

11053

NOAA FORM 76-35A	
U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SERVICE	
DESCRIPTIVE REPORT	
<i>Type of Survey</i> HYDROGRAPHIC	
<i>Field No.</i> RA-10-09-01	
<i>Registry No.</i> H-11053	
LOCALITY	
<i>State</i> Alaska	
<i>General Locality</i> Zimovia Strait	
<i>Sublocality</i> Wrangell Harbor and Approaches	
2001	
CHIEF OF PARTY	
CDR D. R. Herlihy, NOAA	
LIBRARY & ARCHIVES	
DATE	

HYDROGRAPHIC TITLE SHEET

H11053

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-10-09-01State AlaskaGeneral Locality Zimovia StraitSublocality Wrangell Harbor and ApproachesScale 1:10,000Date of Survey 4/13/01-5/14/01Instructions Date 3/23/2001Project No. OPR-O327-RA-01Vessel NOAA Ship RAINIER launches 2121, 2122, 2123, 2124, 2125, 2126Chief of Party CDR. D.R. Herlihy, NOAASurveyed by RAINIER PersonnelSoundings taken by echo sounder Knudsen 320M, Reson SeaBat 8101, 8125, Seabeam/Elac 1180Graphic record scaled by RAINIER PersonnelGraphic record checked by RAINIER PersonnelEvaluation by R. Davies Automated plot by HP Designjet 1050CVerification by R. Davies and E. DomingoSoundings in Fathoms and tenths at MLLWREMARKS: 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 H11053

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 includes Wrangell Harbor and Approaches. The survey's northern limit is latitude $56^{\circ}32'09.85''N$ ¹ and the southern limit is latitude $56^{\circ}25'34.82''N$ ². The survey's western limit is longitude $132^{\circ}28'45.69''W$ ³ and the eastern limit is longitude $132^{\circ}21'21.46''W$ ⁴. Included within the charted area is an inset of Wrangell Harbor. The charted inset's northern limit is latitude $56^{\circ}28'36.72''N$ ⁵ and the southern limit is latitude $56^{\circ}27'35.45''N$ ⁶. The inset's western limit is longitude $132^{\circ}23'47.06''W$ ⁷ and the eastern limit is longitude $132^{\circ}22'26.75''W$ ⁸.

One hundred percent shallow-water multibeam (SWMB) coverage was obtained in the survey area in waters 10 meters and deeper. In waters from 4 meters to 10 meters, SWMB data were obtained at 25-meter line spacing, and in these areas additional coverage was obtained to obtain least depths over features or shoals. Vertical-beam echo sounder (VBES) data were acquired in depths from 4 to 50 meters, at a line spacing of 100 meters, to define the four-meter curve and to aid in the planning of SWMB data acquisition.⁹

Along the mouth of the Stikine River, VBES data were obtained at 100 meter line spacing, and should be considered reconnaissance hydrography in areas not also covered with SWMB.¹⁰

Data acquisition was conducted from April 13 to May 14, 2001 (DN 103 to 134).

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.

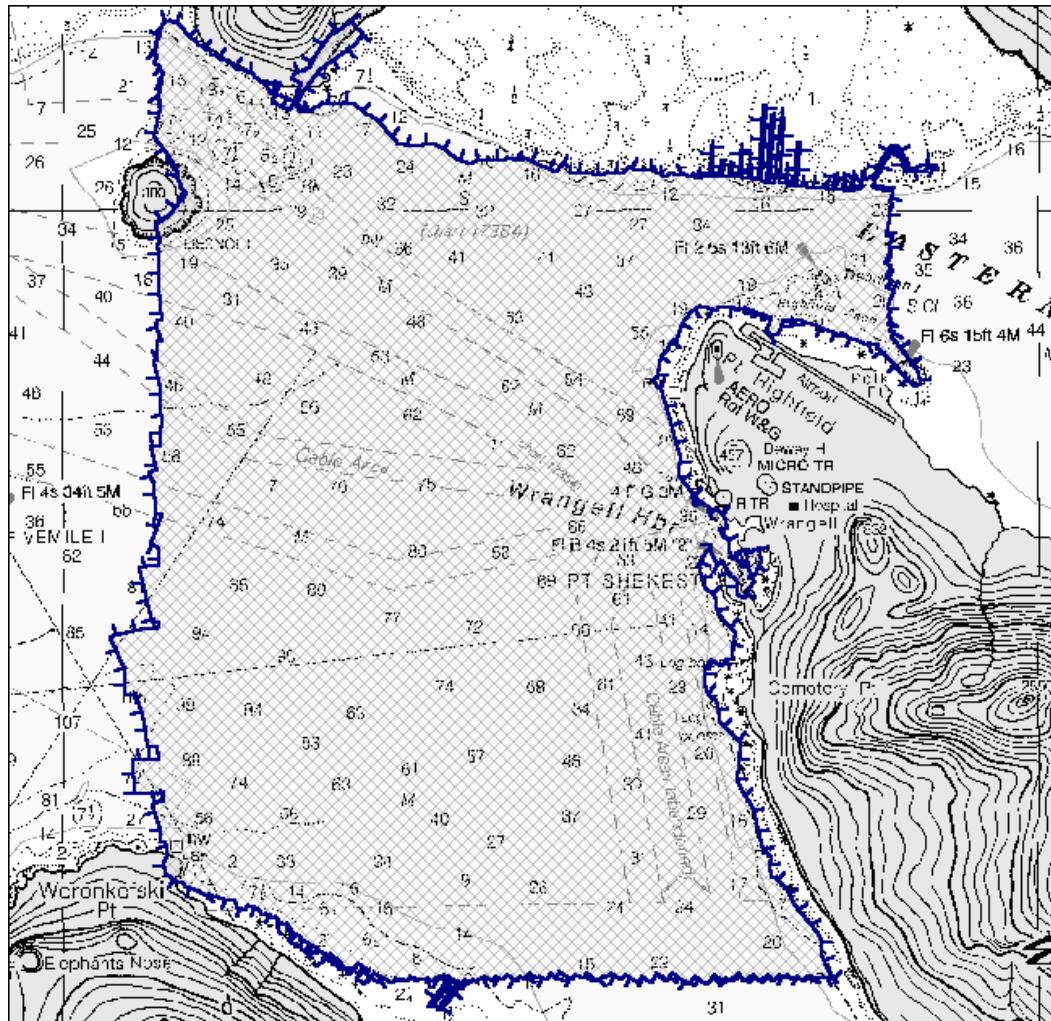


Figure 1. H11053 Survey Limits

B1. Equipment and Vessels

Data were acquired by RAINIER survey launches (vessel numbers 2121, 2122, 2123, 2124, 2125, and 2126). Vessels 2121, 2123, 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.¹¹

B2. Quality Control

Crosslines

Vertical Beam Echo Sounder (VBES) crosslines totaled 10.46 nautical miles, comprising 25.3% of mainscheme hydrography. Crosslines generally agreed within one meter of mainscheme hydrography.

Shallow-Water Multibeam (SWMB) crosslines totaled 25.40 nautical miles, comprising 8.72% of SWMB hydrography. The Quality Control Report (CARIS HIPS) for the checkline file averaged 90.242%, 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 V¹² for the detailed report.

Junctions

The following contemporary survey junctions with H11053:

Registry #	Scale	Date	Junction side
H11048	1:10,000	2001	South

Survey H11048 junctions well with this survey, with differences generally less than one fathom.¹³

Final comparisons will be made at the Pacific Hydrographic Branch (PHB) after the application of smooth tides.¹⁴

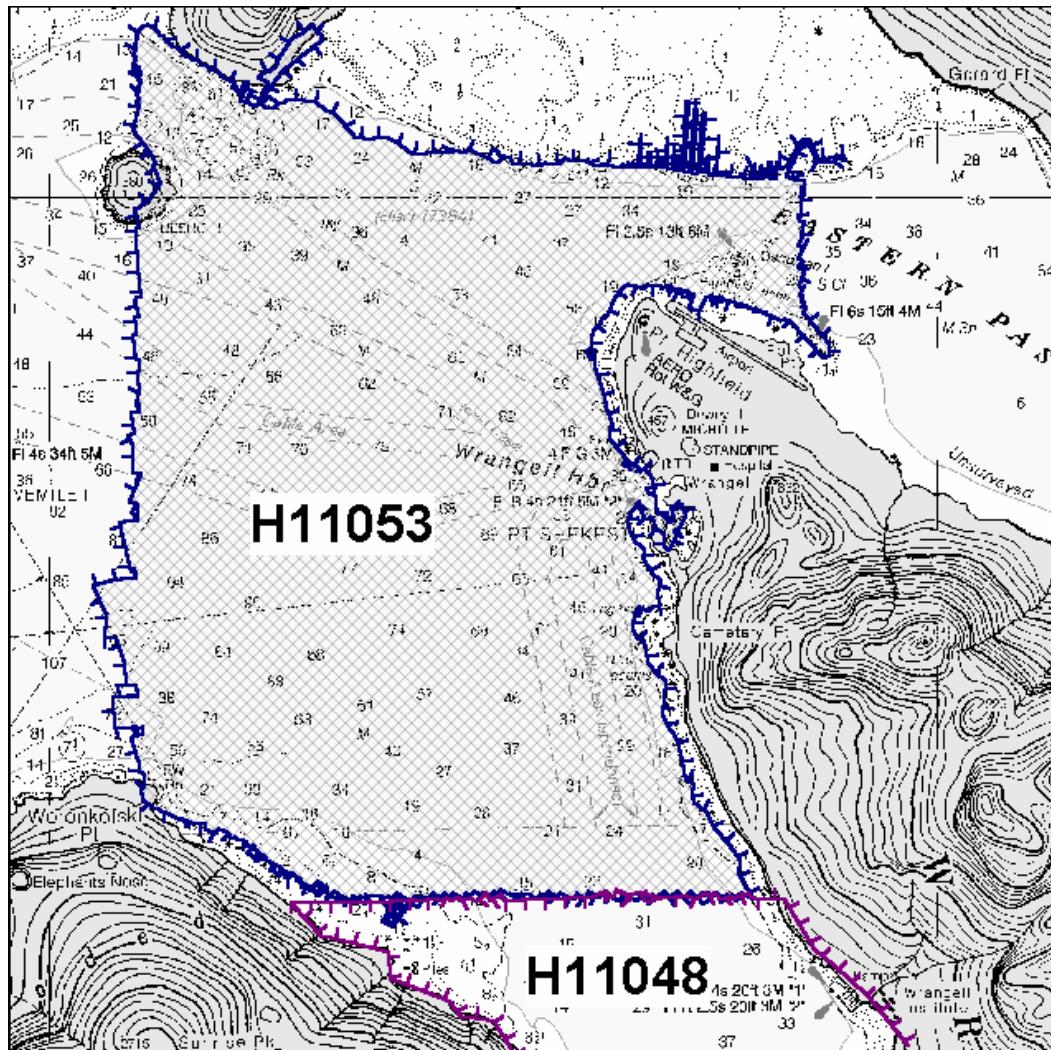


Figure 2. H11053 Junction Survey

Data Quality Factors

Vertical differences between adjacent SWMB lines of up to 0.6 meters 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.

Due to river runoff and the effects of tidal currents, a sharp demarcation of water masses was often observed in the field. This proved to be problematic in the acquisition and application of sound velocity correctors. After correction for sound velocity in HDCS, some lines still exhibited the characteristic "smiles" and "frowns" indicative of inaccurate sound velocity corrections. To correct these sound velocity problems, correctors were often applied based on the geographic position of the cast, rather than the time the cast was collected. Such application was performed on a line-by-line basis only on individual lines that exhibited profound sound velocity problems. Despite the best efforts of the Hydrographer to conduct sufficient sound velocity casts distributed both spatially and temporally, and to correct for sound velocity errors in post processing through methods previously mentioned, sound velocity errors were still noticeable in several regions. To compensate, the Hydrographer, where possible, rejected soundings obviously in error on the outer beams.¹⁵

No other factors were encountered during the survey that affected the expected accuracy and quality of survey data.¹⁶

B3. Data Reduction

Data reduction procedures for survey H11053 conform to those detailed in the *OPR-O327-RA-01 Data Acquisition and Processing Report*.¹⁷

C. VERTICAL AND HORIZONTAL CONTROL

A complete description of vertical and horizontal control for this project 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 (NWLN) 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 H11053. 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
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 following 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.¹⁸ A request for delivery of final approved (smooth) tides for survey H11053 was forwarded to N/OPS1 on May 25, 2001 in accordance with FPM 4.8.¹⁹

D. RESULTS AND RECOMMENDATIONS

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

A total of nine (9) AWOIS items were located within the limits of H11053 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.²⁰ Printouts of the AWOIS Database forms are included in this report.²¹

D.2 Chart Comparison

Survey H11053 was compared with chart 17384 inset (7th Ed.; Feb. 26, 2000, 1:10,000), chart 17384 (7th Ed.; Feb. 26, 2000, 1:20,000), chart 17382 (14th Ed.; April 26, 1997, 1:80,000), and 17385 (13th Ed.; July 24, 1993, 1:80,000).²²

Depths from survey H11053 were generally one to three fathoms, with occasional differences of five fathoms, shoaler than depths on charts 17384, 17382, and 17385. 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 be attributed to increased bottom coverage using SWMB. In addition, the mud flats at the mouth of the Stikine River have migrated approximately 500-800 meters seaward, resulting in survey depths that are 10 to 20 fathoms shoaler than charted depths in this area. Significant differences to these trends are addressed below.²³

In the vicinity of a charted (17384 inset) 18-fathom sounding at 56°27'48.33"N, 132°23'33.85"W (660636.6 E, 6260706.9 N), the present survey revealed a depth of 24 fathoms. This area was covered by 100% SWMB.²⁴

In the vicinity of a charted (17384) 20-fathom sounding at 56°29'41.27"N, 132°22'09.21"W (661951.0 E, 6264252.6 N), the present survey revealed a depth of 28 fathoms. This area was covered by 100% SWMB.²⁵

In the vicinity of a charted (17384) 13-fathom sounding at 56°29'57.34"N, 132°28'31.66"W (655394.6 E, 6264503.6 N), the present survey revealed a depth of 18.4 fathoms. However, survey H11053 showed a

depth of 13.7 fathoms approximately 40 meters north of the charted sounding. This area was covered by 100% SWMB.²⁶

In the vicinity of a charted (17384) 5-fathom, 5-foot sounding at 56°29'29.71"N, 132°22'58.69"W (661118.7 E, 6263863.1 N), the present survey revealed depths of 10.2 to 12 fathoms. However, survey H11053 showed a depth of 3.4 fathoms approximately 65 meters southwest of the charted sounding. This area was covered by 100% SWMB.²⁷

In the vicinity of a charted (17384) 6-fathom sounding at 56°28'05.5"N, 132°23'12.89"W (660975.1 E, 6261251.1 N), the present survey revealed a depth of 9.1 fathoms. This area was covered by 100% SWMB.²⁸

In the vicinity of a charted (17384) 6-fathom, 2-foot sounding at 56°25'38.79"N, 132°25'43.86"W (658562.0 E, 6256619.5 N), the present survey revealed a depth of 9 fathoms. This area was covered by 100% SWMB.²⁹

In the vicinity of a charted (17384) 7-fathom, 4-foot sounding at 56°26'06.29"N, 132°27'59.5"W (656207.7 E, 6257382.9 N), the present survey revealed depths of 11.2 and 11.6 fathoms. This area was covered by 100% SWMB.³⁰

In the vicinity of Deadman Island and Highfield Anchorage (17384), the present survey revealed several depths one to two fathoms deeper than charted depths. This area was covered by 100% SWMB.³¹

Final sounding comparisons will be made at the Pacific Hydrographic Branch after the application of smooth tides.³²

D.3 Shoreline

Method of Shoreline Verification

N/NGS3 supplied photogrammetric shoreline data in vector format as Cartographic Feature Files (CFF) 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. At the time of the survey, N/NGS3 had not completed processing of AK-9702-D and the data provided to RAINIER were considered preliminary for this project. In the area encompassed by AK-9702D, in and around Zimovia Strait, only low water features were included in the CFF, with a few exceptions in which the high-water line was depicted. When not available on the CFF, 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 when no other shoreline source document was available. 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. In addition, 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. RAINIER recommends that if processing of AK-9702-D is complete at the time of office review, that the Pacific Hydrographic Branch (PHB) incorporates the final processed CFF into the smooth sheet and compares it with field work conducted by RAINIER.³³

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 sixty 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.³⁴

Detached positions (DPs) taken during shoreline verification were recorded in Hypack and on DP forms, and processed in HPS. 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*.³⁵

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.³⁶

Verified CFF and T-Sheet shoreline that did not require revision are in the MapInfo tables "H11053_CFFShoreline" and "H11053_TSShoreline," respectively. Charted shoreline, when used for reference purposes or when source data were not available, is depicted in the MapInfo table "H11053_ChartedShoreline." New features and changes to the source shoreline are depicted in the MapInfo table "H11053_ShorelineUpdates."³⁷

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 reefs or ledges, and the changes are reflected on the DP and BS Plots, and in the MapInfo table "H11053_ShorelineUpdates."³⁸

Source Shoreline Changes and New Features

Several changes and new features were found and are depicted on the final Detached Position Plot. T-sheet and charted rocks were often identified as high points or extents of ledges and reefs.³⁹

The T-Sheetcharted (17384) rock at 56°28'53.44"N, 132°23'41.66"W (660426.5 E, 6262714.0 N, Position # 21406) was disproved after conducting a ten-minute visual and echo sounder search within a 50-meter radius. Sea conditions were flat to one-foot swells and water visibility in this area was clear to the depth of three meters. The Hydrographer recommends removing it from the chart.⁴⁰

The T-Sheetcharted (17384 inset) dolphin at 56°27'43.30"N, 132°22'49.05"W (661408.9 E, 6260580.3 N, Position # 21414) was disproved after conducting a visual search within a 40-meter search radius. Sea conditions were flat. The Hydrographer recommends removing it from the chart.⁴¹

The T-Sheetcharted (17384) log boom at 56°26'52.90"N, 132°23'00.38"W (661274.5 E, 6259015.5 N, Position # 21439) was disproved after conducting a visual search with some SWMB coverage. However, several piles still remain. The Hydrographer recommends removing the log boom from the chart and charting the existing piles as depicted on the Detached Position Plot.⁴²

The T-Sheetcharted (17384) log boom at 56°27'28.32"N, 132°23'07.56"W (661110.0 E, 6260105.5 N, Position # 21442) was disproved after conducting a visual and SWMB search. However, several submerged piles still remain and were found at the following locations using SWMB:

Latitude	Longitude	Easting	Northing	Least Depth (*.*FA) w/smooth tides
56°27'30.3"N	132°22'59.5"W	661245.5 E	6260171.9 N	5.89 m (3.3FA)
56°27'30.1"N	132°23'01.8"W	661206.4 E	6260164.3 N	9.03 m(5.0FA)
56°27'29.6"N	132°22'58.5"W	661263.5 E	6260150.9 N	4.66 m(2.7FA)
56°27'29.6"N	132°22'59.1"W	661253.2 E	6260150.6 N	2.64 m(1.5FA)
56°27'31.6"N	132°23'00.5"W	661226.9 E	6260211.5 N	4.94 m(2.7FA)
56°27'32.3"N	132°23'01.0"W	661217.5 E	6260232.8 N	3.25 m(1.9FA)
56°27'33.0"N	132°23'01.4"W	661209.7 E	6260257.2 N	3.91 m(2.1FA)

The Hydrographer recommends removing the log boom and charting the submerged piles.⁴³

The T-Sheetcharted (17384 inset) log boom at 56°28'8.74"N, 132°23'5.04"W (661105.5 E, 6261356.3 N, no position taken) was disproved after conducting a visual and SWMB search. Three submerged piles were found using SWMB and SSS at the following locations:

Latitude	Longitude	Easting	Northing	Least Depth
56°28'07.6"N	132°23'05.2"W	661104.1 E	6261321.0 N	5.34 m(3FA)
56°28'09.4"N	132°23'07.9"W	661055.8 E	6261374.9 N	5.23 m(2.9FA)
56°28'09.0"N	132°23'06.5"W	661080.2 E	6261363.4 N	4.60 m(2.6FA)

The Hydrographer recommends removing the log boom and charting the submerged piles.⁴⁴

The T-Sheetcharted (17384 inset) dolphin at 56°28'29.22"N, 132°23'30.38"W (660647.9 E, 6261972.9 N, Position # 51332) was disproved after conducting a five-minute visual and echo-sounder search within a 25-meter search radius. There is some SWMB coverage within this area. In addition, the extents of the ferry pier cover this location. Sea conditions were flat and water visibility in this area was clear to the depth of three meters. The Hydrographer recommends removing it from the chart.⁴⁵

The T-Sheetcharted (17384 inset) islet at 56°27'56.38"N, 132°23'05.55"W (661111.3 E, 6260973.9 N, Position # 51350) was disproved after conducting a five-minute visual and SWMB search within a 20-meter search radius. Sea conditions were flat and water visibility in this area was clear to the depth of three meters. The Hydrographer recommends removing it from the chart.⁴⁶

The T-Sheetcharted (17384 inset) pile at 56°27'56.76"N, 132°23'02.26"W (661167.1 E, 6260987.9 N, Position # 51351) was disproved with a five-minute visual, echo-sounder, and SWMB search within a 15-meter search radius in water with two to three meter visibility. The Hydrographer recommends removing it from the chart.⁴⁷

The T-Sheetcharted (17384 inset) ferry pier at 56°28'27.35"N, 132°23'29.77"W (660660.6 E, 6261915.5 N) and city pier at 56°28'15.02"N, 132°23'19.19"W (660856.0 E, 6261541.1 N) were revised by the Hydrographer. The Hydrographer recommends charting both piers as depicted on the Detached Position Plot.⁴⁸

A new metal obstruction was found at 56°25'48.62"N, 132°22'05.36"W (662292.3 E, 6257064.9 N, Position # 51037). See photo "51037." The Hydrographer recommends charting the obstruction at surveyed position.⁴⁹

Three new piles were found at $56^{\circ}29'14.88''N$, $132^{\circ}22'34.25''W$ (661554.2 E, 6263420.4 N, Position # 51360). See photo "51360." These piles are in addition to the existing charted piles for a total of six. The Hydrographer recommends charting the piles as depicted on the Detached Position Plot.⁵⁰

The CFF foul area in the vicinity of Woronkofski Island has been revised by the Hydrographer. Several charted rocks were found to be correctly charted within this area. The shoreline buffer line and the extents of VBES data in this area defined the foul limit. The Hydrographer recommends charting the foul limit as depicted on the Detached Position Plot.⁵¹

Charted Features⁵²

The charted (17384 inset) ruins at $56^{\circ}27'44.58''N$, $132^{\circ}22'51.31''W$ (661368.9 E, 6260618.5 N, Position # 21413) were disproved after conducting a five-minute visual search. This area was dry at the time of verification. See photo "chd ruin disproval." The Hydrographer recommends removing them from the chart.⁵³

The charted (17384) pile at $56^{\circ}25'46.46''N$, $132^{\circ}21'58.92''W$ (662405.2 E, 6257002.3 N, Position # 21440) was disproved after conducting a visual search within a 10-meter search radius. This position places the pile above MLLW on the beach. However, no pile was seen. The Hydrographer recommends removing it from the chart.⁵⁴

The charted (17384 inset) pile at $56^{\circ}27'48.62''N$, $132^{\circ}22'49.33''W$ (661397.9 E, 6260744.9 N, Position # 51092) was disproved after conducting a five-minute visual, echo-sounder, and SWMB search within a 15- meter search radius in water with two to three meter visibility. In addition, a new pier is located at the position of this pile. The Hydrographer recommends removing the pile and charting the pier as depicted on the Detached Position Plot.⁵⁵

The charted (17384 inset) pile at $56^{\circ}28'17.23''N$, $132^{\circ}23'22.51''W$ (660796.7 E, 6261607.4 N, Position # 51334) was disproved after conducting a five-minute visual and echo-sounder search within a 20-meter search radius in water with two to three meter visibility. However, the Hydrographer believes this pile represents the extent of the pier and recommends revising its position as depicted on the Detached Position Plot.⁵⁶

The charted (17384 inset) pile at $56^{\circ}27'57.27''N$, $132^{\circ}23'06.78''W$ (661089.2 E, 6261000.7 N) was disproved with a visual and 100% SWMB search in the area. Water visibility in this area was two to three meters. The Hydrographer recommends removing it from the chart.⁵⁷

The charted (17384 inset) submerged dolphin at $56^{\circ}27'59.42''N$, $132^{\circ}23'05.29''W$ (661112.1 E, 6261067.5 N) was disproved with a visual and 100% SWMB search in the area. Water visibility in this area was two to three meters. In addition, a new floating pier is located at the position of this dolphin. The Hydrographer recommends removing the dolphin and charting the pier as depicted on the Detached Position Plot.⁵⁸

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.⁵⁹ These revisions are recorded in the MapInfo digital files named "H11053_Shoreline" and "H11053_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 "H11053_ShorelineNotes."⁶⁰

D.4 Dangers to Navigation

The shoaling at the mouth of the Stikine River was reported directly to the Seventeenth Coast Guard District as a danger to navigation on May 1, 2001.⁶¹ A copy of this report is included in this report. Ten (10) additional dangers to navigation were found and reported to the Pacific Hydrographic Branch for verification and final submission to the Seventeenth Coast Guard District on September 8, 2001. Copies of the preliminary Danger to Navigation Report are 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.⁶²

D.5 Aids to Navigation

Survey H11053 included eleven (11) aids to navigation (ATONs). Each of the ATONs were charted correctly and found to serve its intended purpose, except for the following:

One light on Wrangell Dock (USCG Light List 22635) was missing at position 56°28'16.5"N, 132°23'21.9"W. It appeared to have been destroyed and it is possible that it will be replaced in the future. Retain as charted.⁶³

Discrepancies were found between the charted and Light List positions for the following ATONs:⁶⁴

Point Highland Reef Daybeacon⁶⁵ (USCG Light List 22665) was found to have an approximate difference of 80 meters between the charted position and the Light List position.

The Light located on Deadman Island (USCG Light List 22690) was found to have an approximate difference of 80 meters between the charted position and the Light List position.

D.6 Miscellaneous

Bottom samples were collected and are depicted on the Detached Position and Bottom Sample Plot.⁶⁶

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, Hydrographic Survey Guidelines, Field Procedures Manual and the NOS Hydrographic Surveys Specifications and Deliverables, as updated for 2001.

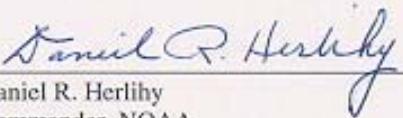
The digital data and supporting records have been reviewed by me, are considered complete and adequate for charting purposes, and are approved. All records are forwarded for final review and processing to N/CS34, Pacific Hydrographic Branch.

Survey H11053 is complete and adequate to supersede charted soundings in their common areas.⁶⁷ No additional work is required for this survey.⁶⁸

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

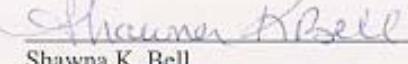
<u>Title</u>	<u>Date Sent</u>	<u>Office</u>
Data Acquisition and Processing Report for OPR-O327-RA-01	30 July, 2001	N/CS34
Horizontal and Vertical Control Report for OPR-O327-RA-01	30 July, 2001	N/CS34
Tides and Water Levels Package for OPR-O327-RA-01	03 July, 2001	N/OPS1
Coast Pilot Report for OPR-O327-RA-01	TBD	N/CS26

Approved and Forwarded:

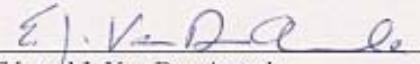

Daniel R. Herlihy
Commander, NOAA
Commanding Officer

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

Survey Sheet Manager:


Shawna K. Bell
Ensign, NOAA

Field Operations Officer:


Edward J. Van Den Ameele
Lieutenant, NOAA

Revisions Compiled During Office Processing and Certification

¹ Corrected latitude, 56/30/59N

² Corrected latitude, 56/25/23N

³ Corrected longitude, 132/21/2.5W

⁴ Corrected longitude, 132/29/18.6W

⁵ Corrected latitude, 56/28/33N

⁶ Corrected latitude, 56/27/45N

⁷ Corrected longitude, 132/23/40.2W

⁸ Corrected longitude, 132/22/39.5W

⁹ Concur

¹⁰ See attached Dangers to Navigation Report dated May 1, 2001.

¹¹ Concur with hydrographer's comments.

¹² Filed with the hydrographic records.

¹³ The junction between surveys H11053 and H11048 was accomplished during office processing of survey H11171.

The junction is complete and differences are generally less than one fathom.

¹⁴ Concur, the junction is complete after the application of smooth tides.

¹⁵ Concur, after review of the data with approved tides applied, surrounding soundings were consistent with other soundings in the area.

¹⁶ Concur

¹⁷ Concur

¹⁸ See attached tide note dated August 31, 2001

¹⁹ Concur, filed with the hydrographic records.

²⁰ Concur and will be forwarded to N/CS31.

²¹ Concur

²² Survey H11053 was compared with chart 17384 8th Edition (main and inset) dated, December 1, 2003.

²³ Survey H11053 was compared with prior surveys H08621, 1961, 1:10,000 and H08620, 1961, 1:5,000. A comparison with the prior survey H08620 was difficult since numerous cultural features inside and approaching Wrangell Harbor have changed, been removed or added since 1961. It is recommended that survey H11053 supersede prior survey H08620 within the area of common coverage. A comparison with prior survey H08621 was also accomplished. The two surveys compared very well with depths differing between 1 to 2 fathoms, the present survey being shoaler. The area north of latitude 56/30/15N differ as much as 20 fathoms. This is the result of the southerly migration of deposits from the Stikine River. See attached Danger to Navigation letter, dated May 1, 2001. In another area, centered at latitude 56/25/49N, longitude 132/27/43W, a number of rocks and soundings have been transferred to the present from the prior survey H08621 to better represent the area due to the lack of 100% multibeam coverage.

²⁴ Concur, chart area according to the smooth sheet.

²⁵ Concur, chart area according to the smooth sheet.

²⁶ Concur, chart area according to the smooth sheet.

²⁷ Concur, chart area according to the smooth sheet.

²⁸ Concur, chart area according to the smooth sheet.

²⁹ Concur, chart area according to the smooth sheet.

³⁰ Concur, chart area according to the smooth sheet.

³¹ Concur, chart area according to the smooth sheet.

³² 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.

³³ 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.

³⁴ See smooth sheet for depiction of these areas.

³⁵ Filed with the hydrographic records.

³⁶ 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.

Revisions Compiled During Office Processing and Certification

³⁷ Concur, see endnote 33

³⁸ See smooth sheet for depiction of the survey area.

³⁹ See endnote 33

⁴⁰ Concur

⁴¹ Concur

⁴² Concur, chart area as depicted on the smooth sheet.

⁴³ Concur, chart area as depicted on the smooth sheet.

⁴⁴ Concur, chart area as depicted on the smooth sheet

⁴⁵ Concur

⁴⁶ Concur

⁴⁷ Concur

⁴⁸ Do not concur, retain charted piers, unless new source shoreline is available.

⁴⁹ Concur, chart metal obstruction with a height of 2 feet at MLLW

⁵⁰ Concur, chart piles as shown on the smooth sheet

⁵¹ Concur, chart foul areas and rocks from the shoreline manuscript and several rocks which were transferred from the prior survey, H08621 (1961). See smooth for depiction of the area.

⁵² The following piles were not investigated and should be retained as charted.

Feature	Latitude(N)	Longitude(W)
Pile	56/27/58.6	132/23/4.8
Pile	56/27/57.9	132/23/4.0
Pile	56/27/56.8	132/23/2.1
Pile	56/27/55.9	132/23/0.3
Pile	56/27/53.6	132/22/59.2
Pile	56/27/54.4	132/22/46.2

⁵³ Concur

⁵⁴ Concur

⁵⁵ Concur, chart floating pier as depicted on the smooth sheet.

⁵⁶ Concur, chart pier as depicted on the smooth sheet.

⁵⁷ Concur, remove charted pile, chart in pier, centered at latitude 56/27/57N, longitude 132/23/7.5W

⁵⁸ Concur, remove charted submerged dolphin and chart new pier as shown on the smooth sheet.

⁵⁹ Concur, see endnote 36

⁶⁰ Filed with the hydrographic data.

⁶¹ The evaluator recommends a caution note be added to chart 17384 in the vicinity of the Stikine River, see smooth sheet and Hdrawing.

⁶² The Danger to navigation letter was reviewed at the Pacific Hydrographic Branch and six dangers were forwarded to the U.S. Coast Guard on November 27, 2001. See attached copy.

⁶³ The evaluator recommends that MCD use the latest information to chart aids to navigation.

⁶⁴ See endnote 63

⁶⁵ The light list name should be Point Highfield Reef Daybeacon.

⁶⁶ See smooth sheet for depiction of all bottom samples taken during survey operations.

⁶⁷ Concur with clarification. A few charted features were not investigated in the near shore areas within the survey limits.

⁶⁸ Concur with clarification. Except as noted in this report, and those items retained in green on the H-drawing, the present survey is adequate to supersede the charted data within the common area. In addition, charted cable areas and sewer outfalls were not investigated during this survey and should be retained.

REPORT OF DANGERS TO NAVIGATION

Hydrographic Survey Registry Number: H11053

Survey Title: State: Alaska
Locality: Northern Clarence Strait and Zimovia Strait
Sub-locality: Wrangell Harbor and Approaches

**ADVANCE
INFORMATION**

Project Number: OPR-O327-RA-01

Survey Dates: April - May 2001

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

CHARTS AFFECTED:

Chart	Scale	Edition	Date
17384	1:20,000	7 th	2/26/00
17382	1:80,000	14 th	4/26/97

DANGERS:

Feature	Depth(fathoms)	Latitude	Longitude
Sounding	5½	56°25'47.847"N	132°26'41.997"W
Sounding	8½	56°27'37.775"N	132°23'11.885"W
Sounding	9	56°27'08.933"N	132°23'25.088"W
Sounding	9½	56°30'16.709"N	132°28'23.591"W
Sounding	9¾	56°30'09.824"N	132°28'07.501"W
Rock	awash	56°25'58.813"N	132°28'02.612"W

COMMENTS:

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

[Click here to view chartlet 17384_1](#)

[Click here to view chartlet 17384_2](#)

[Click here to view chartlet 17384_3](#)

Chart 17384
Kodiak

7th Ed. Feb. 26, 2000
Scale Depicted 1:20,000
Revisions from NOAA hydrographic
survey H11053

Pacific Hydrographic Branch
7600 Sand Point Way N.E.
Seattle, WA 98115
(206) 526-6836

*This graphic may not be up to date
with the latest Local Notices to Mariners
information. Do not paste on to NOAA charts.*

Advance information subject to office review.

Liesnoi I

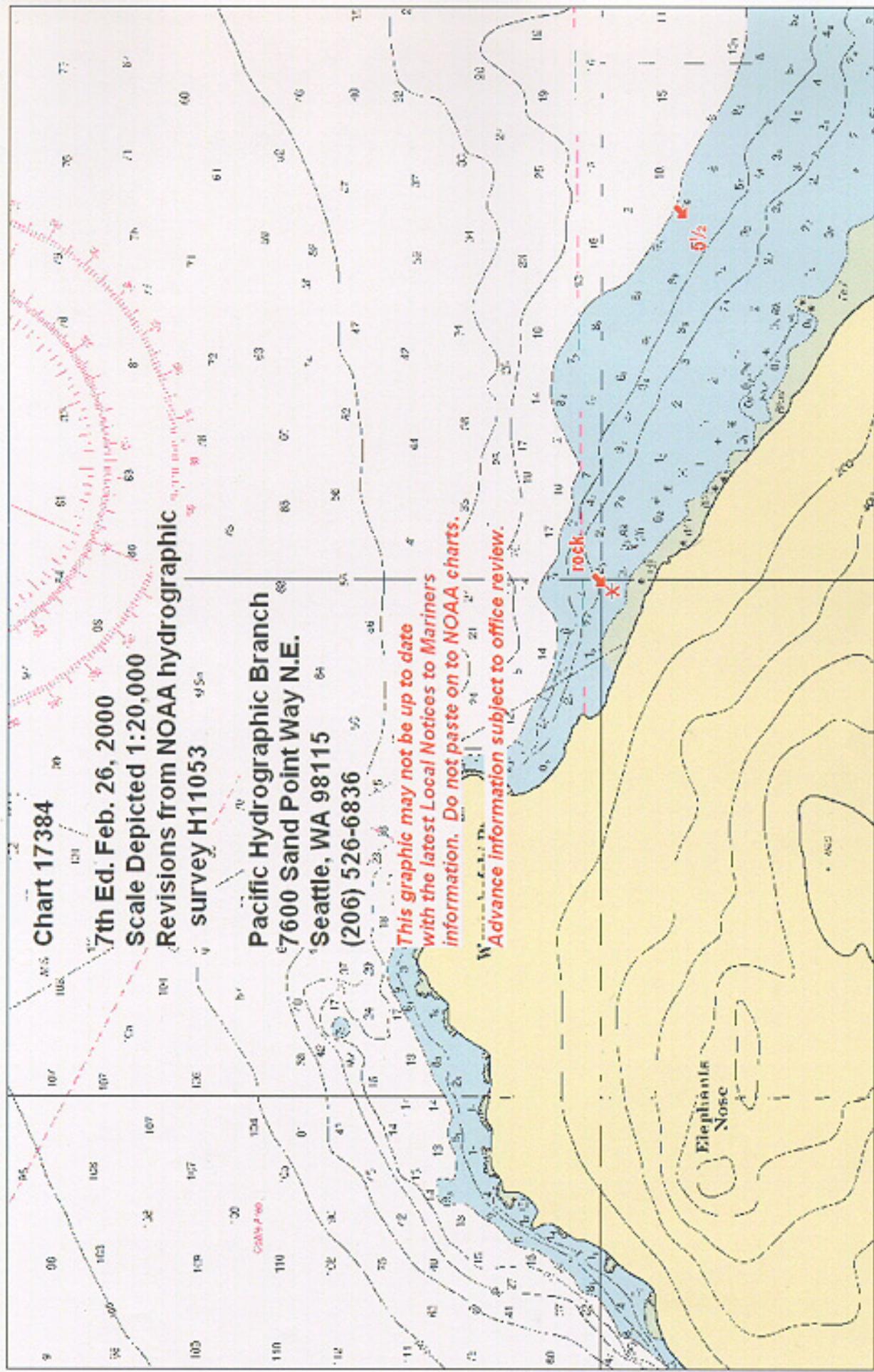


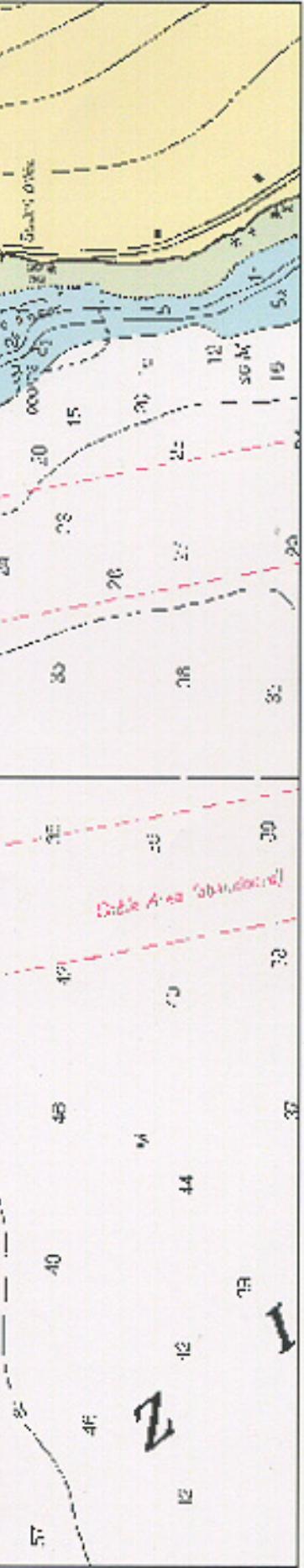
Chart 17384

7th Ed. Feb. 26, 2000
Scale Depicted 1:20,000
Revisions from NOAA hydrographic
survey H11053

Pacific Hydrographic Branch
7600 Sand Point Way N.E.
Seattle, WA 98115
(206) 526-6836

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

Advance information subject to office review.





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

NOAA Ship RAINIER
May 1, 2001

**ADVANCE
INFORMATION**

Commander (mon)
Seventeenth Coast Guard District
Post Office Box 25517
Juneau, Alaska 99802-5517

Dear Sir or Madam:

While conducting hydrographic survey H11053 in April of this year in the vicinity of Wrangell Harbor and the Stikine River, NOAA Ship RAINIER found that the mud flats at the mouth of the Stikine River have migrated approximately 500 meters seaward. As a result, survey depths are as much as 20 fathoms shoaler than charted depths. It is recommended that this information be included in the Local Notice to Mariners as a danger to navigation. It is also recommended that mariners use extreme caution when navigating this area due to the changing nature of the river mouth.

The attached chartlets depict the seaward migration of the shoal and the approximate revisions to charted contours. The complete hydrographic survey will be completed later this year and applied to chart following final office review.

This danger to navigation affects the following charts:

<u>Chart</u>	<u>Scale</u>	<u>Edition</u>	<u>Date</u>
17382	1:80,000	14th	26-April-1997
17384	1:20,000	7th	26-February-2000

This is advance information subject to office review. Questions concerning this letter should be directed to the Chief, Pacific Hydrographic Branch, (206) 526-6835. Refer to survey project O327-RA-01 and Danger to Navigation message RA-10-01. More information on current RAINIER survey projects may be obtained by e-mail; contact the Field Operations Officer at FOO.RAINIER@NOAA.GOV.

Sincerely,

Daniel R. Herlihy
Commander, NOAA
Commanding Officer

Attachment

cc: N/CS31
N/CS34

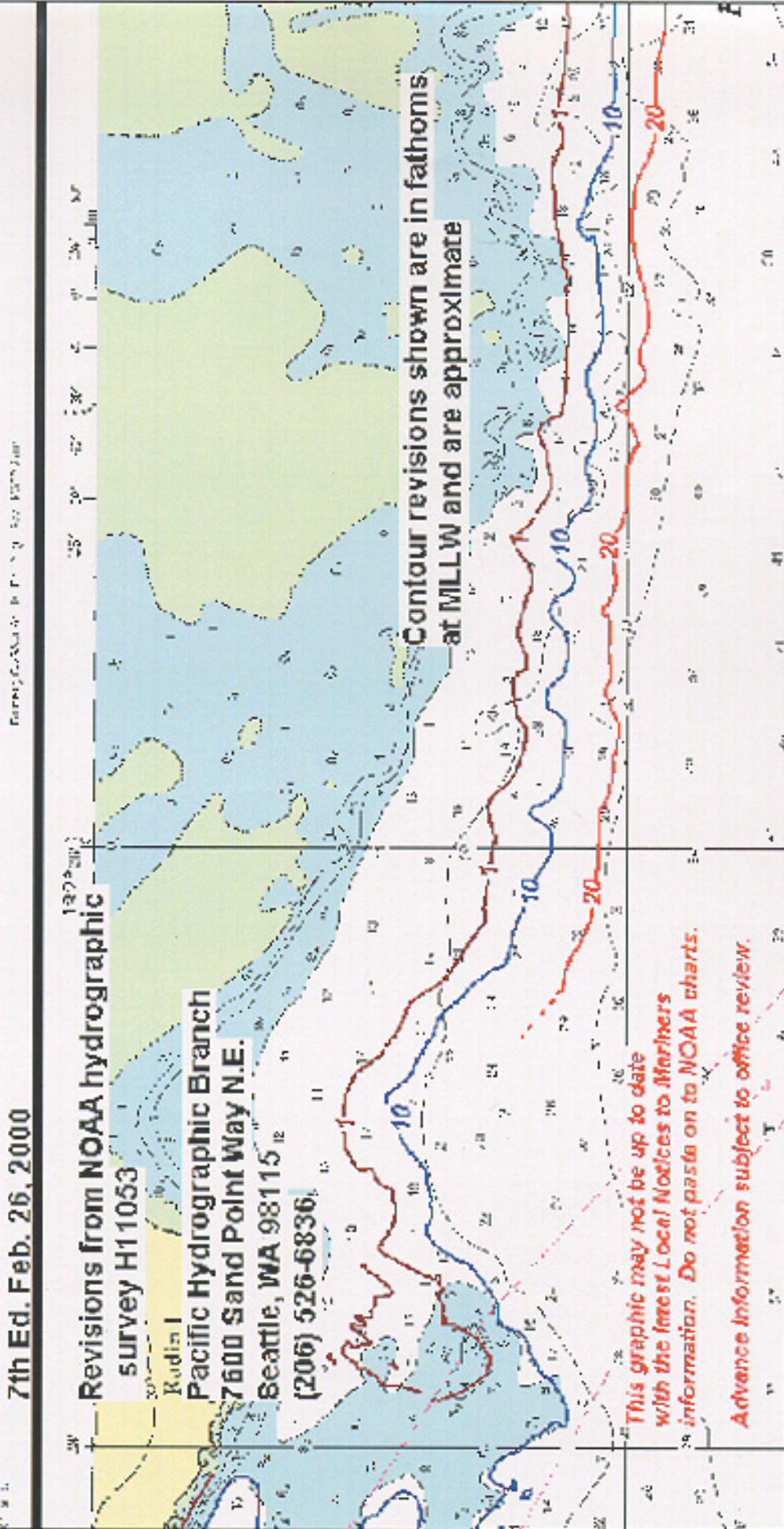


NOAA
National Oceanic and Atmospheric Administration
U.S. Department of Commerce

WRANGELL HARBOR AND APPROACHES

Chart 17384
Rev. 7 Ed. Feb. 26, 2000
Survey H11053
Ruddin I
Pacific Hydrographic Branch
7600 Sand Point Way N.E.
Seattle, WA 98115-6836
(206) 526-6836

REVISIONS IN FATHOMS
NORTH AND WEST TO RETURN FATHOMS
AT MEAN LOWER LOW WATER



17384

17384.0001 CHART 17384 ISSUED 2000-02-26
CHART SERVICE NO. 50, 2000 EDITION NUMBER 7, 2000
"NOTICE THIS IS NOT TO THE CLOUD, THERE ARE CHART UPDATES IN FC-521, VERTICAL GREEN
SERVICES NOAA, GIVE 8P TO MARCH 2000. 2000-02-26"

SOUNDINGS IN FATHOMS

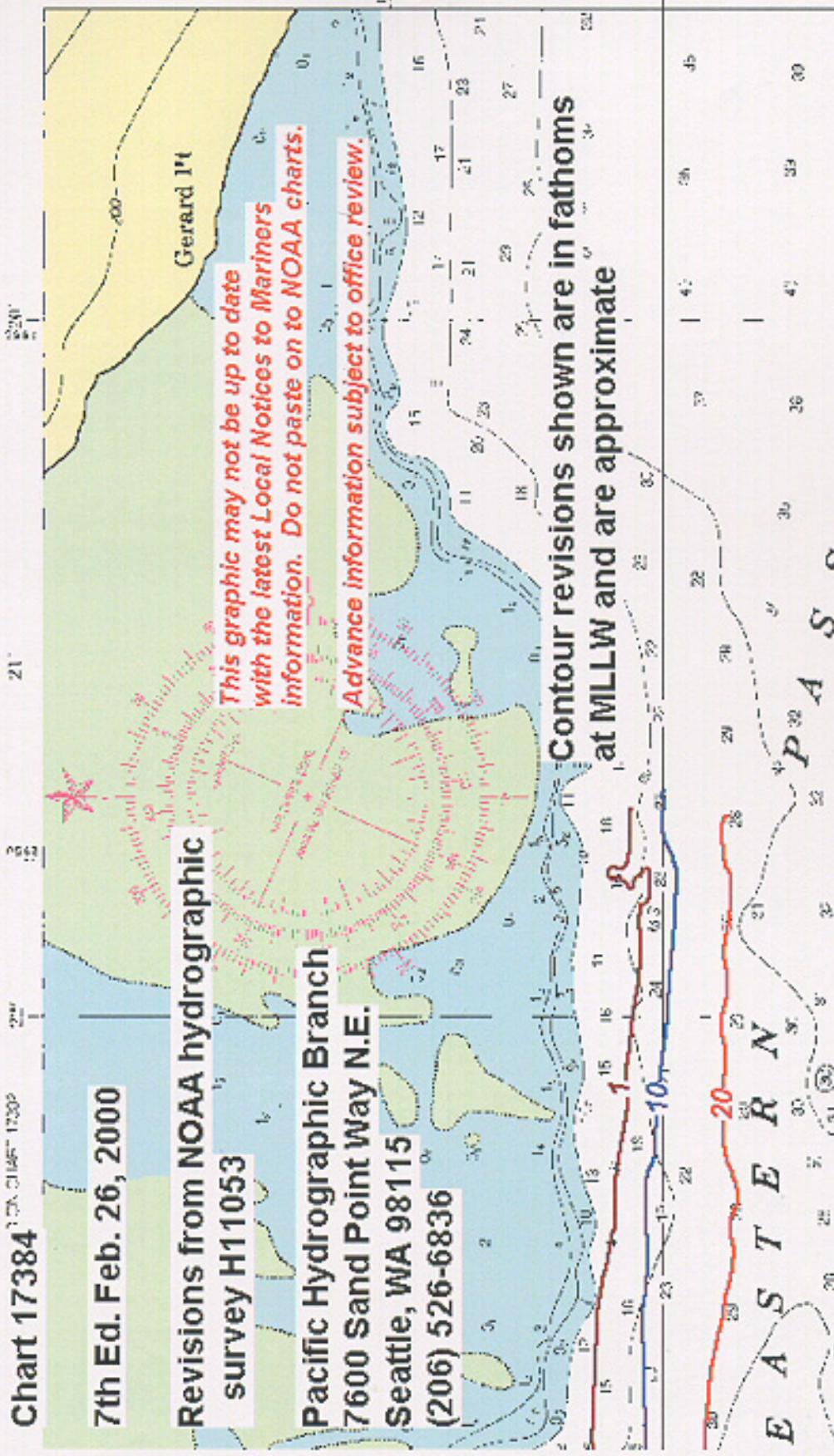
(FATHOMS AND FEET TO 11 FATHOMS)

Chart 17384

7th Ed. Feb. 26, 2000

**Revisions from NOAA hydrographic
survey H11053**

Pacific Hydrographic Branch
7600 Sand Point Way N.E.
Seattle, WA 98115
(206) 526-6836



To the left of the chart, there is a note: "The hydrographic edition of this chart is National American Datum of 1983 (NAD 83) which is adopted as the horizontal reference system for the survey. This is referred to as the 'Vertical Green Service'. NOAA, GIVE 8P TO MARCH 2000. 2000-02-26". To the right, there is a note: "Horizontal datum: NAD 83. Vertical datum: Mean Sea Level. Survey date: 1994 (2000-02-26). Contour interval: 1 fathom. Soundings: 1 fathom. Chart revision date: 2000-02-26. Approximate range of 238' soundings to 375' soundings to 92' vertical draft."

RECRD VESLTERMS CHART AREA
 CARTOCODE SNDINGCODE DEPTH

LAT83	<input type="text" value="56/28/12"/>	LONG83	<input type="text" value="132/23/16"/>	NATIVDATUM	<input type="checkbox"/>
LATDEC:	<input type="text" value="56.47"/>	LONDEC:	<input type="text" value="132.38777777778"/>	GPQUALITY	<input type="text" value="Low"/>
				GPSOURCE	<input type="text" value="Scaled"/>

PROJECT	<input type="text" value="OPR-O327"/>	ITEMSTATUS	<input type="text" value="Assigned"/>	SEARCHTYPE	<input type="text" value="Full"/>
RADIUS	<input type="text" value="50"/>	INIT	<input type="text" value="DAS"/>	ASSIGNED	<input type="text" value="3/19/2001"/>
TECNIQ	<input type="text" value="SWMB"/>				

Techniqnote

History	HISTORY Charted submerged obstruction. LNM 21/80-- The area within 50 ft. of the Wrangell city pier may be fouled with wreckage. Mariners are urged to exercise caution while transiting the area. (Entered 03/09/2001 DAS)
---------	--

Fieldnote	INVESTIGATION DATE(S): 04/29/01 (DN:119) HYDROGRAPHIC SURVEY NUMBER: H11053 VN: 2121 TIME: 17:27:00 INVESTIGATION METHODS USED: SWMB, DI SURVEYED POSITION: LAT. 56/28/12 LON. 132/23/16 POSITION DETERMINED BY: DIFFERENTIAL GPS INVESTIGATION SUMMARY: DI and SWMB verified wreckage as positioned. Divers found the wreckage to mostly be piles 2-3 feet high. Because they are inside the pier, they generally do not pose a hazard to navigation. CHARTING RECOMMENDATION (HYDROGRAPHER): Retain as charted. EVALUATOR COMMENTS: Concur with clarification. Retain charted symbology and revise note to submerged piling.
-----------	---

Proprietary

YEARSUNK NIMANUM

RECRD	<input type="text" value="52721"/>	VESSLTERMS	<input type="text" value="OBSTRUCTION"/>	CHART	<input type="text" value="17384"/>	AREA	<input checked="checked" type="checkbox"/>
		CARTOCODE	<input type="text" value="067"/>	SNDINGCODE	<input type="text"/>	DEPTH	<input type="text"/>

LAT83	<input type="text" value="56/28/03"/>	LONG83	<input type="text" value="132/22/59"/>	NATIVDATUM	<input type="checkbox"/>
LATDEC:	<input type="text" value="56.4675"/>	LONDEC:	<input type="text" value="132.38305555556"/>	GPQUALITY	<input type="text" value="Low"/>
				GPSOURCE	<input type="text" value="Scaled"/>

PROJECT	<input type="text" value="OPR-O327"/>	ITEMSTATUS	<input type="text" value="Assigned"/>	SEARCHTYPE	<input type="text" value="Full"/>
RADIUS	<input type="text" value="50"/>	INIT	<input type="text" value="DAS"/>	ASSIGNED	<input type="text" value="3/19/2001"/>
TECNIQ	<input type="text" value="VS, ES, DI, SWMB"/>				

Techniqnote

History **HISTORY**
 Charted submerged dolphin.
 CL-1848/77 Probable source; 1975 photo revision revised piers and structures. Corrections made in spite of the fact that they are not indicated on the 1976 field edited copy of TP-00560 (BP100538) after consultation with Photogrammetry - Rolle, Kornspan, Kennon on 7/17/79.
 BP100538, TP-00560 FE/1976, Class I FC/1977-- Changed several dolphins and piles to submerged; not visible. Position scaled from kap chart 17384_2 in MapInfo at lat. 56-28-03N, lon. 132-22-59W. (Entered 03/09/2001 DAS)

Fieldnote **INVESTIGATION**
 DATE(S): 04/28/01 (DN:118)
 HYDROGRAPHIC SURVEY NUMBER: H11053
 VN: 2125 TIME: 22:24:45
 INVESTIGATION METHODS USED: VS, ES
 SURVEYED POSITION: LAT. 56/28/03 LON. 132/22/59
 POSITION DETERMINED BY: DIFFERENTIAL GPS
 INVESTIGATION SUMMARY: Visual search with water visibility of 2-3 meters disproved existence of dolphin. Water depth was approximately 3.2 meters at the time of the search, however the bottom was not clearly visible.
 CHARTING RECOMMENDATION (HYDROGRAPHER): Remove from chart.
 EVALUATOR COMMENTS:Do not concur, not a complete investigation to remove subm dol. Retain as charted.

Proprietary

YEARSUNK
 NIMANUM

RECRD	52722	VESSLTERMS	OBSTRUCTION	CHART	17384	AREA	<input checked="" type="checkbox"/>
		CARTOCODE	067	SNDINGCODE		DEPTH	

LAT83	56/28/04	LONG83	132/23/02	NATIVDATUM	<input type="checkbox"/>
LATDEC:	56.46777777778	LONDEC:	132.38388888889	GPQUALITY	Low
				GPSOURCE	Scaled

PROJECT	OPR-O327	ITEMSTATUS	Assigned	SEARCHTYPE	Full
RADIUS	50	INIT	DAS	ASSIGNED	3/19/2001
TECNIQ	VS, ES, DI, SWMB				

Techniqnote

History	HISTORY Charted submerged dolphin. H08620--Mil (dol.) horizontal control point positioined on dolphin off south corner of pier. Position not reported in DR. Listed position scaled from kap chart 17384_2 in MapInfo at lat. 56-28-04N, lon. 132-23-02W. BP100538, TP-00560 FE/1976, Class I FC/1977-- Changed several dolphins and piles to submerged; not visible. (Entered 03/09/2001 DAS)
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Fieldnote	<p>INVESTIGATION</p> <p>DATE(S): 05/02/01 (DN:122)</p> <p>HYDROGRAPHIC SURVEY NUMBER: H11053</p> <p>VN: 2126 TIME: 19:22:18</p> <p>INVESTIGATION METHODS USED: VS, SWMB</p> <p>SURVEYED POSITION: LAT. 56/28/02.4 LON. 132/23/02.1</p> <p>POSITION DETERMINED BY: DIFFERENTIAL GPS</p> <p>INVESTIGATION SUMMARY: Visual and 100% SWMB disproved existence of submerged dolphin. However, a new pile was detected with SWMB within the search radius with a least depth of 4.2 fathoms (7.7 meters).</p> <p>CHARTING RECOMMENDATION (HYDROGRAPHER): Remove the original dolphin and chart the new pile at the surveyed position.</p> <p>EVALUATOR COMMENTS: Concur, least depth with smooth tides applied is 4.3 fathoms. Chart a 4 fathom 2 foot obstruction at the survey position.</p>
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Proprietary

YEARSUNK NIMANUM

[Print Record](#)

RECRD	<input type="text" value="52723"/>	VESSLTERMS	<input type="text" value="OBSTRUCTION"/>	CHART	<input type="text"/>	AREA	<input checked="" type="checkbox"/>
		CARTOCODE	<input type="text" value="067"/>	SNDINGCODE	<input type="text"/>	DEPTH	<input type="text"/>

LAT83	<input type="text" value="56/27/59"/>	LONG83	<input type="text" value="132/23/06"/>	NATIVDATUM	<input type="checkbox"/>
LATDEC:	<input type="text" value="56.466388888889"/>	LONDEC:	<input type="text" value="132.385"/>	GPQUALITY	<input type="text" value="Low"/>
				GPSOURCE	<input type="text" value="Scaled"/>

PROJECT	<input type="text" value="OPR-O327"/>	ITEMSTATUS	<input type="text" value="Assigned"/>	SEARCHTYPE	<input type="text" value="Full"/>
RADIUS	<input type="text" value="50"/>	INIT	<input type="text" value="DAS"/>	ASSIGNED	<input type="text" value="3/19/2001"/>
TECNIQ	<input type="text" value="VS, ES, DI, SWMB"/>				

Techniqnote

History HISTORY
 Charted submerged dolphin.
 CL-1848/77 Probable source; 1975 photo revision revised piers and structures. Corrections made in spite of the fact that they are not indicated on the 1976 field edited copy of TP-00560 (BP100538) after consultation with Photogrammetry - Rolle, Kornspan, Kennon on 7/17/79.
 BP100538, TP-00560 FE/1976, Class I FC/1977-- Changed several dolphins and piles to submerged; not visible. Position scaled from kap chart 17384_2 in MapInfo at lat. 56-27-59N, lon. 132-23-06W. (Entered 03/09/2001 DAS)

Fieldnote INVESTIGATION
 DATE(S): 05/02/01 (DN:122)
 HYDROGRAPHIC SURVEY NUMBER: H11053
 VN: 2126 TIME: 17:11:45
 INVESTIGATION METHODS USED: SWMB
 SURVEYED POSITION: LAT. 56/27/59 LON. 132/23/06
 POSITION DETERMINED BY: DIFFERENTIAL GPS
 INVESTIGATION SUMMARY: 100% SWMB disproved existence of dolphin.
 CHARTING RECOMMENDATION (HYDROGRAPHER): Remove from chart.
 EVALUATOR COMMENTS:Concur, remove charted dots and piles centered at latitude 56/27/59.5N, longitude 132/23/5.3W and single pile at latitude 56/27/58.6N, longitude 132/23/4.7W

Proprietary

YEARSUNK NIMANUM

RECRD	<input type="text" value="52724"/>	VESLTERMS	<input type="text" value="OBSTRUCTION"/>	CHART	<input type="text" value="17384"/>	AREA	<input checked="checked" type="checkbox"/>
		CARTOCODE	<input type="text" value="067"/>	SNDINGCODE	<input type="text"/>	DEPTH	<input type="text"/>

LAT83	<input type="text" value="56/27/49"/>	LONG83	<input type="text" value="132/22/53"/>	NATIVDATUM	<input type="checkbox"/>
LATDEC:	<input type="text" value="56.46361111111111"/>	LONDEC:	<input type="text" value="132.381388888889"/>	GPQUALITY	<input type="text" value="Low"/>
				GPSOURCE	<input type="text" value="Scaled"/>

PROJECT	<input type="text" value="OPR-O327"/>	ITEMSTATUS	<input type="text" value="Assigned"/>	SEARCHTYPE	<input type="text" value="Full"/>
RADIUS	<input type="text" value="50"/>	INIT	<input type="text" value="DAS"/>	ASSIGNED	<input type="text" value="3/19/2001"/>
TECNIQ	<input type="text" value="VS, ES, DI, SWMB"/>				

Techniqnote

History	<p>HISTORY Charted submerged pile. CL-1848/77 Probable source; 1975 photo revision revised piers and structures. Corrections made in spite of the fact that they are not indicated on the 1976 field edited copy of TP-00560 (BP100538) after consultation with Photogrammetry - Rolle, Kornspan, Kennon on 7/17/79. BP100538, TP-00560 FE/1976, Class I FC/1977-- Changed several dolphins and piles to submerged; not visible. Position scaled from kap chart 17384_2 in MapInfo at lat. 56-27-49N, lon. 132-22-53W. (Entered 03/09/2001 DAS)</p>
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Fieldnote	<p>INVESTIGATION DATE(S): 05/02/01 (DN: 122) HYDROGRAPHIC SURVEY NUMBER: H11053 VN: 2126 TIME: 18:07:02 INVESTIGATION METHODS USED: VS, SWMB SURVEYED POSITION: LAT.56/27/49.5 LON. 132/22/50.2 POSITION DETERMINED BY: DIFFERENTIAL GPS INVESTIGATION SUMMARY: Visual and 100% SWMB disproved existence of submerged pile. However, a new pile was detected with SWMB within the search radius with a least depth of 1.5 fathoms (2.7 meters). CHARTING RECOMMENDATION (HYDROGRAPHER): Remove original pile from the chart and chart the new pile at the surveyed position. EVALUATOR COMMENTS: Concur, remove charted submerged pile at latitude 56/27/49.7N, longitude 132/22/52.9W. Chart Obstructions, submerged piles with a least depth of 1.4 at latitude 56/27/49.49N, longitude 132/22/50.2W.</p>
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Proprietary

YEARSUNK NIMANUM

RECRD	<input type="text" value="52725"/>	VESSLTERMS	<input type="text" value="OBSTRUCTION"/>	CHART	<input type="text" value="17384"/>	AREA	<input checked="checked" type="checkbox"/>
		CARTOCODE	<input type="text" value="067"/>	SNDINGCODE	<input type="text"/>	DEPTH	<input type="text"/>

LAT83	<input type="text" value="56/27/50"/>	LONG83	<input type="text" value="132/22/51"/>	NATIVDATUM	<input type="checkbox"/>
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				GPSOURCE	<input type="text" value="Scaled"/>

PROJECT	<input type="text" value="OPR-O327"/>	ITEMSTATUS	<input type="text" value="Assigned"/>	SEARCHTYPE	<input type="text" value="Full"/>
RADIUS	<input type="text" value="50"/>	INIT	<input type="text" value="DAS"/>	ASSIGNED	<input type="text" value="3/19/2001"/>
TECNIQ	<input type="text" value="VS, ES, DI, SWMB"/>				

Techniqnote

History	<p>HISTORY Charted submerged pile. CL-1848/77 Probable source; 1975 photo revision revised piers and structures. Corrections made in spite of the fact that they are not indicated on the 1976 field edited copy of TP-00560 (BP100538) after consultation with Photogrammetry - Rolle, Kornspan, Kennon on 7/17/79. BP100538, TP-00560 FE/1976, Class I FC/1977-- Changed several dolphins and piles to submerged; not visible. Position scaled from kap chart 17384_2 in MapInfo at lat. 56-27-50N, lon. 132-22-51W. (Entered 03/09/2001 DAS)</p>
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Fieldnote	<p>INVESTIGATION DATE(S): 05/02/01 (DN:122) HYDROGRAPHIC SURVEY NUMBER: H11053 VN:2126 TIME: 17:52:20 INVESTIGATION METHODS USED: VS, SWMB SURVEYED POSITION: LAT. 56/27/50.1 LON. 132/22/49.5 POSITION DETERMINED BY: DIFFERENTIAL GPS INVESTIGATION SUMMARY: Visual and 100% SWMB disproved existence of submerged pile. However, a new pile was detected with SWMB within the search radius with a least depth of 1.5 fathoms (2.7 meters). CHARTING RECOMMENDATION (HYDROGRAPHER): Revise original pile from the chart and chart the new pile at the surveyed position. EVALUATOR COMMENTS:Concur, because of scale and the close proximity of AWOIS 52724 (1.4 fathom), the least depth of 1.5 fathoms could not be shown. A limit line is recommended to include this AWOIS item and AWOIS itme 52724. Remove charted submerged pile at latitude 56/27/50.9N, longitude 132/22/51.4W.</p>
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Proprietary

YEARSUNK NIMANUM

RECRD VESSLTERMS CHART AREA
CARTOCODE SNDINGCODE DEPTH

LAT83	<input type="text" value="56/27/54.77"/>	LONG83	<input type="text" value="132/22/49.07"/>	NATIVDATUM	<input type="text" value="06"/>
LATDEC:	<input type="text" value="56.465213888889"/>	LONDEC:	<input type="text" value="132.38029722222"/>	GPQUALITY	<input type="text" value="Med"/>
				GPSOURCE	<input type="text" value="Direct"/>

PROJECT	<input type="text" value="OPR-O327"/>	ITEMSTATUS	<input type="text" value="Assigned"/>	SEARCHTYPE	<input type="text" value="Full"/>
RADIUS	<input type="text" value="50"/>	INIT	<input type="text" value="DAS"/>	ASSIGNED	<input type="text" value="3/19/2001"/>
TECNIQ	<input type="text" value="VS, SD, ES, DI"/>				

Techniqnote

History	HISTORY 2 charted visible wrecks. BP100538, TP-00560 FE/1976, Class I FC/1977-- Added 2 visible wrecks at lat. 56-27-56N, lon. 132-22-43W. (Entered 03/09/2001 DAS)
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Fieldnote	INVESTIGATION DATE(S): 04/27/01 (DN:117) HYDROGRAPHIC SURVEY NUMBER: H11053 VN: 2125 TIME: INVESTIGATION METHODS USED: VS SURVEYED POSITION: LAT. 56/27/54.7 LON. 132/22/49.1 POSITION DETERMINED BY: DIFFERENTIAL GPS INVESTIGATION SUMMARY: Visual search verified remains of wrecks on beach. All that was found was an engine block that is located above MLLW and is not significant to navigation. CHARTING RECOMMENDATION (HYDROGRAPHER): Remove from chart. EVALUATOR COMMENTS: Concur. Remove both visible wrecks
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Proprietary

YEARSUNK NIMANUM

RECRD	<input type="text" value="52728"/>	VESSLTERMS	<input type="text" value="OBSTRUCTION"/>	CHART	<input type="text" value="17384"/>	AREA	<input checked="checked" type="checkbox"/>
		CARTOCODE	<input type="text" value="067"/>	SNDINGCODE	<input type="text"/>	DEPTH	<input type="text"/>

LAT83	<input type="text" value="56/27/48"/>	LONG83	<input type="text" value="132/22/44"/>	NATIVDATUM	<input type="checkbox"/>
LATDEC:	<input type="text" value="56.46333333333333"/>	LONDEC:	<input type="text" value="132.378888888889"/>	GPQUALITY	<input type="text" value="Low"/>
				GPSOURCE	<input type="text" value="Scaled"/>

PROJECT	<input type="text" value="OPR-O327"/>	ITEMSTATUS	<input type="text" value="Assigned"/>	SEARCHTYPE	<input type="text" value="Full"/>
RADIUS	<input type="text" value="50"/>	INIT	<input type="text" value="DAS"/>	ASSIGNED	<input type="text" value="3/19/2001"/>
TECNIQ	<input type="text" value="VS, ES, DI, SWMB"/>				

Techniqnote

History	<p>HISTORY Charted submerged piles. CL-1848/77 Probable source; 1975 photo revision revised piers and structures. Corrections made in spite of the fact that they are not indicated on the 1976 field edited copy of TP-00560 (BP100538) after consultation with Photogrammetry - Rolle, Kornspan, Kennon on 7/17/79. BP100538, TP-00560 FE/1976, Class I FC/1977-- Changed several dolphins and piles to submerged; not visible. Position scaled from kap chart 17384_2 in MapInfo at lat. 56-27-48N, lon. 132-22-44W. (Entered 03/09/2001 DAS)</p>
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Fieldnote	<p>INVESTIGATION DATE(S): 04/27/01 (DN: 117) HYDROGRAPHIC SURVEY NUMBER: H11053 VN: 2125 TIME: INVESTIGATION METHODS USED: VS SURVEYED POSITION: LAT. 56/27/48 LON. 132/22/44 POSITION DETERMINED BY: DIFFERENTIAL GPS INVESTIGATION SUMMARY: Visual search found piles lying down on ground, no longer significant to navigation. These piles are above MLLW and were dry at the time of verification. CHARTING RECOMMENDATION (HYDROGRAPHER): Remove from chart. EVALUATOR COMMENTS: Concur</p>
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Proprietary

YEARSUNK	<input type="text"/>	NIMANUM	<input type="text"/>
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RECRD VESSLTERMS CHART AREA
 CARTOCODE SNDINGCODE
 DEPTH

LAT83	<input type="text" value="56/27/48.77"/>	LONG83	<input type="text" value="132/22/49.07"/>	NATIVDATUM	<input type="text" value="06"/>
LATDEC:	<input type="text" value="56.463547222222"/>	LONDEC:	<input type="text" value="132.380297222222"/>	GPQUALITY	<input type="text" value="Med"/>
				GPSOURCE	<input type="text" value="Direct"/>

PROJECT	<input type="text" value="OPR-O327"/>	ITEMSTATUS	<input type="text" value="Assigned"/>	SEARCHTYPE	<input type="text" value="Full"/>
RADIUS	<input type="text" value="100"/>	INIT	<input type="text" value="DAS"/>	ASSIGNED	<input type="text" value="3/19/2001"/>
TECNIQ	<input type="text" value="VS, ES, DI, SWMB"/>				

Techniqnote

History

Fieldnote

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-0327-RA-2001

HYDROGRAPHIC SHEET: H11053

LOCALITY: Zimovia Strait, AK

TIME PERIOD: April 13 - 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: SA122, SA127 & SA180.

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



Printed on Recycled Paper



Final tide zone node point locations for OPR-O327-RA-2001,
 Sheet H11053.

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 SA122	945-1204	+6	1.00
-132.386595 56.487683 -132.345587 56.464949 -132.253308 56.439518 -132.207032 56.461564 -132.245355 56.493985 -132.337505 56.519025 -132.386595 56.487683			
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			
Zone SA180	945-1204	+6	0.99
-132.337505 56.519025 -132.356983 56.549603 -132.444912 56.550621 -132.514331 56.565953 -132.548579 56.584346 -132.636506 56.559303 -132.547647 56.518903 -132.493756 56.480754 -132.386595 56.487683 -132.337505 56.519025			

Final Tidal Zoning for OPR-O327-RA-2001
Zimovia Strait, AK - Sheet H11053

SA180
Time Corrector +6 mins
Range Corrector x0.99
Reference 945-1204

Time Corrector +6 mins
Range Corrector x1.00
Reference 945-1204

SA127
Time Corrector 0 mins
Range Corrector x1.00
Reference 945-1204

APPROVAL SHEET
H11053

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.

Bruce A. Olmstead

Bruce Olmstead
Cartographic Team
Pacific Hydrographic Branch

Date: 7/28/2005

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.

 CDR/NOAA

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

Date: 28 July 2005

MARINE CHART BRANCH

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO.

H11053

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.

1. Letter all information.
 2. In "Remarks" column cross out words that do not apply.
 3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.