

H11048

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-10-10-01
Registry No. H-11048

LOCALITY

State Alaska
General Locality Zimovia Strait
Sublocality Chichagof Passage and Approaches

2001

CHIEF OF PARTY
..... CDR D. R. Herlihy, NOAA

LIBRARY & ARCHIVES

DATE

HYDROGRAPHIC TITLE SHEET

H11048

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-10-10-01

State Alaska

General Locality Zimovia Strait

Sublocality Chichagof Passage and Approaches

Scale 1:10,000

Date of Survey 4/15/01-5/14/01

Instructions Date 3/23/2001

Project No. OPR-O327-RA-01

Vessel NOAA Ship RAINIER launches 2121, 2122, 2123, 2124, 2125, 2126, 2127

Chief of Party CDR. D.R. Herlihy, NOAA

Surveyed by RAINIER Personnel

Soundings taken by echo sounder Knudsen 320M, Reson SeaBat 8101, 8125, Seabeam/Elac 1180

Graphic record scaled by RAINIER Personnel

Graphic record checked by RAINIER Personnel

Evaluation by R. Davies

Automated plot by HP Designjet 1050C

Verification by R. Davies and E. Domingo

Soundings in Fathoms and tenths

at

MLLW

REMARKS: Time in UTC. UTM Projection Zone 8

Revisions and annotations appearing as endnotes were

generated during office processing.

All separates are filed with the hydrographic data.

As a result, page numbering may be interrupted or non-sequential

Descriptive Report to Accompany Hydrographic Survey H11048

Project OPR-O327-RA-01
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, 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 Northern Clarence Strait. The survey's northern limit is latitude 56°25'39"N and the southern limit is latitude 56°18'58"N. The survey's western limit is longitude 132°27'34"W and the eastern limit is longitude 132°20'20"W.

One hundred percent shallow-water multibeam (SWMB) coverage was obtained in the survey area in waters 10 meters and deeper.¹ In waters from four meters to 10 meters, SWMB data were obtained at 25-meter line spacing, and in these areas additional coverage was collected as necessary to obtain least depths over features or shoals. Vertical-beam echo sounder data were acquired in depths from four to 25 meters in select areas, at a line spacing of 100-200 meters, as reconnaissance to define the four-meter curve and to aid in the planning of SWMB data acquisition.²

Data acquisition was conducted from April 15 to May 14, 2001 (DN 105 to 134).

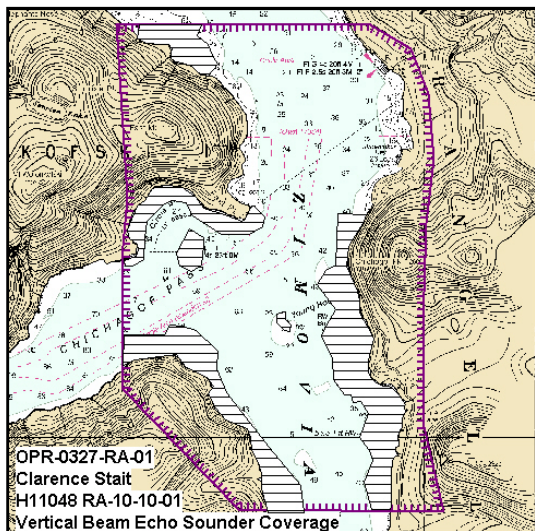


Figure 1 VBES survey limits

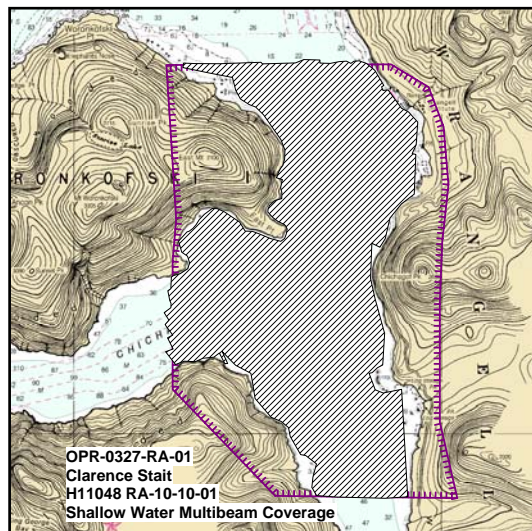


Figure 2 SWMB survey limits

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.³ 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 survey launches (vessel numbers 2121, 2122, 2124, 2125, 2126, and 2127). 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 2127 was used to acquire DPs. Vessel 2125 was also used to collect bottom samples. No unusual vessel configurations or problems were encountered during this survey.⁴

B2. Quality Control

Crosslines

Vertical Beam Echo Sounder (VBES) crosslines totaled 4.15 nautical miles, comprising 6.34% of mainscheme hydrography. Crosslines generally agreed within one meter of mainscheme hydrography.⁵

Shallow-Water Multibeam (SWMB) crosslines totaled 12.37 nautical miles, comprising 3.69 % of SWMB hydrography. The Quality Control Report (CARIS HIPS) for the checkline file averaged 97.263%, 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 V⁶ for the detailed report.

Junctions

The following contemporary survey junctions with H11048:

Registry #	Scale	Date	Junction side
H11053	1:10,000	2001	North
H10951	1:20,000	2001	West
H11049	1:10,000	2001	East

Survey H10951 junctions well with this survey, with differences less than one fathom. One exception is at 56°21'04.392"N, 132°27'09.721"W (657,405.7E, 6,248,084.1N), where H10951 shows a 72-fathom sounding near an 85-fathom sounding from H11048. This is on a very steep slope and the difference is likely due to large changes in depth over small horizontal distances on this slope.⁷

Survey H11049 junctions well with this survey, with differences of one fathom or less.⁸

At the time of this report, data processing for survey H11053 was not completed. Comparisons of the junction with this survey will be discussed in the Descriptive Report for H11053.⁹

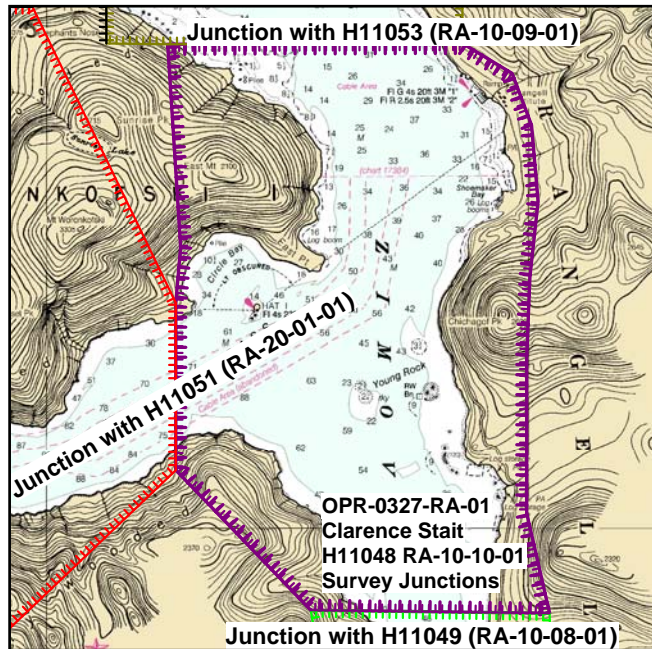


Figure 3. H11048 Junction Surveys

Final comparisons will be made at the Pacific Hydrographic Branch (PHB) after the application of smooth tides.¹⁰

Data Quality Factors

Vertical differences of up to 0.5 meters between adjacent SWMB lines were apparent in some instances during HDCS subset mode processing. The Hydrographer believes this error is tide-related and may be eliminated or reduced with the application of smooth tides.¹¹

No other factors were encountered which affected the expected accuracy of survey data.¹²

B3. Data Reduction

HDCS data were reduced to mean lower-low water (MLLW) using unverified observed tides from station Ketchikan (945-0460), adjusted using a height ratio corrector of 1.10 and a time corrector of +9 minutes. These data were used in creating the tide corrector file "H11048_Observed.tid." These data and correctors were also used in creating HPS tide table 99, which was used to reduce detached positions (DPs) to MLLW.

All other data reduction procedures conform to those outlined in the *OPR-O327-RA-01 Data Acquisition and Processing Report*.¹³

C. VERTICAL AND HORIZONTAL CONTROL

A complete description of vertical and horizontal control for survey H11048 can be found in the *OPR-O327-RA-01 Horizontal and Vertical Control Report*¹⁴ 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 H11048. RAINIER personnel installed Sutron 8210 “bubbler” tide gauges at the following subordinate stations in accordance with Project Instructions:

Station Name	Station Number	Type of Gauge	Date of Installation	Date of Removal
Entrance 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.¹⁵ A request for delivery of final approved (smooth) tides for survey H11048 was forwarded to N/OPS1 on May 15, 2001 in accordance with FPM 4.8.¹⁶

D. RESULTS AND RECOMMENDATIONS

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

A total of fourteen (14) AWOIS items were within the limits of H11048 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; digital photographs taken at some of the AWOIS locations are also included. Printouts of the AWOIS Database forms and related photographs are included in this report.

D.2 Chart Comparison

Survey H11048 was compared with chart 17384 (7th Ed.; February 26, 2000, 1:20,000), chart 17385 (13th Ed., July 24th 1993, 1:80,000), and chart 17382 (14th Ed., April 26th, 1997). There were no new Notices to Mariners affecting the H11048 survey area.¹⁷

Chart 17384

Survey H11048 found depths generally one to two fathoms deeper than charted soundings north of East Point. Depths south of East Point on chart 17384 include wire drag and cleared wire soundings. In this area the current survey depths are generally two to four fathoms deeper than wire drag soundings.¹⁸ All current survey depths are deeper than cleared wire drag soundings.¹⁹ This can be attributed to increased bottom coverage using SWMB methods.²⁰ Significant differences not otherwise submitted as dangers to navigation are addressed below (refer to attached Danger to Navigation Report).

In the vicinity of a charted 0-fathom, 3-foot sounding, the present survey revealed a depth of 4.6 fathoms at 56°23'08.085"N, 132°24'11.799"W (6,252,021.1E, 6,252,021.1N). This area was covered by 100% SWMB.²¹

In the vicinity of a charted 0 fathom, 2-foot sounding, the present survey revealed a depth of 22 fathoms at 56°23'02.951"N, 132°24'07.582"W (660,392.9 E, 6,251,865.1N). This area was covered by 100% SWMB.²²

In the vicinity of a charted 1-fathom sounding, the present survey revealed a least depth of 3 fathoms at 56°24'24.669"N, 132°24'19.112"W (660,099.9E, 6,254,383.2 N). This sounding is at the inshore limit of hydrography for H11048 and it is possible that a shoaler depth exists closer inshore. The Hydrographer recommends retaining this sounding as charted.²³

In the vicinity of a charted 6.3-fathom sounding, the present survey revealed a depth of 11.3 fathoms at 56°23'43.211"N, 132°24'17.002"W (660,184.4 E, 6,253,103.3 N). This area was covered by 100% SWMB.²⁴

In the vicinity of a charted 12-fathom sounding, the present survey revealed a depth of 16.9 fathoms at 56°23'35.636"N, 132°24'18.048"W (660,175.3 E, 6,252,868.5 N). This area was covered by 100% SWMB.²⁵

In the vicinity of a charted 27-fathom sounding, the present survey revealed a depth of 39 fathoms at 56°23'00.244"N, 132°26'01.344"W (658,445.1 E, 6,251,708.2 N). This area was covered by 100% SWMB.²⁶

In the vicinity of a charted 34-fathom sounding, the present survey revealed a depth of 40 fathoms at 56°22'39.825"N, 132°26'41.559"W (657,779.4 E, 6,251,051.4 N). This area was covered by 100% SWMB.²⁷

In the vicinity of a charted 51-fathom sounding, the present survey revealed a depth of 45 fathoms at 56°22'39.624"N, 132°24'45.228"W (659,774.5 E, 6,251,119.8 N). This area was covered by 100% SWMB.²⁸

In the vicinity of a charted 42-fathom sounding, the present survey revealed a depth of 45 fathoms at 56°22'30.665"N, 132°22'26.301"W (662,167.5 E, 6,250,933.3 N). This area was covered by 100% SWMB.²⁹

In the vicinity of a charted 0.2-fathom sounding, the present survey revealed a least depth of 2.6 fathoms at 56°23'21.527"N, 132°21'15.998"W (663,312.6 E, 6,252,551.4 N). This area was inshore of the limit of SWMB hydrography, and the sounding was obtained from VBES data collected during shoreline verification. Because there is a possibility that a shoaler sounding exists nearby, the Hydrographer recommends retaining the sounding as charted.³⁰

In the vicinity of a charted 21-fathom sounding, the present survey revealed a depth of 23 fathoms at 56°24'20.748"N, 132°20'58.265"W (663,546 E, 6,254,393.3 N). This area was covered by 100% SWMB.³¹

In the vicinity of a charted 5.2-fathom sounding, the present survey revealed a depth of 8.6 fathoms at 56°24'22.604"N, 132°24'11.941"W (660,225.1 E, 6,254, 324 N). This area was covered by 100% SWMB.³²

A new wreck was located at 56°24'31.071"N, 132°24'10.423"W (660241.270 E, 6254586.675 N) with a least depth of 8.2 fathoms (see figure 4). The least depth was obtained with SWMB. The Hydrographer recommends charting a wreck of known depth in this position.³³

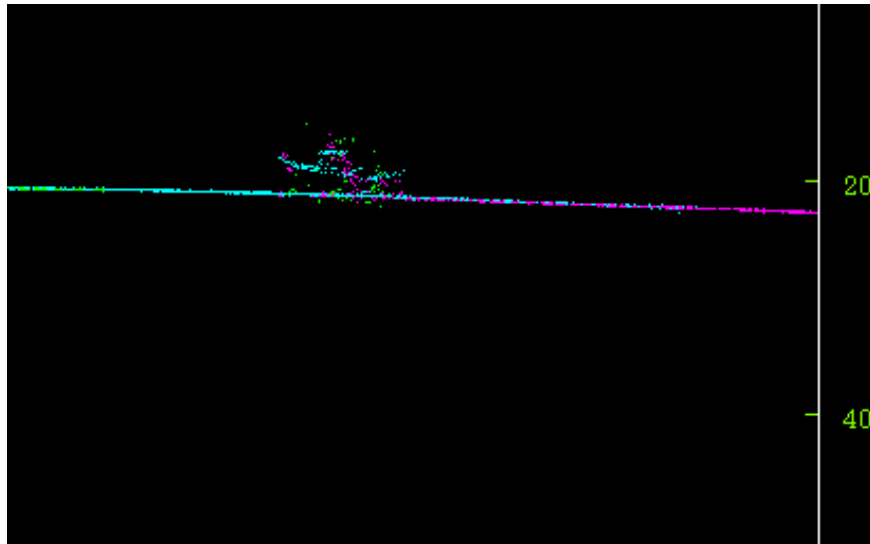


Figure 4. New wreck in HDCS subset mode

Chart 17385³⁴

Survey H11048 found depths generally one to two fathoms deeper than soundings from chart 17385. Significant differences not otherwise submitted as dangers to navigation are addressed below (refer to Appendix I for a copy of the Danger to Navigation Report).

In the vicinity of a charted 69-fathom sounding, the present survey revealed a depth of 64 fathoms at 56°22'00.756"N, 132°25'28.905"W (659,070 E, 6,249,890.5 N). The area was covered with 100% SWMB.

In the vicinity of a 45-fathom sounding, the present survey revealed a depth of 57 fathoms at 56°22'08.222"N, 132°23'24.520"W (661,195.4 E, 6,250,201.6 N), although a depth of 45 fathoms was found in proximity. This area was covered by 100% SWMB.

In the vicinity of a 43-fathom sounding, the present survey revealed depths of 27 to 41 fathoms at 56°22'01.817"N, 132°22'35.036"W (662,052.9 E, 6,250,005.1 N). This area was covered by 100% SWMB.

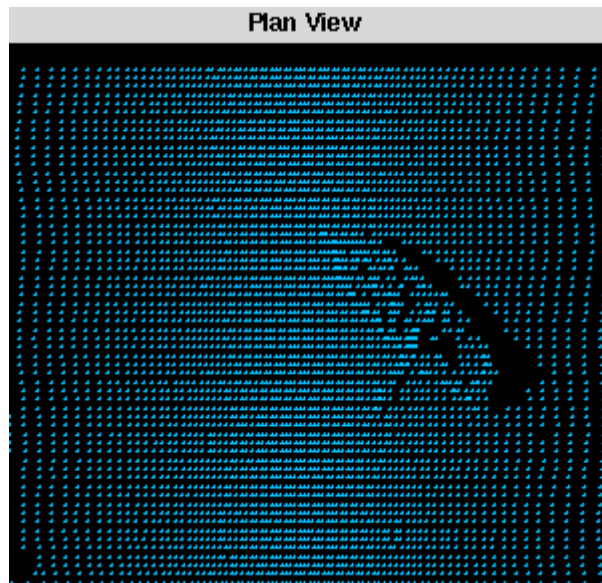


Figure 5. New wreck in HDCS line mode

A new wreck was located at 56°20'00.720 N, 132°20'52.703" W (663744.400 E, 6255151.607 N) with a least depth on the mast of 2.7 fathoms (see figure 5). The least depth was obtained with SWMB. The Hydrographer recommends charting a wreck of known depth in this position.³⁵

Chart 17382³⁶

Chart 17382 is at a scale common with chart 17385, and all soundings and features are identical on both charts. The comparison between H11048 and chart 17382 is therefore identical to the comparison with chart 17385.

Final sounding comparisons will be made at the Pacific Hydrographic Branch after the application of smooth tides.³⁷

D.3 Shoreline

Method of Shoreline Verification

N/NGS3 supplied photogrammetric shoreline data in vector format as Cartographic Feature Files (CFF) from shoreline source GC10493, from projects AK-9702B, AK-9702C, and 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), usually only low water features were included in the CFF. In these instances, the high water line (HWL) and high water features were digitized by RAINIER personnel from the applicable T-Sheets or TP-Sheets, where available, or from the largest scale chart. For survey H11048, the HWL used as source was from TP00560, TP00563, and TP00570 for the areas of Woronkofski and Etoilin Islands, and from charts 17384 and 17385 for Wrangell Island. In the area encompassed by AK-9702D, features depicted on the T-Sheets and TP-Sheets not depicted in the CFF were also digitized and displayed in HYPACK for field verification. Features shown on the current editions of charts 17382, 17384, 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. In instances where the charted

or TS high water line crossed into the CFF low water line, the high water was digitize only to the point of the discrepancy. RAINIER recommends that if processing of AK-9702D is complete at the time of office review, the Pacific Hydrographic Branch (PHB) should incorporate the final processed CFF into the smooth sheet and compare it with field work conducted by RAINIER ³⁸

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 one to 40 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 as the Hydrographer's approximate representation of the shoreline. ³⁹

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. ⁴⁰

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 water features, requiring little revision. In many cases the MLLW line on the CFF was found to actually be reefs or ledges, and charted rocks were identified as high points or extends of CFF ledges. The changes are reflected on the DP and BS Plot. In some instances, the CFF MLLW line was found to be correctly positioned shoreward of the charted high water line. In these instances, the high water line is not depicted on the DP and BS Plot. The Hydrographer recommends charting the high water line from the complete CFF dataset when available. ⁴¹

Source Shoreline Changes and New Features

GC10493

The CFF ledge at 56°20'18.37"N, 132°24'46.94"W (659,909.3 E, 6,246,753.1 N) was disproved by conducting a 5-minute visual and echo sounder search (Pos. # 21609). The area was found to be a continuous rocky beach. Sea conditions were calm. Water was clear to the bottom with a depth 4.0 meters. The Hydrographer recommends charting a continuous MLLW line as depicted on the DP Plot. ⁴²

The CFF islet at 56°25'04.12"N, 132°25'28.2"W (658,870.4 E, 658,870.4 N) was disproved by conducting a visual search (Pos. # 21461). This area was also covered by 100% SWMB. This islet is not charted and the Hydrographer does not recommend charting it. ⁴³

Only the northwest extent of a new pier located at 56°23'41.49"N, 132°20'39.6"W (663,912.7 E, 6,253,192.0 W) (Pos. # 21584) was positioned. A log boom blocked access to the southwest extent of the pier. It is possible that the final CFF dataset may contain the extents of the pier. The Hydrographer recommends charting the pier based upon the final CFF shoreline which will contain the MHW line. ⁴⁴

The high water extents of the charted islet located between at 56°20'54.85"N 132°21'39.32"W (663086.786 E, 6248002.952 N) and 56°20'35.22"N, 132°21'28.11"W (663302.466 E, 6247403.673 N)

were not positioned. The Hydrographer recommends charting the islet based upon the final CFF shoreline which will contain the MHW line.⁴⁵

Charted Features⁴⁶

A charted rock and ledge (17384) near 56°22'24.92"N, 132°25'42.65"W was disproved using 100% SWMB coverage. The actual extents of the ledge were found to agree with the CFF. The present survey revealed depths between 0.9 and 30 fathoms over the charted position of the ledge. The Hydrographer recommends charting the ledge based on the CFF.⁴⁷

In the vicinity of a charted (17382) rock, the present survey revealed a least depth of 7.5 fathoms at 56°20'00.00"N, 132°21'16.60"W (663,541.9E, 6,246,322.8N). A 4.1 fathom sounding is located 170 meters inshore of the charted rock position. The area was covered with 100% SWMB. The Hydrographer recommends removing the rock from the chart and charting the area based on hydrography from H11048.⁴⁸

Recommendations

The Hydrographer recommends that the shoreline as depicted on the Detached Position and Bottom Sample plot and final sounding plot supersede and complement shoreline information compiled on the CFF, T-Sheets, and charts as noted. These revisions are recorded in the MapInfo digital files named "H11048_Shoreline" and "H11048_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 "H11048_ShorelineNotes."⁴⁹

D.4 Dangers to Navigation

Six dangers to navigation were found and reported to the Pacific Hydrographic Branch for verification and final submission to the Seventeenth Coast Guard District on August 13, 2001. A copy of the preliminary Danger to Navigation Report is included in this report. A copy of the final report will be inserted by PHB following verification and submission to the U.S Coast Guard.⁵⁰

D.5 Aids to Navigation

Two Aids to navigation (ATONs) were contained within the survey limits of H11052.⁵¹ All (ATONs) were found to be correctly charted and serve their intended purpose. One detached position was taken on one ATON for check purposes only. No static GPS surveys were conducted for Survey H11048.⁵²

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 H11048 is complete and adequate to supersede charted soundings in their common areas.⁵³ No additional work is required for this survey.⁵⁴

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 3, 2001	N/OPS1
Coast Pilot Report for OPR-O327-RA-01	TBD ⁵⁵	N/CS26

Approved and Forwarded: *Daniel R. Herlihy* Date: 9/7/01
 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: *Shiela N. Allen*
 Shiela N. Allen
 Senior Survey Technician, NOAA

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

Revisions Compiled During Office processing and Certification.

¹ Concur

² Concur

³ Filed with the project records.

⁴ Concur

⁵ Concur

⁶ Filed with the hydrographic records.

⁷ Concur, the junction between survey H11048 and H10951 was not formally completed since survey H10951 was processed previously. Soundings and depth curves are in good agreement within the common area. An "Adjoins" note is shown on the smooth sheet in the junction area.

⁸ Concur, the junction between survey H11048 and H11049 was not formally completed since survey H11049 was processed previously. Soundings and depth curves are in good agreement within the common area. An "Adjoins" note is shown on the smooth sheet in the junction area.

⁹ The junction between survey H11048 and H11053 was completed during office processing. Soundings and depth curves are in good agreement within the common area. A "Joins" note is shown on the smooth sheet in the junction area.

¹⁰ Concur, results of the comparison after applications of approved tides are considered good.

¹¹ Concur, after review of the data with approved tides applied, surrounding soundings were consistent with other soundings in the area.

¹² Concur

¹³ Concur

¹⁴ Filed with the project records.

¹⁵ See attached tide note dated August 31, 2001.

¹⁶ Concur, filed with the hydrographic data.

¹⁷ Survey H11053 was compared with chart 17384 8th Edition dated, December 1, 2003 and chart 17382 15th Edition, dated March 1, 2003.

¹⁸ Concur

¹⁹ Concur

²⁰ Concur; the charted green tint represents wire-drag areas from prior surveys. The evaluator recommends removing the charted green tint based on more modern data acquisition techniques.

²¹ Chart area as shown on the smooth sheet.

²² Chart area as shown on the smooth sheet.

²³ Do not concur, chart area as shown on the smooth sheet.

²⁴ Chart area as shown on the smooth sheet.

²⁵ Chart area as shown on the smooth sheet.

²⁶ Chart area as shown on the smooth sheet.

²⁷ Chart area as shown on the smooth sheet.

²⁸ Chart area as shown on the smooth sheet.

²⁹ Chart area as shown on the smooth sheet.

³⁰ Do not concur, chart area as shown on the smooth sheet.

³¹ Chart area as shown on the smooth sheet.

³² Chart area as shown on the smooth sheet.

³³ Concur

³⁴ Chart 17385 was not compared with, the present survey H11048 is covered by charts 17382 and 17384. Chart 17382 and chart 17385 are the same scale; therefore a comparison was not done.

³⁵ Concur

³⁶ See endnote 31

³⁷ With the application of smooth tides, no changes to the comparison were noticed. This survey is adequate to supersede all charted soundings within the common area, except where noted in this report.

³⁸ The MHWL on the final version of AK9702D was applied to the smooth sheet except in areas that were positioned by the hydrographer and drawn on the smooth sheet in either dashed red or solid red.

³⁹ See smooth sheet for depiction of these areas.

⁴⁰ Shoreline verification conducted by the hydrographer and portrayed on the detached position plot has been analyzed during office processing and shown on the smooth sheet as warranted.

⁴¹ Concur, see smooth sheet for depiction of the area.

⁴² Concur, see smooth sheet for depiction of the area.

⁴³ Concur, see smooth sheet for depiction of the area.

⁴⁴ Concur, see smooth sheet for depiction of the area.

⁴⁵ Concur, see smooth sheet for depiction of the area.

⁴⁶ The application of this survey to charts greater than 1:40,000 may require the generalization of features such as ledges and reefs. The recommended charting disposition of specific ledges or reefs is their depiction as isolated rocks. The application of this survey to charts of a scale less than 1:40,000 may be accomplished without generalization of features.

⁴⁷ Concur, see smooth sheet for depiction of the area.

⁴⁸ Concur, see smooth sheet for depiction of the area.

⁴⁹ Shoreline verification conducted by the hydrographer and portrayed on the detached position plot has been analyzed during office processing and shown on the smooth sheet as warranted.

⁵⁰ The Danger to navigation letter was reviewed at the Pacific Hydrographic Branch and six dangers were forwarded to the U.S. Coast Guard. See attached copy.

⁵¹ Concur with clarification; four aids to navigation are located within the surveys' limit. One aid, Zimovia Strait Daybeacon, was positioned by the hydrographer, the other three were observed and found to be correctly charted and serve their intended purpose.

⁵² The evaluator recommends that MCD use the latest information to chart aids to navigation.

⁵³ Concur

⁵⁴ Concur

⁵⁵ Mailed 12/05/2001

Hydrographic Survey Registry Number: H11048

Survey Title: State: Alaska
Locality: Zimovia Strait
Sub-locality: Chichagof Passage and Approaches

Project Number: OPR-O327-RA-01

Survey Dates: 15 April - 14 May, 2001

**ADVANCE
INFORMATION**

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

CHARTS AFFECTED:

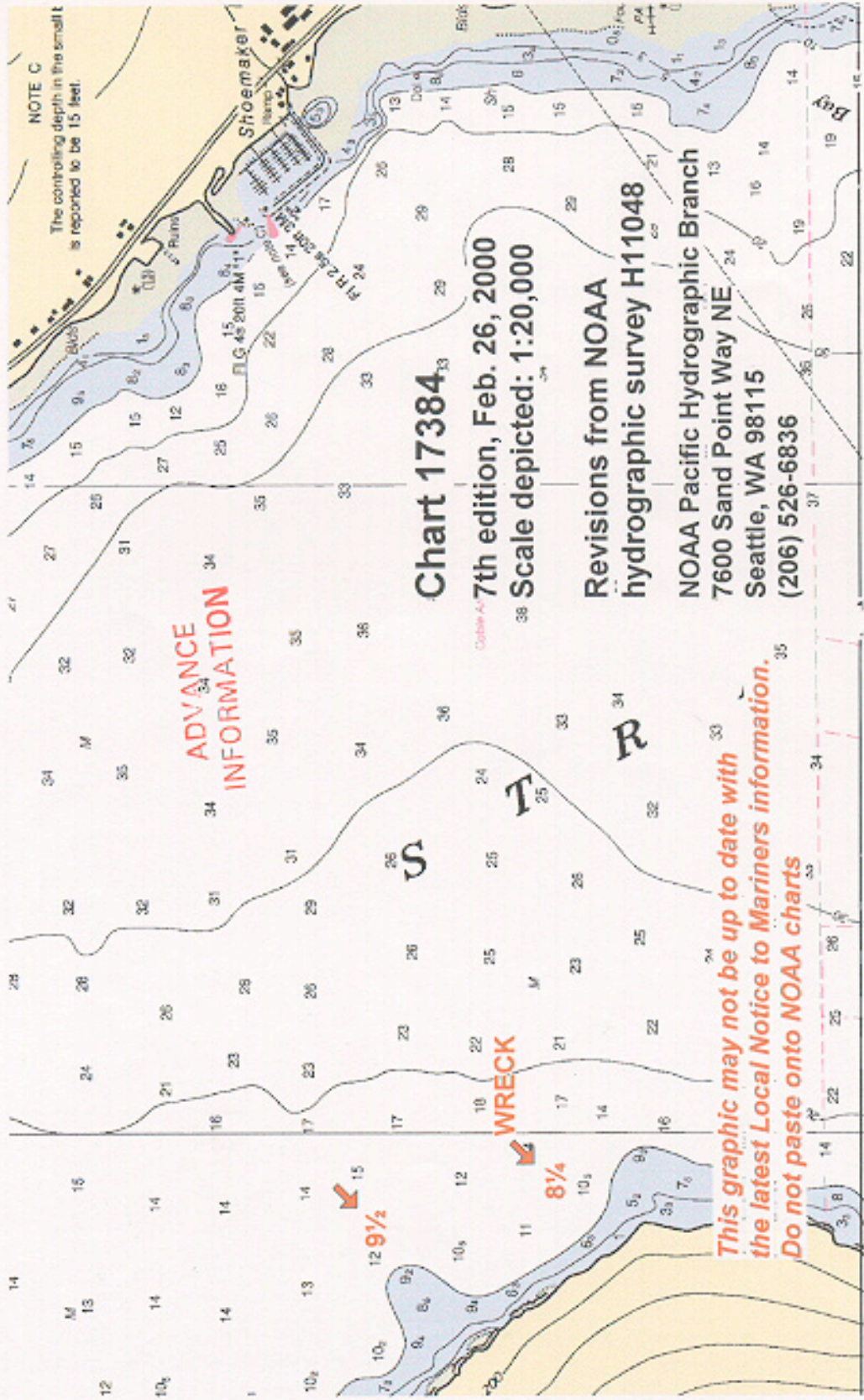
<u>Chart</u>	<u>Scale</u>	<u>Edition</u>	<u>Date</u>
17384	1:20,000	7 th	26 Feb 2000
17382	1:80,000	14 th	26 Apr 1997
17385	1:80,000	13 th	24 July 1993

DANGERS:

<u>Feature</u>	<u>Depth(ft or fms)</u>	<u>Latitude</u>	<u>Longitude</u>
Wreck	2½	56°20'00.721"N	132°20'52.704"W
Wreck	8¼	56°24'31.072"N	132°24'10.423"W
Sounding	0¼	56°21'11.351"N	132°21'30.686"W
Sounding	1¼	56°20'50.253"N	132°25'06.224"W
Sounding	2	56°21'31.607"N	132°21'39.958"W
Sounding	9¼	56°24'49.356"N	132°24'19.238"W

COMMENTS:

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



NOTE C
The controlling depth in the small is reported to be 15 feet.

ADVANCE INFORMATION

Chart 17384
7th edition, Feb. 26, 2000
Scale depicted: 1:20,000

Revisions from NOAA
hydrographic survey H11048
NOAA Pacific Hydrographic Branch
7600 Sand Point Way NE
Seattle, WA 98115
(206) 526-6836

This graphic may not be up to date with the latest Local Notice to Mariners information. Do not paste onto NOAA charts.

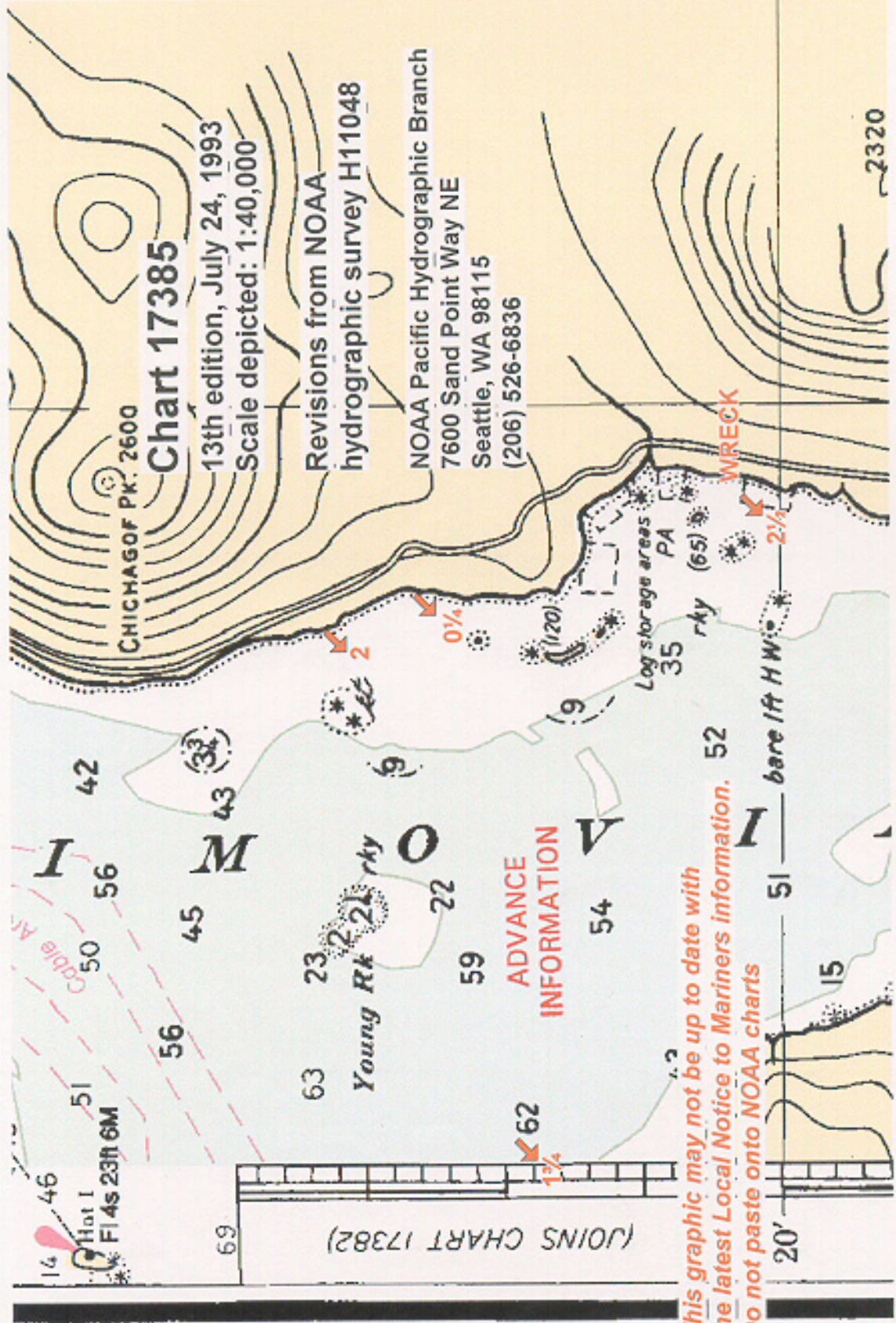


Chart 17385
 13th edition, July 24, 1993
 Scale depicted: 1:40,000

Revisions from NOAA hydrographic survey H11048
 NOAA Pacific Hydrographic Branch
 7600 Sand Point Way NE
 Seattle, WA 98115
 (206) 526-6836

CHICHAGOFF PK. 2600

This graphic may not be up to date with the latest Local Notice to Mariners information. Do not paste onto NOAA charts

ADVANCE INFORMATION

WRECK

Log storage areas PA 35 rky (65)

(JOINS CHART 17382)

20'

Hot I Fl 4s 23ft 6M

Cable Rk

51 bare ft HW

Young Rk 22 rky

RECRD VESSLTERMS CHART AREA
CARTOCODE SNDINGCODE DEPTH

LAT83 LONG83 NATIVDATUM
LATDEC: LONDEC: GPQUALITY
GPSOURCE

PROJECT ITEMSTATUS SEARCHTYPE
RADIUS INIT ASSIGNED
TECNIQ

Techniqnote

History

Fieldnote

Proprietary

YEARSUNK NIMANUM

RECRD VESSLTERMS CHART AREA
 CARTOCODE SNDINGCODE DEPTH

LAT83 LONG83 NATIVDATUM
 LATDEC: LONDEC: GPQUALITY
 GPSOURCE

PROJECT ITEMSTATUS SEARCHTYPE
 RADIUS INIT ASSIGNED
 TECNIQ
 Techniqnote

History HISTORY
 CL1822/76--NOS COAST PILOT REPORT, AUG. 1976; LOG STORAGE AREA REPORTED IN FOUR AREAS. APPROX. CENTRAL LOCATION (NAD 83) OF EACH AS FOLLOWS:
 56-20-03 N 132-20-39 W
 56-20-24 N 132-20-31 W
 56-20-37 N 132-20-42 W
 56-20-40 N 132-21-07 W
 DIAGRAMS INCLUDED FROM WRANGELL LUMBER CO. INDICATE THAT LOGS ARE TO BE RETAINED WITHIN AN AREA BY FLOAT LOGS ON THE SURFACE ATTACHED BY CABLE TO AN ANCHOR AND A LOG CRIBBING. A "SKID LOG" WILL EXTEND FROM THE FLOAT LOG TO THE BOTTOM. ENTERED 2/00 MCR

Fieldnote INVESTIGATION
 DATE(S):04 /25 /01 (DN:115)
 HYDROGRAPHIC SURVEY NUMBER: H11048
 VN:2125, 2127 TIME:See Below
 INVESTIGATION METHODS USED: (IE DI, 200% SIDE SCAN SONAR, ECHO SOUNDER) Visual and echo sounder searches were conducted during shoreline verification. SWMB coverage was obtained when possible.
 SURVEYED POSITION:
 Disproval positions:
 56° 20' 3.195"N 132° 20' 42.691"W (664,120.2 E, 6,246,444.0 N) Time 16:39:35 Pos. #70008
 56° 20' 22.732"N 132° 20' 43.713"W (664,079.3 E, 6,247,047.1 N) Time 17:06:47 Pos. #70012
 56° 20' 38.648"N 132° 20' 45.974"W (664,021.6 E, 6,247,537.5 N) Time 17:31:11 Pos. #70017
 56° 20' 41.488"N 132° 21' 4.536"W (663,699.6 E, 6,247,613.0 N) Time 17:38:38 Pos. #70019
 POSITION DETERMINED BY: DIFFERENTIAL GPS
 INVESTIGATION SUMMARY: Three of the four log storage areas were disproved (Pos #70008 - 70019). One hundred percent SWMB coverage was obtained over the northernmost log storage area. The positions of the other two which were disproved were above the MLLW line and not observed during shoreline verification.
 A pile and a dolphin were found which at one time were probably associated with a log boom:
 56°19'52.62"N 132°20'41.76" W (664,121.6 E 6,246,105.0 N) Pos. #70005
 56°19'56.33"N 132°20'40.02" W (664,174.3 E, 6,246,233.5 N) Pos. #70006
 Log boom remains, apparently anchored to the bottom, were found at the following position:
 56°19'57.19" N 132°20'42.27" W (664,133.1E, 6,246,256.0 N) Pos. #70007
 A new pier was found in the position of one of the charted log booms:
 56°20'40.64" N 132°20'53.96" W (663,884.8 E, 6,247,590.5 N) Pos #70015
 56°20'40.39" N 132°20'56.30" W (663,845.3 E, 6,247,582.0 N) Pos #70016
 See digital photos 70007, 70008, 70012, 70017 & 70019_Log_Boom_Disproval
 CHARTING RECOMMENDATION (HYDROGRAPHER): Remove all charted (17385) log storage areas and chart features and soundings from H11048. Chart new piles and log storage area remains based on positions 70005-70007
 EVALUATOR COMMENTS: Concur with clarification, remove four charted log storage area PA limit lines and notes centered at

the above positions, Pos# 70008, 70012, 70017 and 70019. Chart two piles (pos# 70005 and 70006) and log boom between the piles at above positions. Chart obstruction (submerged logs) with no height at above position #70007. Chart new pier according to this survey, see smooth sheet for depiction of area.

Proprietary

YEARSUNK

NIMANUM

[Print Record](#)

OPR-O327-RA-01
H11048
AWOIS Item # 52540



Detached Position #70007



Detached Position #70008



Detached Position # 70012



Detached Position # 70017

OPR-O327-RA-01
H11048
AWOIS Item # 52540



RECRD
 VESSLTERMS
 CHART
 AREA

 CARTOCODE
 SNDINGCODE
 DEPTH

LAT83
 LONG83
 NATIVDATUM

 LATDEC:
 LONDEC:
 GPQUALITY

 GPSOURCE

PROJECT
 ITEMSTATUS
 SEARCHTYPE

 RADIUS
 INIT
 ASSIGNED

 TECNIQ

 Techniqnote

History

Fieldnote

Proprietary

 YEARSUNK
 NIMANUM

RECRD VESSLTERMS CHART AREA
CARTOCODE SNDINGCODE DEPTH

LAT83 LONG83 NATIVDATUM
LATDEC: LONDEC: GPQUALITY
GPSOURCE

PROJECT ITEMSTATUS SEARCHTYPE
RADIUS INIT ASSIGNED
TECNIQ

Techniqnote

History

Fieldnote

Proprietary

YEARSUNK

NIMANUM

RECRD
 VESSLTERMS
 CHART
 AREA

 CARTOCODE
 SNDINGCODE
 DEPTH

LAT83
 LONG83
 NATIVDATUM

 LATDEC:
 LONDEC:
 GPQUALITY

 GPSOURCE

PROJECT
 ITEMSTATUS
 SEARCHTYPE

 RADIUS
 INIT
 ASSIGNED

 TECNIQ

Techniqnote

History

Fieldnote

Proprietary

YEARSUNK
 NIMANUM

OPR-O327-RA-01
H11048
AWOIS Item # 52544



Detached Position # 21377



Supplemental



Supplemental 1

RECRD VESSLTERMS CHART AREA
 CARTOCODE SENDINGCODE DEPTH

LAT83 LONG83 NATIVDATUM
 LATDEC: LONDEC: GPQUALITY
 GPSOURCE

PROJECT ITEMSTATUS SEARCHTYPE
 RADIUS INIT ASSIGNED
 TECNIQ
 Techniqnote

History HISTORY
 H-8621/61--TWO ROWS OF PILING SHOWN SHOREWARD ROW FROM POS. 56-23-41.1 N 132-20-40.8 W TO 56-23-47.65 N 132-20-33.3 W AND SEAWARD ROW FROM 56-23-43.1 N 132-20-42.5 W TO 56-23-46.89 N 132-20-36.42 W LOG BOOM STRUCTURE IS INDICTED WITHIN THE PILING ROWS IN 56-23-44.1 N 132-20-36.8 W (CHARTING NOTATION APPARENTLY IS IN ERROR).
 DOLPHIN SHOWN IN 56-23-34.3 N 132-20-41.3 W
 PILE SHOWN IN POS.56-23-37.5 N 132-20-34.5 W

Fieldnote INVESTIGATION
 DATE(S): 04/29/01 (DN:119)
 HYDROGRAPHIC SURVEY NUMBER:H11048
 VN:2122 TIME:See Below
 INVESTIGATION METHODS USED: (IE DI, 200% SIDE SCAN SONAR, ECHO SOUNDER) VS and ES
 SURVEYED POSITION: See Below
 POSITION DETERMINED BY: DIFFERENTIAL GPS
 INVESTIGATION SUMMARY: A visual search was conducted for the piles, log boom, and dolphins. The SW corner of the new pier was inaccessible due to a logboom. VBES (VN 2125 DN 106 LN # 630_2316 & 000_1813; VN 2122 DN 120 940_1721) and SWMB (VN 2126 DN 080 LN# 080_1912 & Dn 134 107_1711) disprovals were obtained over charted dolphin positions.
 CHARTING RECOMMENDATION (HYDROGRAPHER): Remove all charted piles and dolphins and chart piles and dolphins at the following positions:
 56° 23' 47.824"N 132° 20' 36.0816" W (663,965.5 E, 6,253,390.5 N) Time 23:24:28 Pos.# 21551 Ext of logboom
 56° 23' 46.546"N 132° 20' 37.8924"W (663,936.0 E, 6,253,349.8 N) Time 23:25:13 Pos. #21552
 56° 23' 47.511" N 132° 20' 37.352" W (663,944.1E, 6,253,380.0 N) Time 23:26:02 Pos. #21553
 Revising the charted (17384) HWL to reflect the CFF HWL which is a new retaining wall that fills in the head of the small bay. Remove the dolphin and pile at the following positions, respectively:
 56-23-34.3 N 132-20-41.3 W
 56-23-37.5 N 132-20-34.5 W
 Chart new dolphins in the following positions:
 56° 23' 36.470"N 132° 20' 41.204" W (663,878.1 E, 6,253,069.4 N) Time 19:11:29 Pos. #70041
 56° 23' 36.891"N 132° 20' 41.064"W (663,893.2 E, 6,253,049.4 N) Time 19:13:38 Pos. #70042
 56° 23' 37.651"N 132° 20' 40.750 W (663,897.6 E, 6,253,072.9 N) Time 19:17:07 Pos. #70044
 A new floating dock was not fully positioned due to a log boom. The NE and SW extents are as follows, respectively:
 56° 23' 37.561"N 132° 20' 41.895" W (6,253,065.5 E, 6,253,069.4N) Time 19:18:30 Pos. #70046
 56° 23' 36.787"N 132° 20' 43.245" W (663,855.9 E, 6,253,044.6 N) Time 19:19:49 Pos. #70047
 The width of the new dock is approximately 10 meters.
 A log boom structure was delineated by :
 VBES (VN 2125 Dn 115 LN# 000_1813) and blocked to to the North at 56° 23' 48.728" N, 132° 20' 36.33"W Pos.# 21549 Time 23:18:10 and 56° 23' 37.5612" N, 132° 20' 41.895"W Pos. # 70040 Time 19:08:45 to the South.
 See digital photographs 70041 and MapInfo graphic
 EVALUATOR COMMENTS: Concur, remove charted piles and dols listed above and chart dols and piles listed above. The CFF shoreline has already been applied to the two charts, therefore the dols listed above have already been removed. Remove charted logboom area centered at lat. 56/23/38.2N, long. 132/20/43.4W. Chart logboom as shown on the smooth sheet and

delinated by the above positions. Chart new floating dock at the positions above.

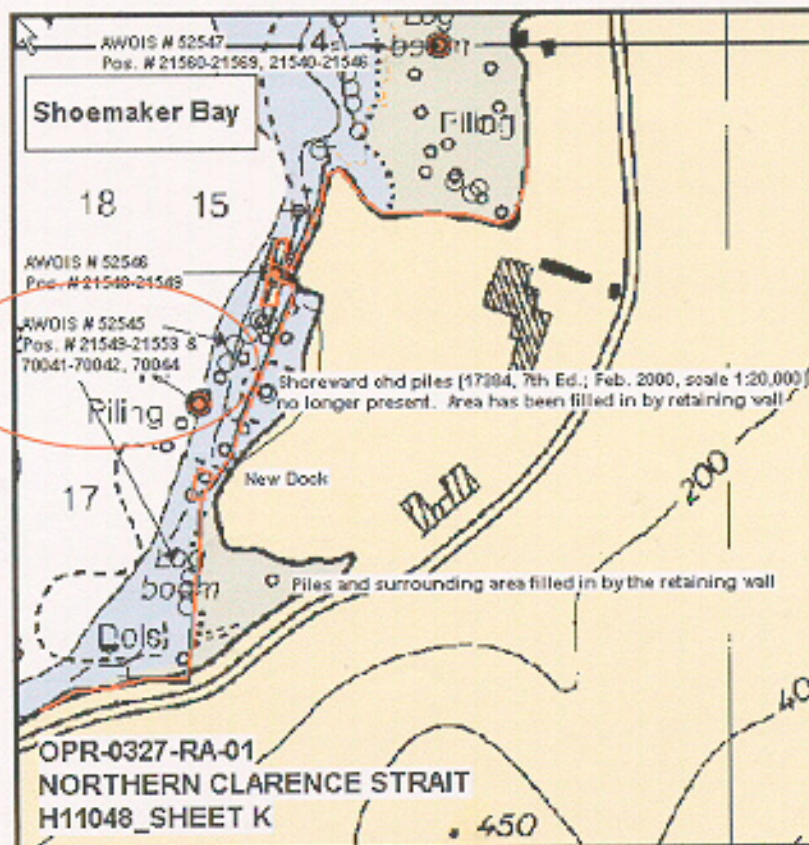
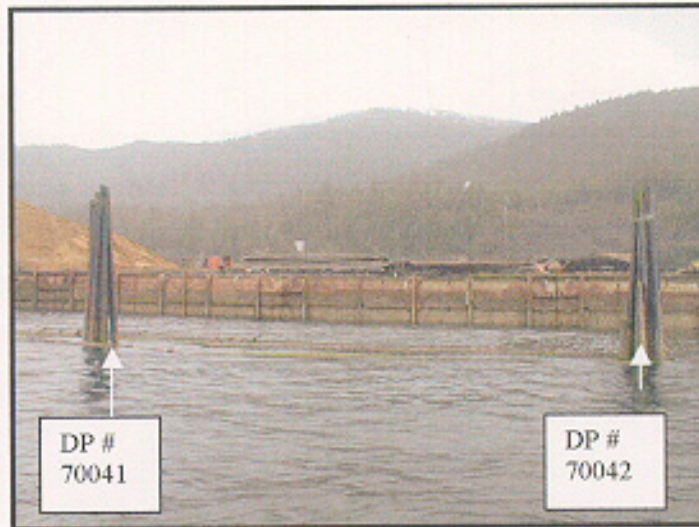
Proprietary

YEARSUNK

NIMANUM

Print Record

OPR-O327-RA-01
H11048
AWOIS Item # 52545



RECRD VESSLTERMS CHART AREA
 CARTOCODE SNDINGCODE DEPTH

LAT83 LONG83 NATIVDATUM
 LATDEC: LONDEC: GPQUALITY
 GPSOURCE

PROJECT ITEMSTATUS SEARCHTYPE
 RADIUS INIT ASSIGNED
 TECNIQ

Techniqnote

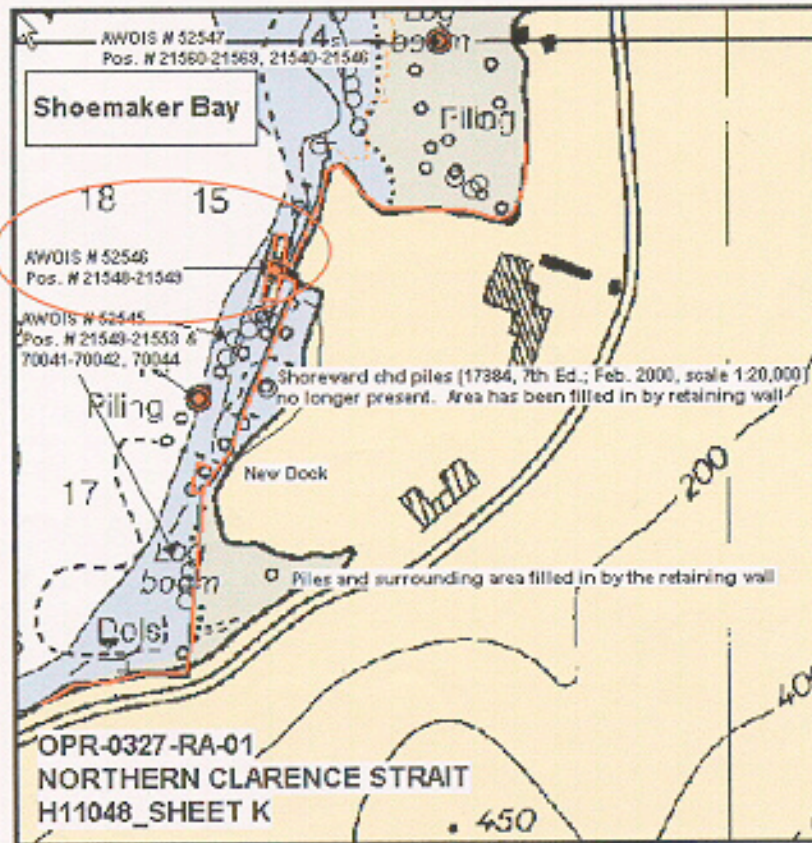
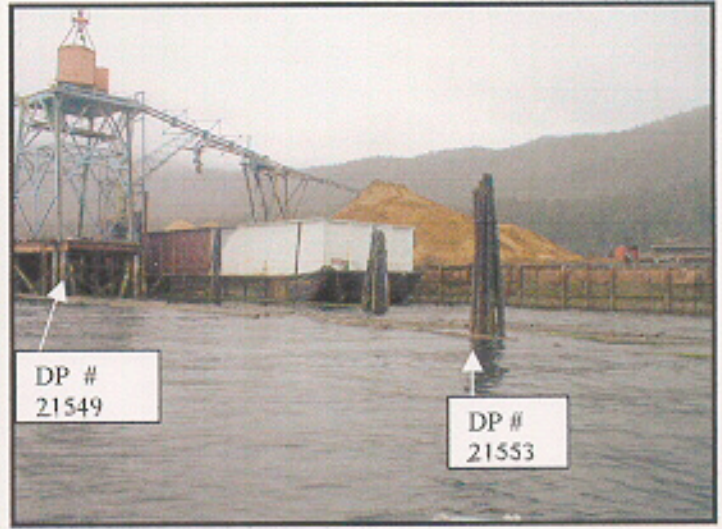
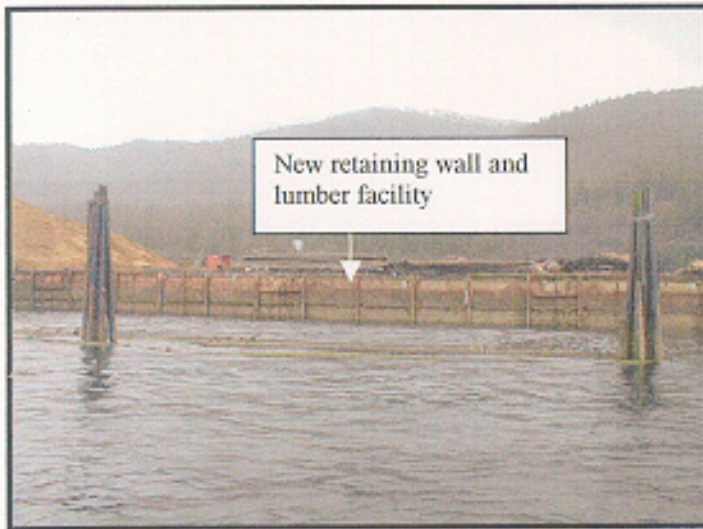
History HISTORY
 CL1735/65--COE; PERMIT APPLICATION FOR CONSTRUCTION OF A DOCK FOR LOADING LUMBER IN VICINITY OF 56 23 50.4N, 132 20 34.1W NAD 83. TWO PILES LOCATED AT N/S EXTENT OF PIER FACE IN 56-23-52.99 N 132-20-32.36 W AND 56-23-47.68 N 132-20-34.81 W
 BP80349/70--AIR PHOTO REVISION; 1965-70; ALTERED SHORELINE IN THE AREA TO DEPICT LUMBER COMPANY FACILITY. ISOLATED PILES ADDED IN 56-23-48.8 N 132-20-32.8 W AND 56-23-48.3 N 132-20-35.1 W
 H-8621/61--SHOWS A DASHED LINE FEATURE IN THE COMMON AREA, AND IS ASSUMED TO BE A ROW OF PILES, CONSIDERED SUPERCEDED DUE TO 1961 DATE OF SURVEY. ENTERED 2/00 MCR

Fieldnote INVESTIGATION
 DATE(S): 04/29 /01 (DN:119)
 HYDROGRAPHIC SURVEY NUMBER:H11048
 VN:2122 TIME:See Below
 INVESTIGATION METHODS USED: (IE DI, 200% SIDE SCAN SONAR, ECHO SOUNDER)
 SURVEYED POSITION: See Below.
 POSITION DETERMINED BY: DIFFERENTIAL GPS
 INVESTIGATION SUMMARY: The pier, piles and dolphins were located and positioned during shoreline verification. VBES data were obtained over the positions of the charted dolphins.
 CHARTING RECOMMENDATION (HYDROGRAPHER): Remove charted (17384) catwalk and pile at the following position: 56° 23' 52.962"N 132° 20' 32.7696" W (664,016.1 E, 6,253,551.5 N) Time 23:16:05 Pos.# 21548
 Revise the southwest extent of the CFF pier to the following position: 56° 23' 48.728" N 132° 20' 36.33"W (663,960.2 E, 6,253,418.3 N) Time 23:18:10 Pos.# 21549
 Revise charted dolphin position to the following position: 56° 23' 48.400"N 132° 20' 35.998" W (663,966.2 E, 6,253,408.4 N) Time 23:23:49 Pos.# 21550
 Remove the charted pile located at 56-23-48.8 N, 132-20-32.8 W which is currently CFF retaining wall and lumber facility. Revise the charted HWL to reflect the retaining wall, based on the CFF HWL.
 See digital photograph 21533.
 EVALUATOR COMMENTS: Concur

Proprietary

YEARSUNK NIMANUM

OPR-0327-RA-01
H11048
AWOIS Item # 52546



AWOIS # 52547
Pos. # 21560-21569, 21540-21546

Shoemaker Bay

20 18 15

AWOIS # 52546
Pos. # 21548-21549

AWOIS # 52545
Pos. # 21549-21552 &
70041-70042, 70044

Shoreward chd piles (17384, 7th Ed.; Feb. 2000, scale 1:20,000)
no longer present. Area has been filled in by retaining wall

Piling

New Dock

17

Log boom
Dols

Piles and surrounding area filled in by the retaining wall

16

OPR-0327-RA-01
NORTHERN CLARENCE STRAIT
H11048_SHEET K

450

400

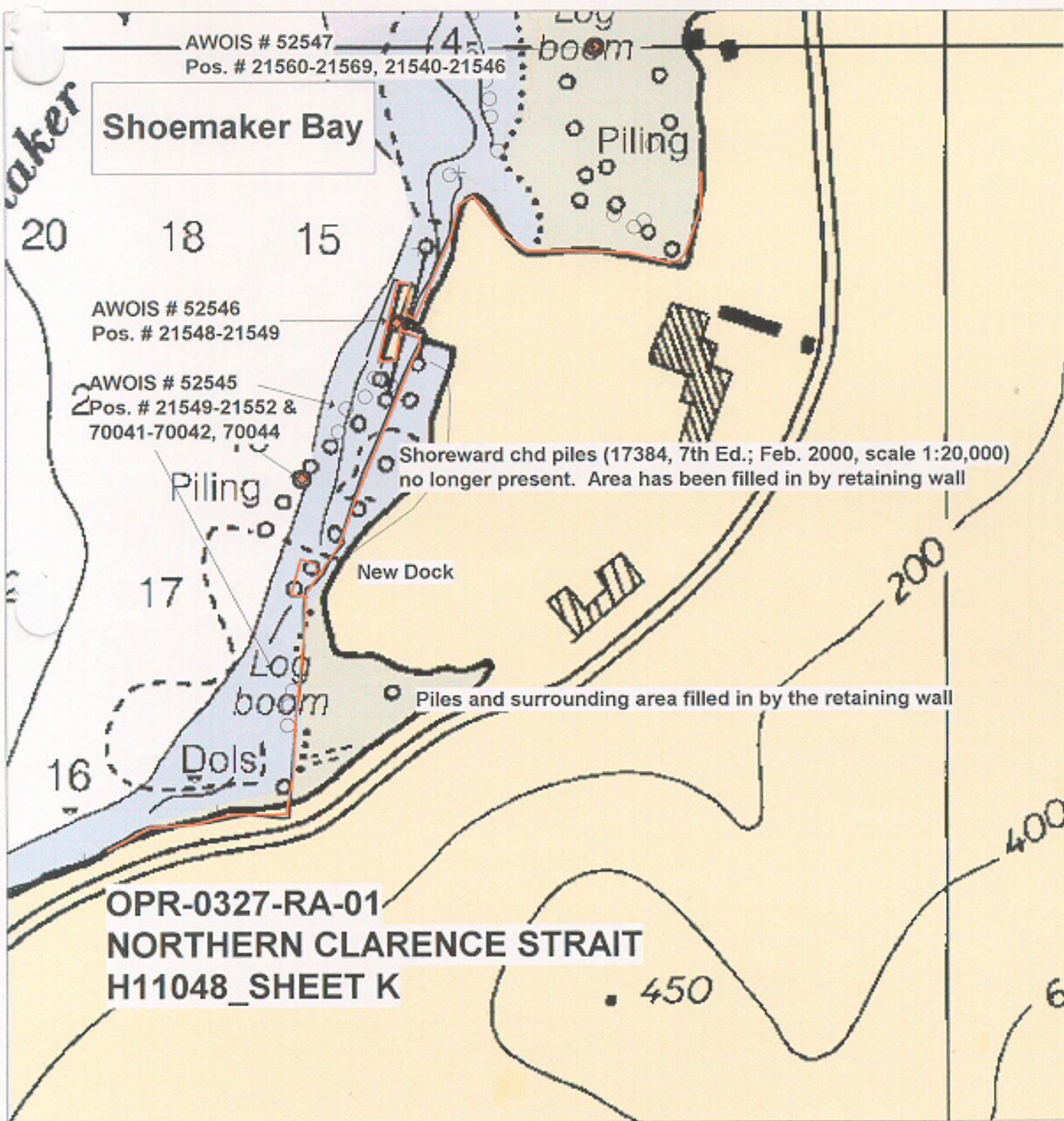
6

aker

Log boom

Piling

200



RECRD VESSLTERMS CHART AREA
 CARTOCODE SNDINGCODE DEPTH

LAT83 LONG83 NATIVDATUM
 LATDEC: LONDEC: GPQUALITY
 GPSOURCE

PROJECT ITEMSTATUS SEARCHTYPE
 RADIUS INIT ASSIGNED

TECNIQ

Techniqnote

History HISTORY
 H-8621/61- PILING DEPICTED AS A DASHED-LINE EXTENDING FROM POS. 56-24-06.1 N 132-20-18W TO 56-24-05.5 N 132-20-26.7 W TO 56-23-55.4 N 132-20-22.4 W TO 56-23-53 N 132-20-17.0 W NAD 83. ISOLATED PILES CHARTED IN POS. 56-23-54.7 N 132-20-22.6 W 56-23-55.8 N 132-20-21.2 W 56-23-57.3 N 132-20-17.2 W 56-23-59.0 N 132-20-17.6 W NAD 83 LOG BOOM SHOWN IN POS. 56-24-04.2 N 132-20-17.1 W NAD 83, NOTATION ON CHART FOR BOOM IS INCORRECTLY CHARTED AT 56-24-00 N 132-20-20 W

Fieldnote INVESTIGATION
 DATE(S):04 /25/01 (DN: 119)
 HYDROGRAPHIC SURVEY NUMBER:H11048
 VN: 2122 TIME: See Below
 INVESTIGATION METHODS USED: (IE DI, 200% SIDE SCAN SONAR, ECHO SOUNDER) VBES, SWMB and Visual
 SURVEYED POSITION: See Below
 POSITION DETERMINED BY: DIFFERENTIAL GPS
 INVESTIGATION SUMMARY: A visual search was conducted for the piles and logbooms. The piles were positioned at HW on a gravel beach which exposes at MLLW.
 CHARTING RECOMMENDATION (HYDROGRAPHER): Remove charted (17384) piles and chart piles at the follwing positions:

56° 24' 7.02"N	132° 20' 22.084"W	(664,182.4 E, 6,253,993.1 N)	Time 16:45:00	Pos. # 21560
56° 24' 6.854"N	132° 20' 20.961"W	(664,201.8 E, 6,253,988.7 N)	Time 16:45:58	Pos. # 21561
56° 24' 5.724"N	132° 20' 20.353"W	(664,213.6 E, 6,253,954.2 N)	Time 16:46:39	Pos. # 21562
56° 24' 5.292"N	132° 20' 20.259" W	(664,215.8 E, 6,253,940.8 N)	Time 16:47:13	Pos. # 21563
56° 24' 4.935"N	132° 20' 20.022" W	(664,220.3 E, 6,253,929.9 N)	Time 16:47:49	Pos. # 21564
56° 24' 4.762"N	132° 20' 20.076" W	(664,219.6 E, 6,253,924.6 N)	Time 16:48:26	Pos. # 21565
56° 23' 56.349"N	132° 20' 18.603" W	(664,254.8 E, 6,253,665.5 N)	Time 16:53:25	Pos. # 21567
56° 23' 53.365"N	132° 20' 19.734"W	(664,239.0 E, 6,253,572.5 N)	Time 16:55:47	Pos. # 21568

Thirteen piles in a row were not positioned between 56-23-53.46 N, 132-20-19.81 W and 56-24-01.59 N, 132-20-23.37 W due to inaccessibility created by the logboom or shoal nature of the area. The Hydrographer recommends charting a row of piles with a dashed-line notation, with the following extents:

56° 24' 01.623"N	132° 20' 23.377"W	(664,166.7 E, 6,253,825.3 N)	Time 16:50:56	Pos. # 21566 N. extent
56° 23' 53.462"N	132° 20' 19.806"W	(664,237.7 E, 6,253,575.5 N)	Time 16:56:24	Pos. # 21569 S extent

Chart isolated piles at the following positions:

56° 24' 5.965"N	132° 20' 31.261" W	(664,026.4 E, 6,253,954.4 N)	Time 22:49:13	Pos. # 21540 (pile is W. extent of log boom)
56° 24' 1.623" N	132° 20' 23.377 W	(664,166.7 E, 6,253,825.3 N)	Time 16:50:56	Pos. # 21566 In ruins
56° 23' 54.729" N	132° 20' 21.966" W	(664,199.1 E, 6,253,613.3 N)	Time 16:58:04	Pos. # 21570

Chart six new dolphins at the following positions:

56° 23' 59.211" N	132° 20' 28.838" W	(663,076.0 E, 6,253,747.2 N)	Time 22:55:23	Pos. # 21541
56° 23' 58.441" N	132° 20' 29.065" W	(664,073.1 E, 6,253,723.2 N)	Time 22:55:59	Pos. # 21542
56° 23' 57.944" N	132° 20' 28.654" W	(664,080.7 E, 6,253,708.1 N)	Time 22:56:30	Pos. # 21543
56° 23' 57.343" N	132° 20' 28.251" W	(664,088.3 E, 6,253,689.8 N)	Time 22:56:57	Pos. # 21544

56° 23' 56.320" N 132° 20' 28.341"W (664,088.0 E, 6,253,658.2 N) Time 22:57:28 Pos. # 21545
56° 23' 55.518" N 132° 20' 31.286"W (664,038.5 E, 6,253,631.4 N) Time 22:58:11 Pos. # 21546

Chart a new marine rail way at the following position:

56° 23' 55.665"N 132° 20' 30.134"W (664,058.1 E, 6,253,636.8 N) Time 22:59:22 Pos. #21547

See digital photograph 525475066," 50661&Pos.#21541-21544" and 21547 and MapInfo graphic.

EVALUATOR COMMENTS: Concur

Proprietary

YEARSUNK

NIMANUM

Print Record

RECRD VESSLTERMS CHART AREA
CARTOCODE SNDINGCODE DEPTH

LAT83 LONG83 NATIVDATUM
LATDEC: LONDEC: GPQUALITY
GPSOURCE

PROJECT ITEMSTATUS SEARCHTYPE
RADIUS INIT ASSIGNED
TECNIQ

Techniqnote

History

Fieldnote
POSITION DETERMINED BY: DIFFERENTIAL GPS

INVESTIGATION SUMMARY: The marine railway was found in ruins on the beach (Pos. # 21539).

CHARTING RECOMMENDATION (HYDROGRAPHER): Revise position of marine railway on chart 17384.

EVALUATOR COMMENTS: Concur remove PA note also."/>

Proprietary

YEARSUNK NIMANUM

RECRD
 VESSLTERMS
 CHART
 AREA

 CARTOCODE
 SNDINGCODE
 DEPTH

LAT83
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 LATDEC:
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RECRD VESSLTERMS CHART AREA
 CARTOCODE SNDINGCODE DEPTH

LAT83 LONG83 NATIVDATUM
 LATDEC: LONDEC: GPQUALITY
 GPSOURCE

PROJECT ITEMSTATUS SEARCHTYPE
 RADIUS INIT ASSIGNED
 TECHNIQ

Techniqnote

History

Fieldnote
 The north entrance of the mairne breakwater is located at:
 56° 25' 1.873" N, 132° 21' 11.5488" W (663,269.5 E, 6,255,655.5 N) Time 16:25:35 Pos. # 21558
 The south entrance to the marine breakwater is located at :
 56° 25' 0.537" N, 132° 21' 8.956"W (663,315.5 E, 6,255,616.0 N) Time 16:24:57 Pos. # 21557
 The southern extent of the breakwater is located at:
 56° 24' 53.672 "N, 132° 20' 59.575" W (663,484.4 E, 6,255,409.9 N) Time 16:27:51 Pos. # 21559
 See digital photograph 21533 & 21538.
 CHARTING RECOMMENDATION (HYDROGRAPHER): Chart breakwater as positioned on survey H11048. The inshore limit was not reachable and is shown as approximate on the Detached Position Plot. It is expected that the final CFF dataset will contain the full HWL and the Hydrographer recommends charting the inshore limits of the breakwater based on the CFF HWL.
 EVALUATOR COMMENTS: Concur with clarification, with smooth tides applied the least depth for the entrance of the small boat harbor is 2.5 fathoms at the survey position. With smooth tides, the second depth within the finger piers is a 2.2 fathom. The charted boat harbor limits, breakwaters, has been updated with the CFF shoreline manuscript."/>

Proprietary

YEARSUNK NIMANUM

RECRD VESSLTERMS CHART AREA
CARTOCODE SNDINGCODE DEPTH

LAT83 LONG83 NATIVDATUM
LATDEC: LONDEC: GPQUALITY
GPSOURCE

PROJECT ITEMSTATUS SEARCHTYPE
RADIUS INIT ASSIGNED
TECNIQ

Techniqnote

History

Fieldnote

Proprietary

YEARSUNK NIMANUM

OPR-0327-RA-01
H11048 AWOIS
Item # 52551



RECRD
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 AREA

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 SNDINGCODE
 DEPTH

LAT83
 LONG83
 NATIVDATUM

 LATDEC:
 LONDEC:
 GPQUALITY

 GPSOURCE

PROJECT
 ITEMSTATUS
 SEARCHTYPE

 RADIUS
 INIT
 ASSIGNED

 TECNIQ

 Techniqnote

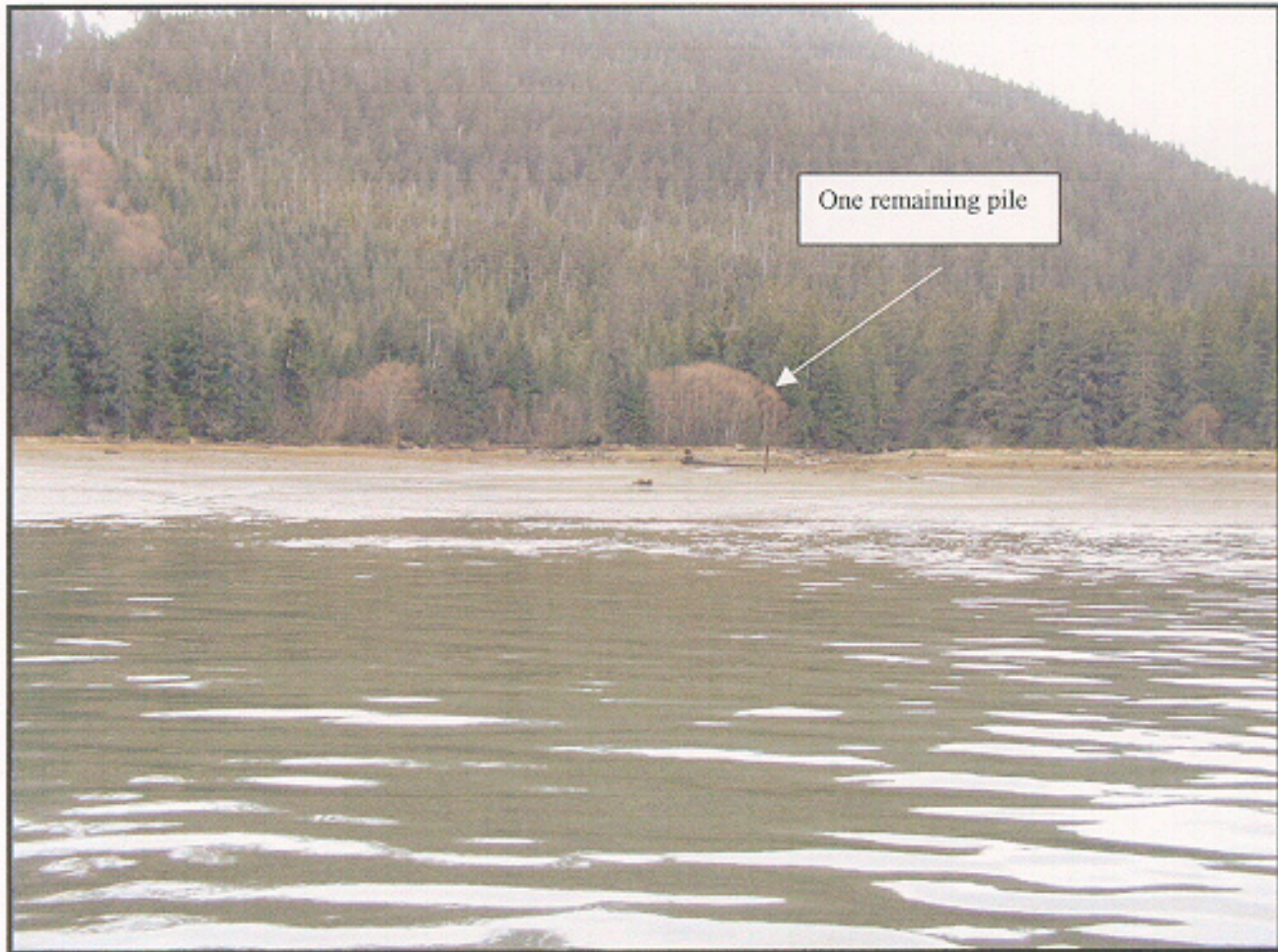
History

Fieldnote

Proprietary

YEARSUNK
 NIMANUM

OPR-O327-RA-01
H11048
AWOIS Item # 52552



RECRD
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 AREA

 CARTOCODE
 SNDINGCODE
 DEPTH

LAT83
 LONG83
 NATIVDATUM

 LATDEC:
 LONDEC:
 GPQUALITY

 GPSOURCE

PROJECT
 ITEMSTATUS
 SEARCHTYPE

 RADIUS
 INIT
 ASSIGNED

 TECNIQ

Techniqnote

History **HISTORY**
 Charted sewer PA.
 CL236/82-- ACOE public notice NPACO 071 OYD 2770119; 6 inch asphalt and concrete sewage outfall lone extending approx. 175 ft. on AK state tidelands, channelward of upland wastewater treatment plant. Plans give position at lat. 56-26-50N, lon. 132-21-30W which charts inland of charted feature. Charted position scaled from kap chart 17384_1 in MapInfo at lat. 56-25-34N, lon. 132-21-52W. (Entered 03/09/2001 DAS)

Fieldnote **INVESTIGATION**
 DATE(S): 04 /25/ 01 (DN:115)
 HYDROGRAPHIC SURVEY NUMBER: H11048
 VN:2125 TIME:19:09:15
 INVESTIGATION METHODS USED: (IE DI, 200% SIDE SCAN SONAR, ECHO SOUNDER) Visual and VBES.
 SURVEYED POSITION:
 56° 25' 33.866 N 132° 21' 53.348 W (662,515.5 E, 6,256,616.8 N) Time 19:09:16 Pos. # 50660
 POSITION DETERMINED BY: DIFFERENTIAL GPS
 INVESTIGATION SUMMARY: The sewer pipe was investigated using a visual search. No pipe was found nor was a waste water treatment plant upland of the approximate position of the sewer line. The position of the sewer pipe was above the MLLW line, and as the item was investigated during a negative stage of tide, the Hydrographer has confidence that it does not exist.
 CHARTING RECOMMENDATION (HYDROGRAPHER): Remove PA sewer pipe from chart 17384.
 EVALUATOR COMMENTS: Concur

Proprietary

YEARSUNK
 NIMANUM



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-O327-RA-2001
HYDROGRAPHIC SHEET: H11048

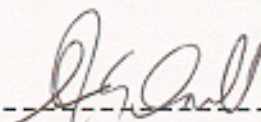
LOCALITY: Zimovia Strait, AK
TIME PERIOD: April 15 - May 14, 2001

TIDE STATION USED: 945-1204 Wrangell, AK
Lat. 56° 28.2'N Lon. 132° 23.2'W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 4.589 meters

REMARKS: RECOMMENDED ZONING
Use zone(s) identified as: SA127

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 

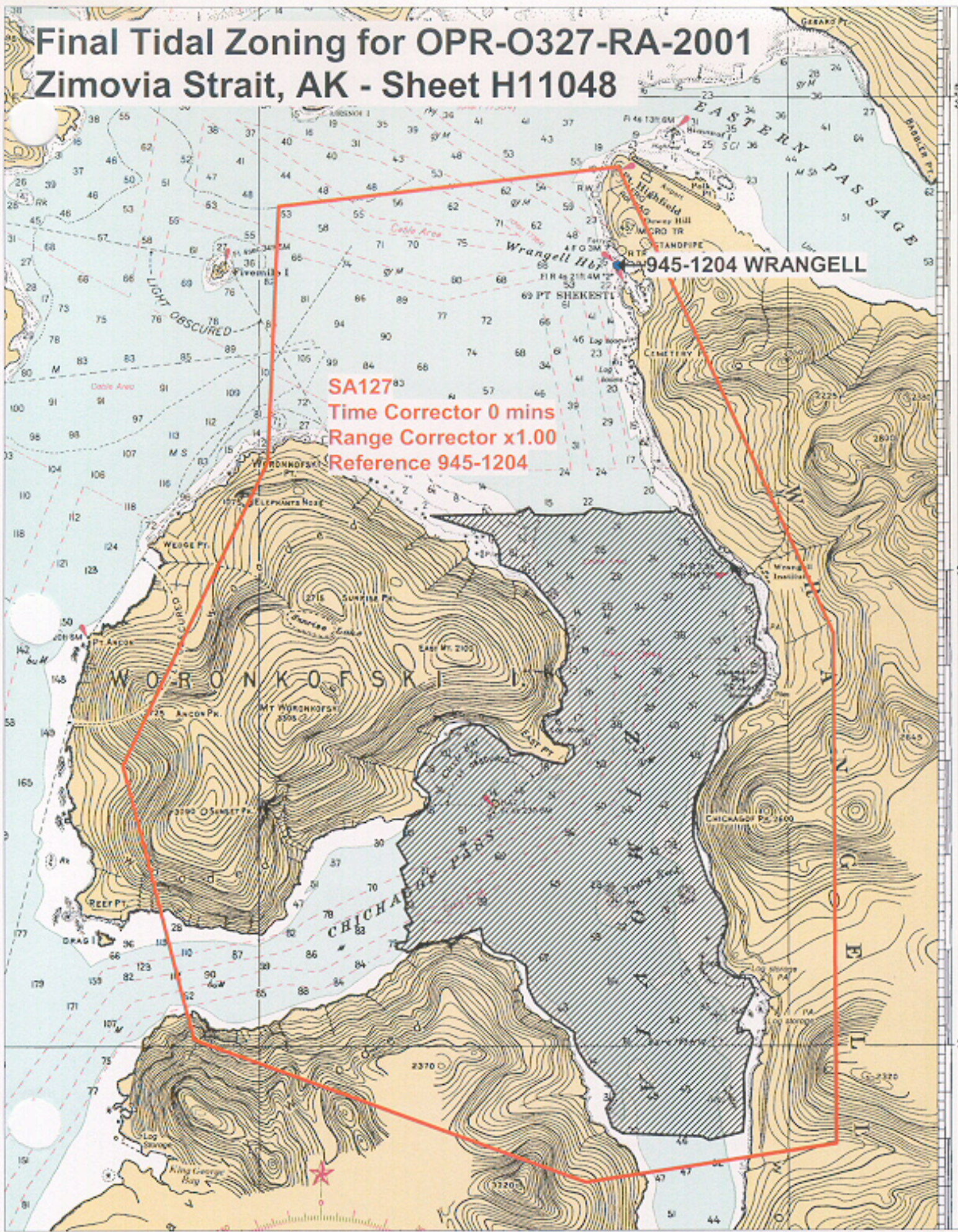
CHIEF, REQUIREMENTS AND DEVELOPMENT DIVISION

Final tide zone node point locations for OPR-O327-RA-2001,
 Sheet H11048.

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 SA127	945-1204	0	1.00
-132.318335 56.315999			
-132.319096 56.40582			
-132.386595 56.487683			
-132.493756 56.480754			
-132.49723 56.43585			
-132.542794 56.382698			
-132.520515 56.33441			
-132.397021 56.309213			
-132.318335 56.315999			

Final Tidal Zoning for OPR-0327-RA-2001 Zimovia Strait, AK - Sheet H11048



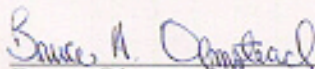
SA127⁸³
Time Corrector 0 mins
Range Corrector x1.00
Reference 945-1204

945-1204 WRANGELL

APPROVAL SHEET
H11048

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 disproof 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.



Bruce Olmstead
Cartographic Team
Pacific Hydrographic Branch

Date: 9/28/05

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.



Donald W. Haines, CDR/NOAA
CDR, NOAA
Chief, Pacific Hydrographic Branch

Date: 11 Oct. 2005

