."

#### **D.4 Dangers to Navigation**

Eight dangers to navigation were found during processing and reported to the Pacific Hydrographic Branch (PHB, N/CS34) on October 26, 2001, for verification and transmittal to the U.S. Coast Guard. A copy of the preliminary Danger to Navigation Report is included in Appendix I.<sup>46</sup> A copy of the final report will be inserted by PHB.<sup>47</sup>

#### **D.5 Aids to Navigation**

No aids to navigation (ATONs) were located within the limits of H11050.<sup>48</sup>

#### **D.6 Miscellaneous**

Bottom samples were collected and are depicted on the Detached Position and Bottom Sample Plot.<sup>49</sup>

**E. APPROVAL**

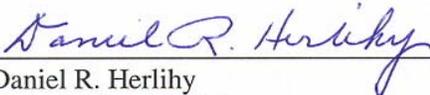
As Chief of Party, I have ensured that standard field surveying and processing procedures were followed in producing this examination in accordance with the Hydrographic Manual, Fourth Edition; the Hydrographic Survey Guidelines; the Field Procedures Manual, and the NOS Hydrographic Surveys Specifications and Deliverables, as updated for 2001.

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 H11050 is complete and adequate to supersede charted soundings in their common areas. No additional work is required for this survey.<sup>50</sup>

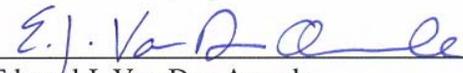
Listed below are supplemental reports submitted separately, which contain additional information relevant to this survey:

<u>Title</u>	<u>Date Sent</u>	<u>Office</u>
Data Acquisition and Processing Report for OPR-O327-RA-01	July 30, 2001	N/CS34
Horizontal and Vertical Control Report for OPR-O327-RA-01	July 30, 2001	N/CS34
Tides and Water Levels Package for OPR-O327-RA-01	July 2, 2001	N/OPS1
Coast Pilot Report for OPR-O327-RA-01	TBD	N/CS26

Approved and Forwarded:   
 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:   
 Angelika G. Messer  
 Ensign, NOAA

Field Operations Officer:   
 Edward J. Van Den Ameele  
 Lieutenant, NOAA

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### Revisions Compiled During Office Processing and Certification

<sup>1</sup> Strikethrough ~~04~~

<sup>2</sup> Strikethrough ~~04~~

<sup>3</sup> Survey encompasses Anita Bay and the vicinity.

<sup>4</sup> Revise GP to 56°14'00"N

<sup>5</sup> Revise GP to 56°11'14"N

<sup>6</sup> Revise GP to 132°30'30"W

<sup>7</sup> Revise GP to 132°22'00"W

<sup>8</sup> Concur

<sup>9</sup> Filed with the hydrographic data

<sup>10</sup> Concur

<sup>11</sup> Concur. The junction with survey H11049 is complete. A "Joins" note has been added to the smooth sheet and placed on Microstation level 21. This level has been turned off for plotting purposes.

<sup>12</sup> Concur- The vertical shifts discussed by the hydrographer appear to have been resolved with the application of approved tides.

<sup>13</sup> Concur

<sup>14</sup> Approved tide note dated August 31, 2001 is attached.

<sup>15</sup> The present survey was compared to the following prior survey.

<u>Survey</u>	<u>Year</u>	<u>Scale</u>
H4251	1922	1:20,000

The present survey depths generally reflect a consistent shoal bias of 1-2 fathoms throughout the common area with H4251. However, there are a few isolated areas where greater depth differences are noted. Depth differences can largely be attributed to more accurate data acquisition techniques and better bottom coverage. It should also be noted that the mean high water line appears to have accreted seaward approximately 50-100 meters since 1922. The evaluator recommends charting the MHWL from contemporary RSD shoreline data. Additional differences at the head of Anita Bay can likely be attributed to sedimentation processes. A large vessel anchorage symbol has been brought forward to the present survey at latitude 56/11/34N, longitude 132/30/05W. Except as noted, the present survey is adequate to supersede the above prior survey within the common area.

<sup>16</sup> Filed with the hydrographic record

<sup>17</sup> Copy attached to this report

<sup>18</sup> Office comparisons were made to the 15<sup>th</sup> Edition of chart 17382 and 14<sup>th</sup> Edition of chart 17385.

<sup>19</sup> Concur with statements as noted by the hydrographer.

<sup>20</sup> The charted depths noted by the hydrographer originate from H4251 and plot from 150-240 meters west of the present smooth sheet depths. These differences are largely attributed to a combination of a steep gradient along the northeast shore near Anita Point and more accurate data acquisition techniques.

<sup>21</sup> Concur with clarification. The present survey generally reflects differences of 1-2 fathoms with the prior survey throughout the common area. However, there are a few isolated instances where the present survey is shoaler from 3-6 fathoms. These differences are largely due to more accurate data acquisition techniques and increased bottom coverage.

- 
- <sup>22</sup> Concur
- <sup>23</sup> Concur. See endnote 15 describing mean high water line changes
- <sup>24</sup> Concur. Chart soundings in this area from the present survey.
- <sup>25</sup> This sounding is no longer charted on the 15<sup>th</sup> Edition.
- <sup>26</sup> Concur. Chart this area based on the present survey information.
- <sup>27</sup> Filed with the hydrographic data
- <sup>28</sup> Concur. Chart 5.5 wreck as depicted on the smooth sheet.
- <sup>29</sup> ~~Strikethrough 56°11'28.17"N, 132°30'15.56"W (654,862.2E, 6,230,158.5N)~~ and replace with 56°11'28.20"N, 132°30'15.39"W (654,865.0E, 6,230,159.5N).
- <sup>30</sup> The evaluator recommends charting a snag as depicted on the smooth sheet.
- <sup>31</sup> Concur
- <sup>32</sup> Concur. Chart 17382, 1:80,000 covers the entire area of the present survey and was used for comparison during office processing.
- <sup>33</sup> Concur
- <sup>34</sup> Detached position and bottom sample plots are filed with the hydrographic records.
- <sup>35</sup> Concur. Changes on the DP and BS plots have been shown on the smooth sheet as warranted.
- <sup>36</sup> Concur. GC-10943 was provided by the Remote Sensing Division to the Pacific Hydrographic Branch. This final shoreline map was compared to the field work and applied to the smooth sheet with consideration for shoreline verification data provided by the hydrographer. Except as noted above, comparison of the preliminary CFF vector shoreline with GS-10943 during office processing revealed no significant differences.
- <sup>37</sup> Concur. DP and BS plot is filed with the hydrographic data.
- <sup>38</sup> Copy attached to this report. The evaluator recommends charting this foul area as depicted on the smooth sheet.
- <sup>39</sup> Copy attached to this report. The evaluator recommends charting this area as depicted on the smooth sheet.
- <sup>40</sup> A digital photograph of the floating pier was not provided by the hydrographer. The evaluator recommends charting the floating pier as depicted on the smooth sheet. The two piles located at the base of the pier cannot be depicted based on chart scale.
- <sup>41</sup> Concur. Chart bulkhead at survey position.
- <sup>42</sup> Concur. Chart this area based on the present survey information.
- <sup>43</sup> Concur. Chart this area based on the present survey information.
- <sup>44</sup> Concur
- <sup>45</sup> Concur with clarification. Shoreline verification provided by the hydrographer was analyzed during office processing and shown on the smooth sheet as warranted. The evaluator recommends that the smooth sheet be used as the charting source.
- <sup>46</sup> Appendix I is filed with the hydrographic records. A copy of the danger to navigation letter is attached to this report.
- <sup>47</sup> Concur. Date of office review and transmittal to the USCG is October 29, 2001. The eight dangers to navigation submitted by the field were not all compiled to the H-drawing based on chart scale and or shoaler selected depths from the smooth sheet.
- <sup>48</sup> Concur
- <sup>49</sup> Concur. Bottom samples collected by the hydrographer were depicted on the smooth sheet as shown on the DP and bottom sample plot.
- <sup>50</sup> Concur with clarification. See endnote 15.



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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: August 31, 2001

HYDROGRAPHIC BRANCH: Pacific  
HYDROGRAPHIC PROJECT: OPR-0327-RA-2001  
HYDROGRAPHIC SHEET: H11050

LOCALITY: North Clarence Strait, AK  
TIME PERIOD: April 10 - May 2, 2001

TIDE STATION USED: 945-1037 Village Rock, AK  
Lat.  $56^{\circ} 13.2'N$  Lon.  $132^{\circ} 17.8'W$   
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters  
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 4.650 meters

REMARKS: RECOMMENDED ZONING  
Use zone(s) identified as: SA125 & SA126.

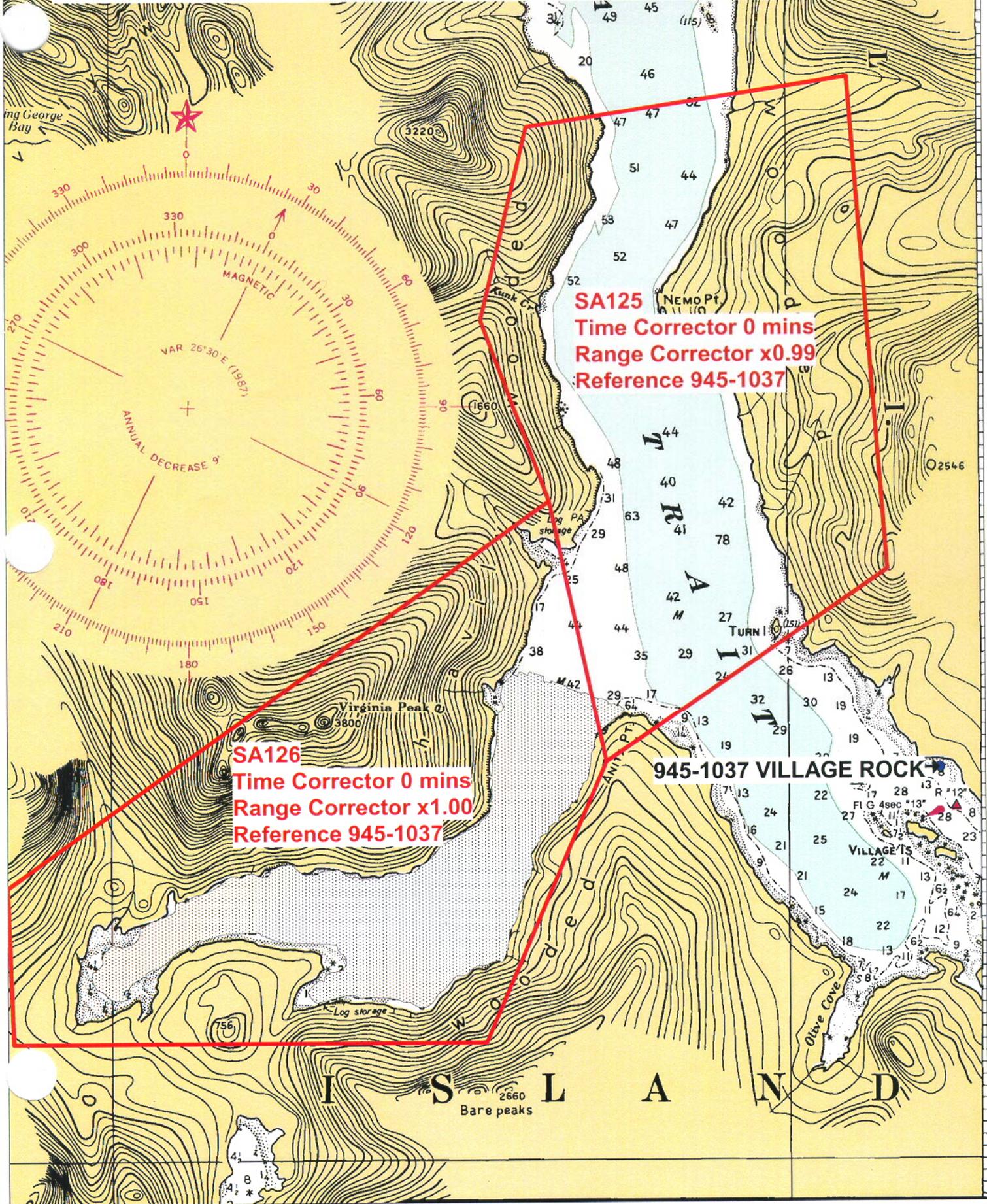
Refer to attachments for zoning information.

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

For 

CHIEF, REQUIREMENTS AND DEVELOPMENT DIVISION

# Final Tidal Zoning for OPR-0327-RA-2001 North Clarence Strait, AK - Sheet H11050



Final tide zone node point locations for OPR-O327-RA-2001,  
Sheet H11050.

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 SA125	945-1037	0	0.99
-132.30884 56.248083			
-132.318335 56.315999			
-132.397021 56.309213			
-132.408504 56.282559			
-132.391813 56.257555			
-132.37803 56.221639			
-132.30884 56.248083			
Zone SA126	945-1037	0	1.00
-132.37803 56.221639			
-132.407862 56.182904			
-132.52433 56.182899			
-132.52573 56.204464			
-132.391813 56.257555			
-132.37803 56.221639			

RECRD 
 VESSLTERMS 
 CHART 
 AREA 
  
 CARTOCODE 
 SNDINGCODE 
 DEPTH

LAT83 
 LONG83 
 NATIVDATUM 
  
 LATDEC: 
 LONDEC: 
 GPQUALITY 
  
 GPSOURCE

PROJECT 
 ITEMSTATUS 
 SEARCHTYPE 
  
 RADIUS 
 INIT 
 ASSIGNED 
  
 TECHNIQ

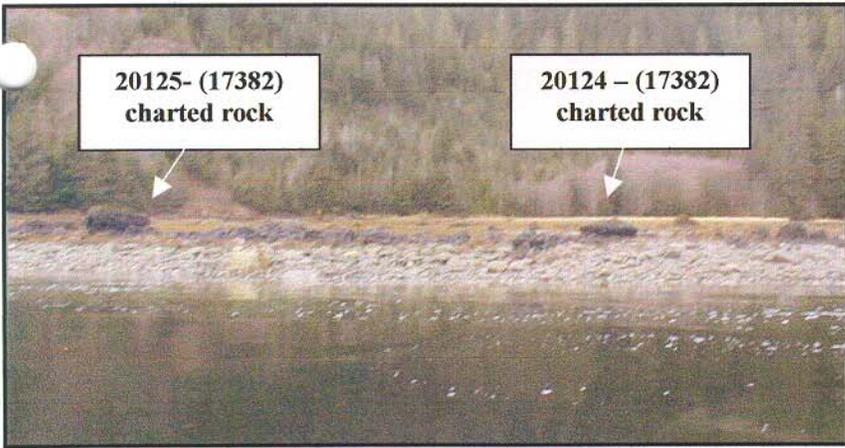
Techniqnote

History

Fieldnote 
 POSITION DETERMINED BY: DIFFERENTIAL GPS  
 INVESTIGATION SUMMARY: The log storage area was investigated visually along the shoreline and 100% SWMB coverage from the 0.5-fathom contour seaward. No log storage area was located within the AWOIS radius or surrounding area.  
 CHARTING RECOMMENDATION (HYDROGRAPHER): The Hydrographer recommends removing the log storage area from the chart.  
 EVALUATOR COMMENTS:Concur"/>

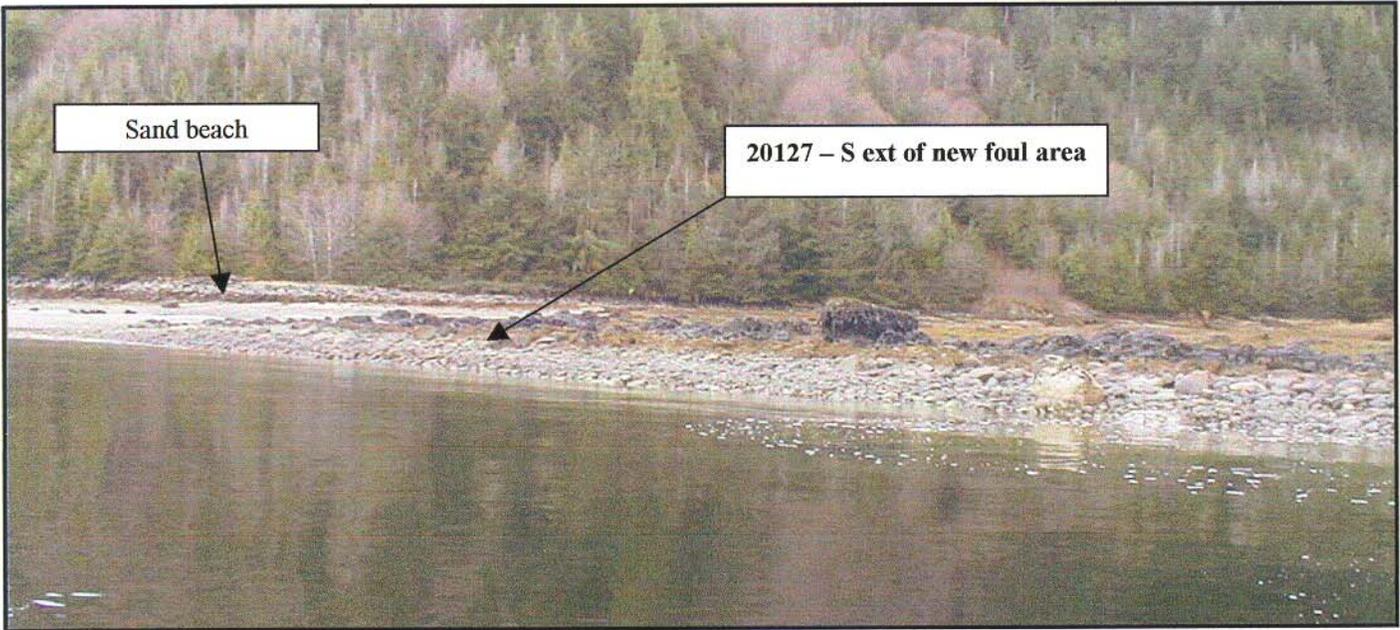
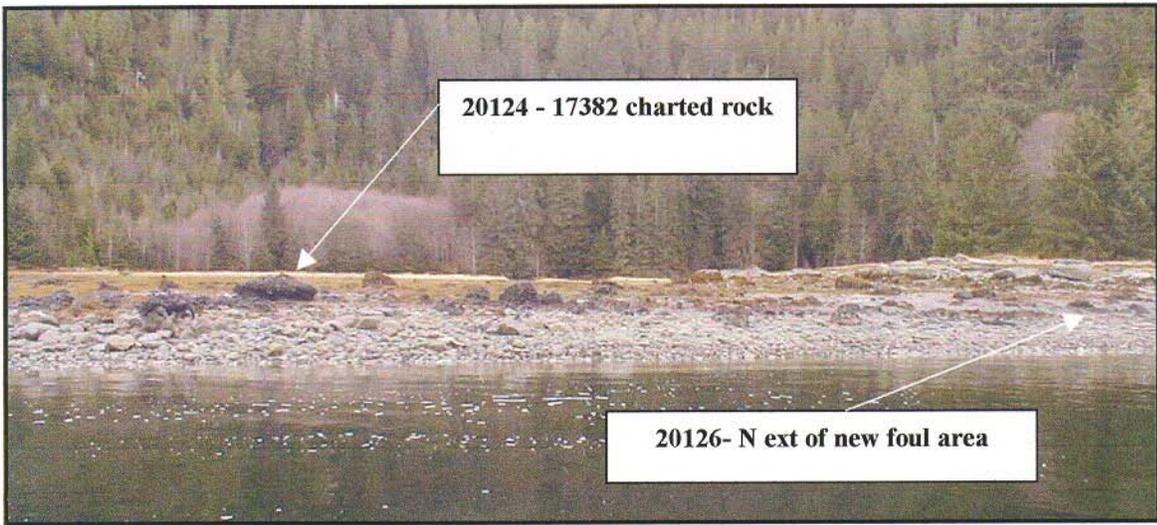
Proprietary

YEARSUNK 
 NIMANUM

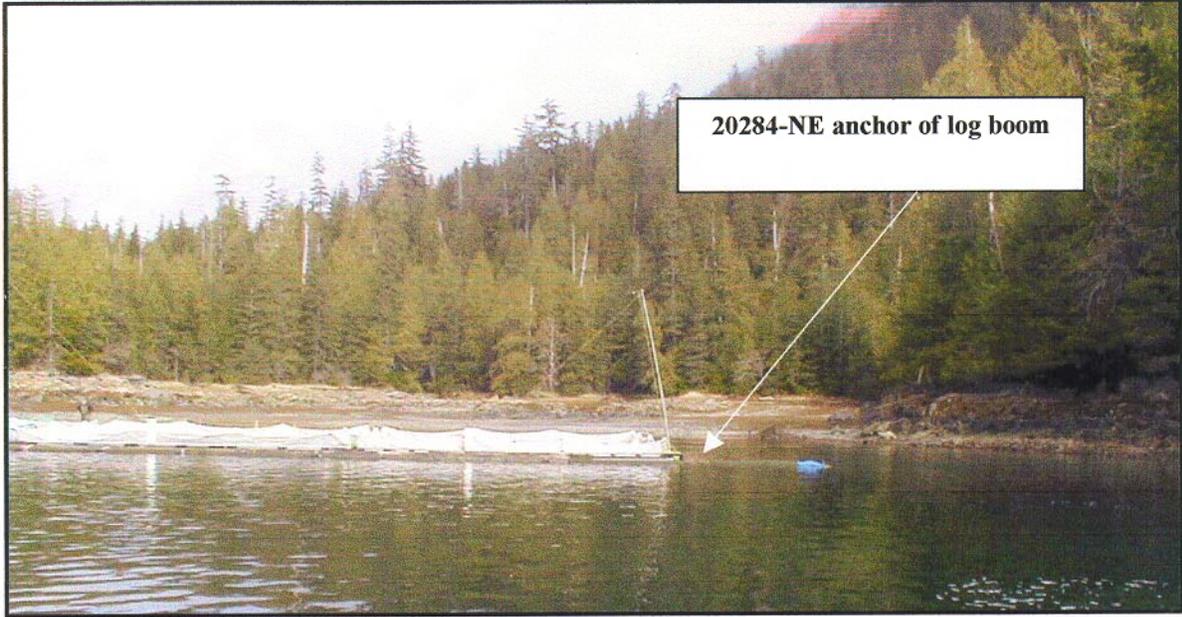


**OPR-O327-RA-01**  
**H-11050**  
**SHEET M**

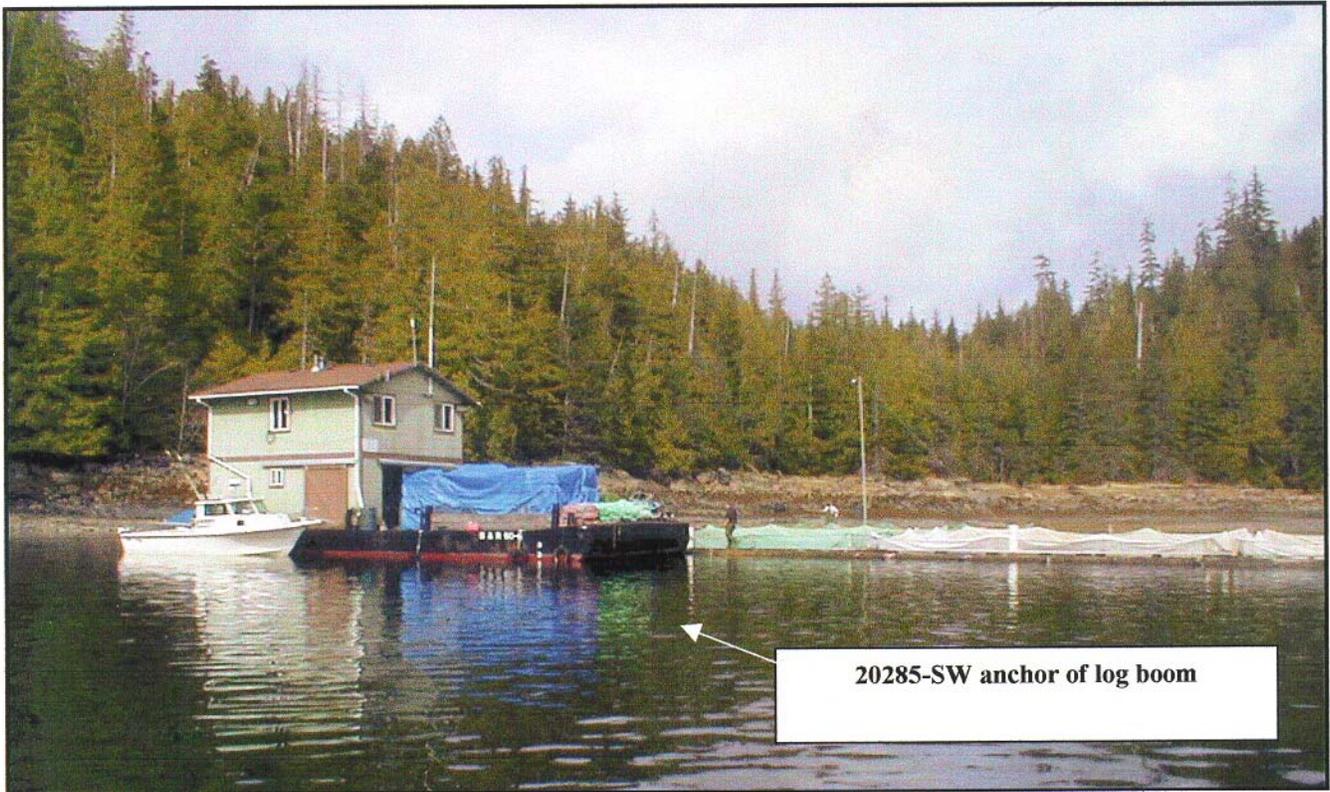
**FIX NUMBERS: 20124- 20127**



**OPR-O327-RA-01  
H-11050  
SHEET M  
FIX NUMBERS: 20284, 20285, & 20286**



**20284-NE anchor of log boom**

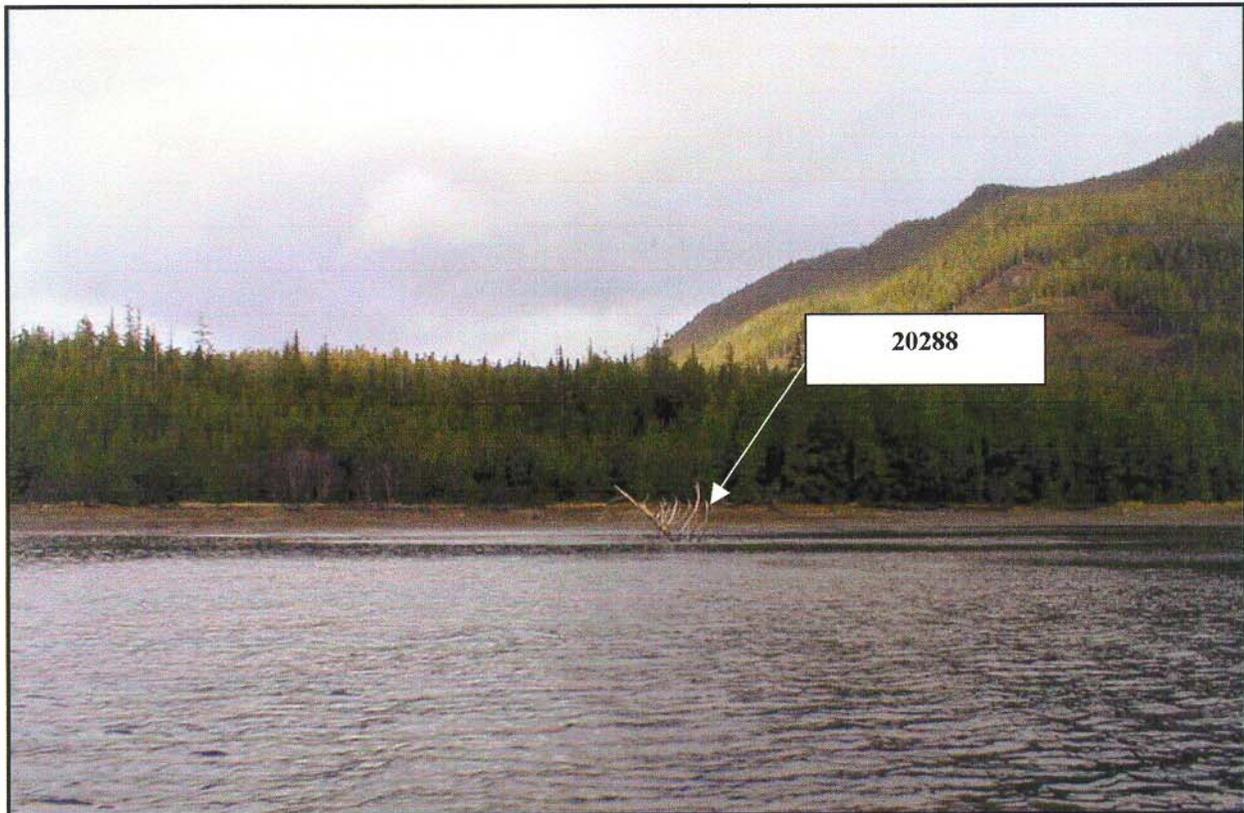
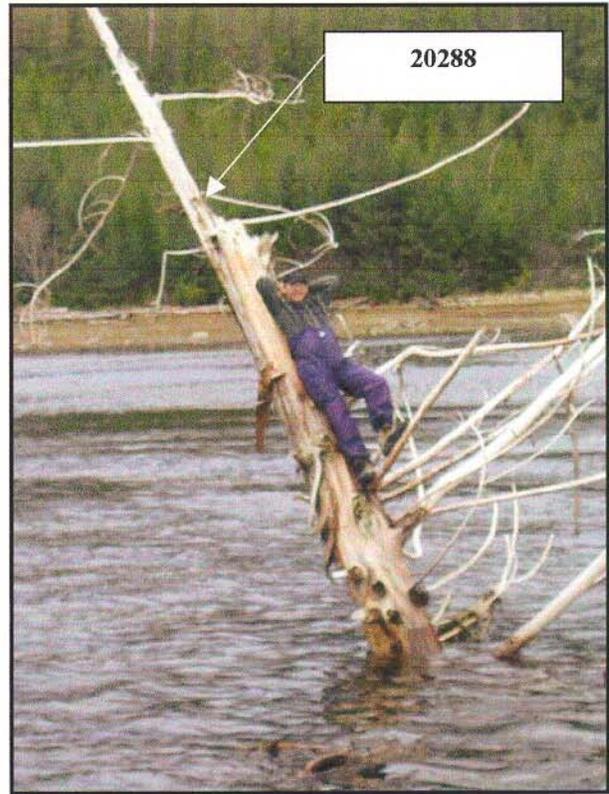


**20285-SW anchor of log boom**

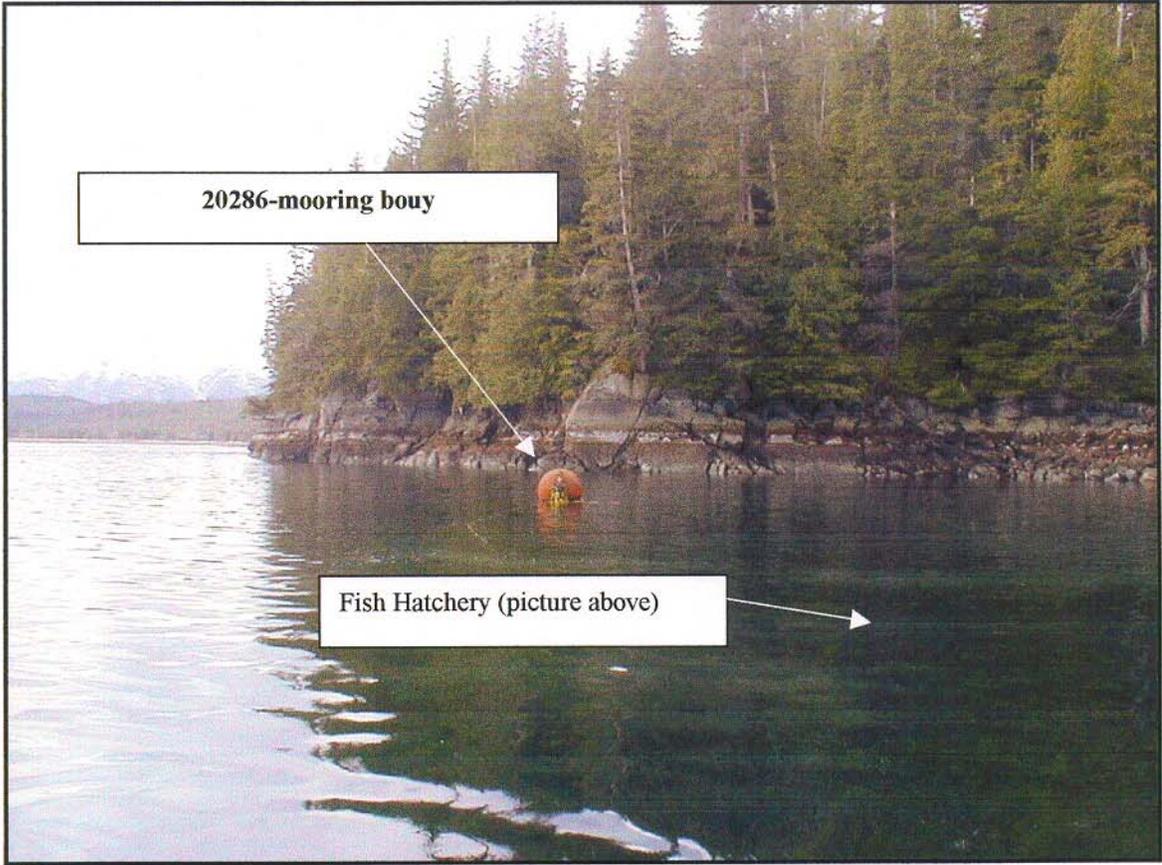
**Log boom for fish hatchery**

**OPR-O327-RA-01  
H-11050  
SHEET M**

**FIX NUMBER: 20288**



**20288 Obstruction is tree Southwest view**



20286-mooring bouy

Fish Hatchery (picture above)

Hydrographic Survey Registry Number: H11050

Survey Title: State: Alaska  
Locality: Zimovia Strait  
Sub-locality: Anita Bay

**ADVANCE  
INFORMATION**

Project Number: OPR-O327-RA-01

Survey Dates: April 10 to May 2, 2001

Depths are reduced to Mean Lower Low Water using observed tides.  
Positions are based on the NAD83 horizontal datum.

**CHARTS AFFECTED:**

<u>Chart</u>	<u>Scale</u>	<u>Edition</u>	<u>Date</u>
17382	1:80,000	14 <sup>th</sup> Ed.	April 26 <sup>th</sup> 1997
17385	1:80,000	13 <sup>th</sup> Ed.	July 24 <sup>th</sup> 1993

**DANGERS:**

<u>Feature</u>	<u>Depth(fms)</u>	<u>Latitude</u>	<u>Longitude</u>
Sounding	1¼	56°12'19.526"N	132°27'48.853"W
Sounding	1½	56°11'23.844"N	132°30'12.692"W
Sounding	0¼	56°13'45.334"N	132°24'19.166"W
Sounding	2¼	56°11'41.336"N	132°30'12.987"W
Sounding	2¾	56°11'21.849"N	132°27'12.126"W
Wreck	5½	56°11'20.400"N	132°25'57.780"W
Rock	0¼	56°11'35.570"N	132°26'39.270"W
Rock	0¼	56°11'44.920"N	132°26'48.790"W

**COMMENTS:**

Questions concerning this report should be directed to the Chief, Pacific Hydrographic Branch at (206)526-6836.



**HYDROGRAPHIC SURVEY STATISTICS**

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

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

**SHORELINE DATA**

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

**OFFICE PROCESSING ACTIVITIES**  
*The following statistics will be submitted with the cartographer's report on the survey*

PROCESSING ACTIVITY	AMOUNTS		
	VERIFICATION	EVALUATION	TOTALS
POSITIONS ON SHEET			
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			
COMPARISON WITH PRIOR SURVEYS AND CHARTS			
EVALUATION OF SIDE SCAN SONAR RECORDS			
EVALUATION OF WIRE DRAGS AND SWEEPS			
EVALUATION REPORT			
GEOGRAPHIC NAMES			
OTHER (Chart Compilation)			
USE OTHER SIDE OF FORM FOR REMARKS	TOTALS		

Pre-processing Examination by	Beginning Date	Ending Date
Verification of Field Data by	Time (Hours)	Ending Date
Verification Check by	Time (Hours)	Ending Date
Evaluation and Analysis by	Time (Hours)	Ending Date
Inspection by	Time (Hours)	Ending Date

APPROVAL SHEET  
H11050

Initial Approvals:

The survey and associated records have been inspected with regard to survey coverage, delineation of the depth curves, development of critical depths, cartographic symbolization, and verification or disproval of charted data. The survey records and digital data comply with NOS requirements except where noted in the Descriptive Report and are adequate to supersede prior surveys and nautical charts in the common area.

Gary L. Nelson  
Gary Nelson  
Chief, Cartographic Team  
Pacific Hydrographic Branch

Date: 5/12/2004

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 Descriptive Report.

E. J. Van Den Ameele  
Edward J. Van Den Ameele  
LT, NOAA  
Chief, Pacific Hydrographic Branch

Date: 4/28/2004

AWD/S/SURF  
5/18/04 MCR

