

H11086

NOAA FORM 78-35A

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

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. RA-05-01-01

Registry No. H-11086

LOCALITY

State Washington

General Locality Strait of Juan De Fuca

Sublocality Neah Bay

2001

CHIEF OF PARTY

Commander James C. Gardner, NOAA

LIBRARY & ARCHIVES

DATE

HYDROGRAPHIC TITLE SHEET

H-11086

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-05-01-01

State WashingtonGeneral Locality Strait of Juan De FucaSublocality Neah BayScale 1: 5,000Date of Survey 10/06/01 to 10/25/01Instructions Dated 9/21/2001Project No. OPR-N342-RA-01Vessel RA-1(2121), RA-2(2122), RA-4(2124), RA-5(2125), RA-6(2126) and
RA-7(2127)Chief of Party Captain James C. Gardner, NOAASurveyed by Ship personnel and physical scientists from
Pacific Hydrographic BranchSoundings taken by echo sounder, hand lead, pole Knudsen 320, RESON 8101 MBGraphic record scaled by RAINIER PersonnelGraphic record checked by RAINIER PersonnelEvaluation by M. Bigelow, B. Olmstead Automated plot by HP DesignJet 1050CVerification by M. Bigelow, R. Mayor, R. Davies, B. OlmsteadSoundings in Feet at MLLWREMARKS: Time in UTC.**Revisions and annotations appearing as endnotes were generated****during office processing. All separates are filed with the****hydrographic data. Thus page numbering may be interrupted.****All depths listed in this report are referenced to mean****lower low water unless otherwise noted.**


Progress Sketch


OPR-N342-RA-01 Olympic Coast National Marine Sanctuary and Neah Bay, WA


October 2001
Chart 18480

NOAA Ship RAINIER
Captain James C. Gardner
Commanding

legend

hydro limits 

restricted limits
(areas >50M) 

October
hydro 

Accomplished	October
LNM Singlebeam	9 04
LNM Multibeam	1174
SQ NM Singlebeam	0
SQ NM Multibeam	120.4
Total SQ NM	120.4
SV Casts	83
Bottom Samples	37
AWOIS Invest.	18
Tide gauges	0
Control station	0
Down time (hr)	5
Days at Sea	15

BUGARA
WRECK SITE

B

M

C

A

D

Descriptive Report to Accompany Hydrographic Survey H11086

Project OPR-N342-RA-01
Olympic Coast National Marine Sanctuary and
Neah Bay, Washington
Scale 1:5,000
October 2001
NOAA Ship RAINIER
Chief of Party: Captain James C. Gardner, NOAA

A. AREA SURVEYED

This hydrographic survey was completed as specified by Hydrographic Survey Letter Instructions OPR-N342-RA-01, dated September 21, 2001 and the Draft Standing Project Instructions dated April 6, 1998. The survey is located near the entrance to the Strait of Juan De Fuca along the northern coast of the Olympic Peninsula approximately six nautical miles east of Cape Flattery, WA, and covers approximately two square nautical miles. This survey corresponds to sheet “M” in the sheet layout provided with the Letter Instructions.

One hundred percent shallow-water multibeam (SWMB) coverage was obtained in waters 4 meters and deeper with the exception of a few areas on the north side of Waadah Island that are foul with kelp and considered unsafe for navigation. The surrounding depths in these areas range between 6 and 10 meters and are within defined foul limits. One hundred percent SWMB coverage was also obtained in the “Area of Concern” at the entrance to Neah Bay as outlined in the Letter Instructions. Additional coverage was also obtained to ensure the least depth over features.¹

Data acquisition was conducted from October 6 through October 25, 2001 (Julian Day Numbers 279-298).²

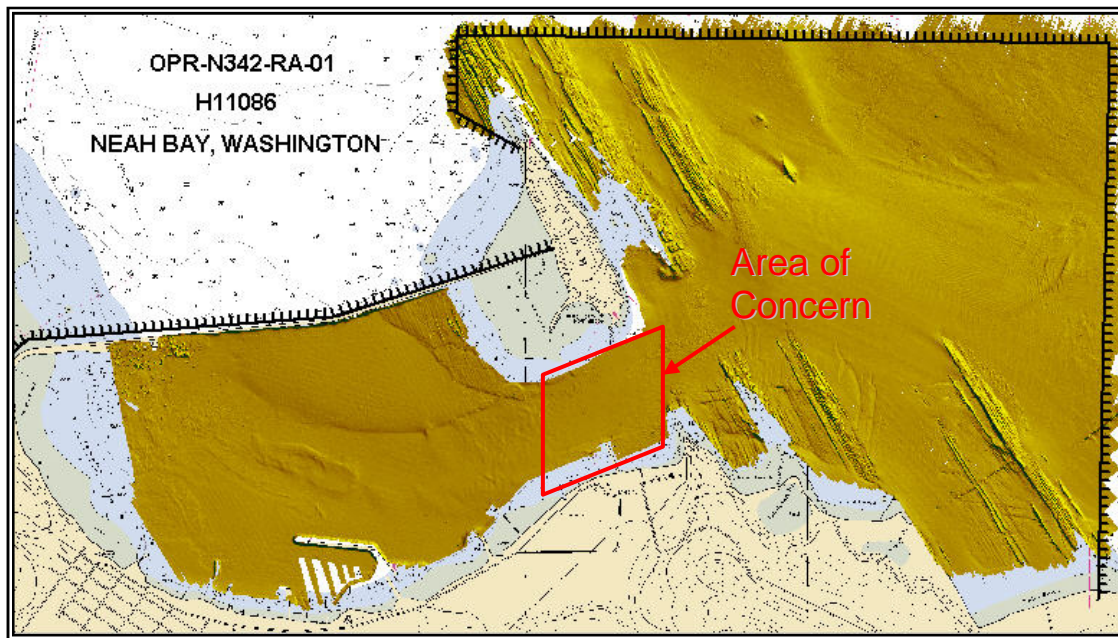


Figure 1. H11086 Survey Limits

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-N342-RA-01 Data Acquisition and Processing Report* submitted under separate cover. Items specific to this survey, and any deviations from the aforementioned report are discussed in the following sections.

B1. Equipment and Vessels

Data were acquired by RAINIER survey launches (vessel numbers 2121, 2122, 2125, 2126, and 2127). Vessels 2121 and 2126 were used to acquire shallow-water multibeam (SWMB) soundings and sound velocity profiles. Vessel 2122 was used to acquire vertical-beam echo soundings (VBES) during shoreline verification, detached positions (DPs) and bottom samples.³ Vessel 2127 was also used to perform shoreline verification and acquire DPs. No unusual vessel configurations or problems were encountered during this survey.⁴

B2. Quality Control

Crosslines

Shallow-water multibeam (SWMB) crosslines totaled 151.43 nautical miles, equating to 3.96% of SWMB hydrography. The Quality Control Report (CARIS HIPS) for the checkline file averaged 96.8%, with a depth tolerance factor of 0.013, which conforms to International Hydrographic Organization Order I specifications detailed in Special Publication S-44, Edition 4, as well as NOS Hydrographic Surveys Specifications and Deliverables Manual. See Appendix V⁵ for the detailed report.

Junctions

There are no contemporary surveys that junction with H11086.⁶

Data Quality Factors

In the near shore area around Waadah Island and Baada Point, thick kelp sometimes obscured the detection of the bottom. In the SWMB data, removal of obvious outliers obtained over kelp was possible during line cleaning in HDCS Swathedit. In HDCS Subset Mode, in some instances, it was possible to discern the true bottom, as kelp often appeared as soundings “disconnected” from the continuous bottom. In these instances soundings over kelp were rejected. However, when unable to clearly distinguish between the bottom and kelp, the kelp was not rejected. Areas with kelp were noted by the Hydrographer during shoreline verification and are also indicated in the “H11086_ShorelineNotes” table of the Detached Position and Bottom Sample Plot.⁷

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

B3. Data Reduction

Data reduction procedures for survey H11086 conform to those detailed in the *OPR-N342-RA-01 Data Acquisition and Processing Report*.

C. VERTICAL AND HORIZONTAL CONTROL

A complete description of vertical and horizontal control for survey H11086 can be found in the *OPR-N342-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 beacon at Whidbey Island, WA (302 kHz), Robinson Point (323 kHz), Fort Stevens (287 kHz) and the Canadian Coast Guard beacon at Amphitrite Point (315 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-N342-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 Neah Bay, WA (944-3090) served as control for datum determination and as the primary source for water level reducers for survey H11086.

All SWMB and VBES data were reduced to MLLW using verified tides downloaded from the CO-OPS web site for station Neah Bay, WA (944-3090). The "Simple Tide File Converter" in HP Tools v11.5.1 was used to convert the "raw" CO-OPS format tide file "9443090.txt" to the COWLIS format "9443090.tid". These data and the preliminary zone file were used in creating the Zone Definition File (.ZDF) "H11086CORP.zdf" and applied in CARIS NT.

Detached position data were also reduced to MLLW using verified tides from station Neah Bay, WA (944-3090). These data were used in creating HPS tide table 98, which was utilized in HPTools to apply zoned tide correctors to the detached positions. Elevations have not been corrected to MHW where appropriate. The Hydrographer recommends that the Pacific Hydrographic Branch (PHB) correct all elevations to MHW, including reclassification of features, as necessary.⁸

The Hydrographer recommends that the Pacific Hydrographic Branch verify the final zoning to ensure that there are no differences between the preliminary and final zoning, in which case smooth tides and final zoning need not be applied. A request for delivery of final approved (smooth) tides for survey H11086 was forwarded to N/OPS1 on November 1, 2001 in accordance with FPM 4.8. A copy of the request is included in Appendix IV.⁹

D. RESULTS AND RECOMMENDATIONS

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

A total of eighteen (18) AWOIS items were located within the survey limits of H11086. Investigation methods, results, and charting recommendations have been entered into the Microsoft Access database file "H11086_AWOIS" and submitted with the digital data. Printouts of the AWOIS Database forms are included in Appendix VI¹⁰ of this report.

D.2 Chart Comparison

Six charts are affected by this survey:¹¹

Chart	Edition	Date	Scale
18007	18 th Ed.	January 6, 2001	1:736,560
18484	10 th Ed.	July 5, 1997	1:10,000
18480	27 th Ed.	September 25, 1999	1:176,253
18460	9 th Ed.	July 2, 1998	1:100,00
18460	10 th Ed.	March 10,2001	1:100,00
18485	14 th Ed.	January 31, 1998	1:40,000

Survey H11086 was compared with the two larger scale charts, chart 18484 (10th Ed.; July 5, 1997, 1:10,000) and chart 18485 (14th Ed.; January 31, 1998, 1:40,000).

Chart 18484

Depths from survey H11086 were generally two to three feet shoaler than depths on chart 18484 with the exception of the charted shoals of 14 to 16 feet in the entrance to the bay, where the current survey is 2 to 6 feet deeper. The shoalest depth in the entrance is 17 feet (48°22'28.138"N, 124°35'56.501"W (381,587.3E, 5,359,159.1N)) approximately 12 meters southwest of a charted 15. This sounding is over a rock which was detected with SWMB and investigated by divers. The least depth depicted on the Final Field Sheet was obtained with SWMB.¹²

This survey found that shoaling has occurred inshore of the Makah Marina and charted breakwater making these areas inaccessible for navigation. The Hydrographer recommends removing two charted soundings in this area, a 14-foot sounding at (48°22'03.48"N,124°36'33.64"W(380,807.4E,5,358,413.8N)) and a 13-foot sounding at (48°22'04.74"N,124°36'28.13"W(380,921.5E, 5,358,450.3N)).¹³

Two new submerged wrecks were detected with shallow-water multibeam and verified with dive investigations. The first wreck is a 32-foot fishing vessel located at 48°22'21.592"N, 124°37'15.192"W (379,964.4E, 5,358,991.0N) with a least depth of 11 feet (RA6/DN293/Line 168_2246/Ping 126/Beam 80). The second wreck is a 50-60 foot hull located at 48°22'39.080"N, 124°36'20.204"W (381,106.8E, 5,359,507.1N) with a height of approximately 8 feet and a least depth of 15 feet (RA1/DN281/Line 365_2223/Ping 436/Beam 70). The Hydrographer recommends charting the new submerged wrecks as depicted on the Final Field Sheet.¹⁴

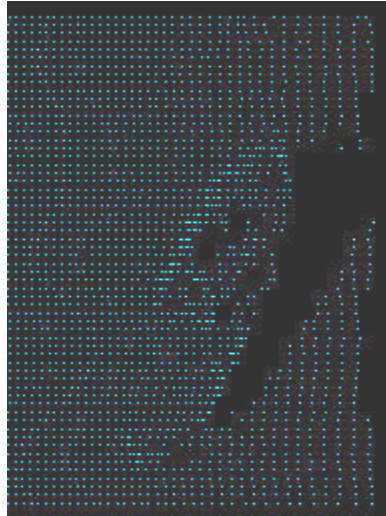


Figure 4. Fishing Vessel

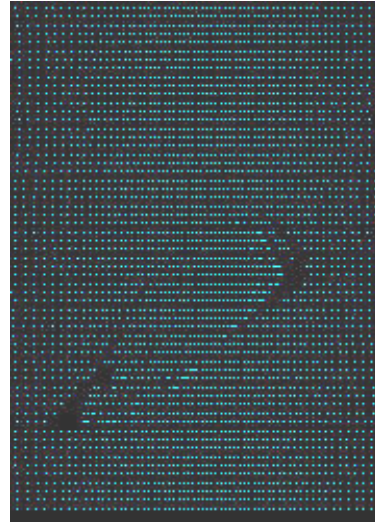


Figure 5. Vessel Hull

Three new submerged piles were detected with shallow water multibeam: The first submerged pile has a least depth of 7 feet (RA6/DN293/Line 163_1838/Ping 1358/Beam 4) located at 48°22'05.456"N, 124°37'13.098"W (379,996.9E, 5,358,491.9N). The second has a least depth of 11 feet (RA6/DN292/Line 058_1558/Ping 164/Beam 85) located at 48°22'06.881"N, 124°37'02.349"W (380,219.0E, 5,358,531.2N). And the third, reported as a danger to navigation, has a least depth of 1 foot (RA6/DN293/Line 005_2021/Ping 210/Beam 89) located at 48°22'09.692"N, 124°36'13.246"W (381,230.9E, 5,358,596.8N). The hydrographer recommends charting these three submerged piles.¹⁵

A new obstruction and submerged rock were found with SWMB near the entrance of Neah Bay, and investigated by divers. The rock has a least depth of 11 feet at 48°22'30.569"N, 124°36'01.895"W (381,477.9E, 5,359,236.5N). The obstruction has a least depth of 5 feet at 48°22'30.569"N, 124°36'01.895"W (381,477.9E, 5,359,236.5N), and appears to be the remains of the daybeacon which was previously charted at this position (refer to section D.6 for further information on this aid to navigation).¹⁶

The Hydrographer has determined that data accuracy standards and bottom coverage requirements have been met and survey data are adequate to supersede charted data in their common areas, with the following exceptions:

Charted cable areas were not addressed and should be retained as charted.¹⁷

In the vicinity of charted ½ to 3-foot soundings, the present survey revealed least depths of 3 to 4 feet at 48°22'14.410"N, 124°36'04.034"W (381,423.5E, 5,358,738.5N) to 48°22'18.928"N, 124°35'54.966"W (381,612.9E, 5,358,874.1N). These soundings were obtained with VBES during shoreline verification and are inshore the limit of hydrography for H11086. It is possible that shoaler depths exist and therefore the Hydrographer recommends retaining the charted soundings.¹⁸

Chart 18485

Depths from survey H11086 were generally one-half of a fathom shoaler than depths on chart 18485 with the exception of the charted shoals of 2 ¼ to 2 ½ fathoms in the entrance to the bay, where the current survey is approximately one fathom deeper. Neah Bay was found to be a suitable anchorage. The Hydrographer recommends retaining the charted anchorage.¹⁹

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 methods.²⁰

D.3 Shoreline

Shoreline Source

Shoreline for this survey was from 1992 photogrammetric survey project CM9209 from which N/NGS3 supplied Cartographic Feature File (CFF) DM-10273.²¹ In addition, features shown on the current edition of chart 18484 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.

Shoreline Verification

Shoreline verification was conducted near predicted low water in accordance with the Standing Project Instructions and FPM 6.1 and 6.2. 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 DM 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,²² 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. Verified DM shoreline that did not require revision is in the MapInfo table "H11086_Shoreline." New features, changes to the shoreline, and verified features are depicted in the MapInfo table "H11086_features" and "H11086_ShorelineUpdates." Charted shoreline from chart 18484 is depicted in the MapInfo table "H11086_ChdShoreline."

Source Shoreline Changes and New Features

A new marina opened in May of 1997. The "Makah Marina" (seaward extent at approximately 48°22'07.93"N, 124°36'47.08"W) has five main piers with 200 boat slips ranging from 30 to 70 feet. The piers and boat slips were positioned using differential GPS. The Hydrographer recommends charting the new marina as depicted in the Detached Position and Bottom Sample Plot (position numbers and remarks are omitted for clarity) unless the "As-built" survey blueprints can be acquired.²³ The following 1997 aerial photograph of the new marina is from the Makah Nation web site (<http://www.makah.com/marinab.htm>).



Figure 2. 1997 Aerial photograph of Makah Marina

A new bridge section, approximately 60-meters long and 25-meters wide, was found at $48^{\circ}22'29.095''\text{N}$, $124^{\circ}37'23.489''\text{W}$ (379,798.6E, 5,359,226.3N). Detached positions 70124-70127 delineate the extents. The Hydrographer recommends charting the new bridge section as depicted on the Detached Position and Bottom Sample Plot.²⁴



Figure 3. Old Hood Canal bridge section

A new fish pen was found at $48^{\circ}22'38.396''\text{N}$, $124^{\circ}36'23.651''\text{W}$ (381,035.5E, 5,359,487.5N). Detached positions 70014-70018 delineate the extents. The Hydrographer recommends charting the new fish pen as depicted on the Detached Position and Bottom Sample Plot.²⁵

New extents of the DM pier ($48^{\circ}22'21.95''\text{N}$, $124^{\circ}35'40.64''\text{W}$ (381,909.56E, 5,358,961.23N)) west of Baada Point were delineated with detached positions 70,023 and 70,024. The Hydrographer recommends charting the new extents as depicted on the Detached Position and Bottom Sample Plot.²⁶

Three DM reefs and four DM rocks were disproved with 100% SWMB. Thick kelp in these areas could have been a factor in the misinterpretation of features during the photogrammetric compilation process. However, these three areas do represent highpoints of submerged ledges. The following are the shoalest depths in the vicinity of each disproved feature.

In the vicinity of a disproved DM reef ($48^{\circ}22'32.39''\text{N}$, $124^{\circ}34'56.26''\text{W}$), is a 12-foot shoal located at $48^{\circ}22'32.075''\text{N}$, $124^{\circ}34'56.431''\text{W}$ (382,825.4E, 5,359,255.0N). Within the same area, the shoalest depth in the vicinity of two DM rocks ($48^{\circ}22'30.62''\text{N}$, $124^{\circ}34'55.06''\text{W}$) is 14 feet ($48^{\circ}22'30.358''\text{N}$,

124°34'55.223"W (382,849.2E, 5,359,201.5N)). The Hydrographer recommends charting the shoal versus the reef and rocks.²⁷

In the vicinity of a disproved DM reef (48°22'13.38"N, 124°34'07.56"W), is an 8-foot shoal located at 48°22'12.470"N, 124°34'07.155"W (383,826.6E, 5,358,628.9N). Within the same area, the shoalest depths in the vicinity of two DM rocks (48°22'14.98"N, 124°34'09.08"W and 48°22'11.64"N, 124°34'06.03"W) are 15 feet (48°22'14.760"N, 124°34'09.288"W (383,784.2E, 5,358,700.4N)) and 7 feet (48°22'11.139"N, 124°34'05.697"W (383,855.8E, 5,358,587.1N)) respectively. The Hydrographer recommends charting the shoal versus the reef and rocks.²⁸

In the vicinity of a disproved DM reef (48°22'09.62"N, 124°34'14.23"W), is a 12-foot shoal located at 48°22'09.684"N, 124°34'14.461"W (383,674.5E, 5,358,545.9N). The Hydrographer recommends charting the shoal versus the reef.²⁹

Charted Features

The charted (18484) Coast Guard pier with the seaward most extent at 48°22'15.59"N, 124°36'07.11"W is accurately charted versus the DM depiction and position. Detached position 70135 was taken as a check position. The Hydrographer recommends retaining the Coast Guard pier as charted.³⁰

The charted (18484) pier, originating from prior survey H-7036, off the southeast tip of Waadah Island at 48°22'39.83"N, 124°35'41.37"W (381,906.04E, 5,359,513.58N) was disproved after a five-minute visual search of the area. This area is thick with kelp but the water clarity was clear to the bottom. Refer to detached position 70,000 for additional information. In the vicinity of the charted pier is a DM pier that is adequately depicted and positioned. The Hydrographer recommends removing the charted pier and charting the DM pier as depicted on the Detached Position and Bottom Sample Plot.³¹

A charted (18484) pier with the seaward most extent at 48°22'06.70"N, 124°37'02.14"W was found to be three piles. Detached positions (70093 and 70094) delineate the extents. This refers to the floating pier or finger pier attached to the larger charted pier, which is adequately charted. The Hydrographer recommends removing the sub-pier from the chart and charting the piles as depicted on the Detached Position and Bottom Sample Plot.³²

A charted (18484) reef (48°22'31.69"N, 124°35'12.34"W) was not verified during low water. This area is unsafe for navigation due to thick kelp and breakers, which appeared to indicate the presence of the reef. The Hydrographer recommends retaining the reef as charted.³³

Recommendations

The Hydrographer recommends that the shoreline as depicted on the Detached Position and Bottom Sample plot and Final Field Sheet³⁴ supersede and complement shoreline information compiled on the charts as noted. These revisions are recorded in the MapInfo digital files named "H11086_Shoreline" and "H11086_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 "H11086_ShorelineNotes."³⁵

D.4 Prior Surveys³⁶

Survey H11086 was compared with the following prior surveys:

Survey	Scale	Year Surveyed	Datum
H-7036	1:5,000	1945	NAD27
H-7037	1:10,000	1945	NAD27
H-7044	1:5,000	1945	NAD27

Prior survey H-7036 covers from the entrance channel of Neah Bay into the bay. Soundings from prior survey H-7036 agree well with soundings from H11086, usually within two feet.³⁷

Prior survey H-7037 covers from the entrance channel of Neah Bay seaward to the Strait of Juan De Fuca and soundings also agree well with H11086, usually within half a fathom.³⁸

Prior survey H-7044 is a wire drag survey that covers the entrance channel of Neah Bay. The current charted shoals originate with this prior survey. Soundings from the present survey H11086 do not agree well with prior survey H-7044 depths, with differences up to six feet deeper than the prior survey reported clearings.³⁹

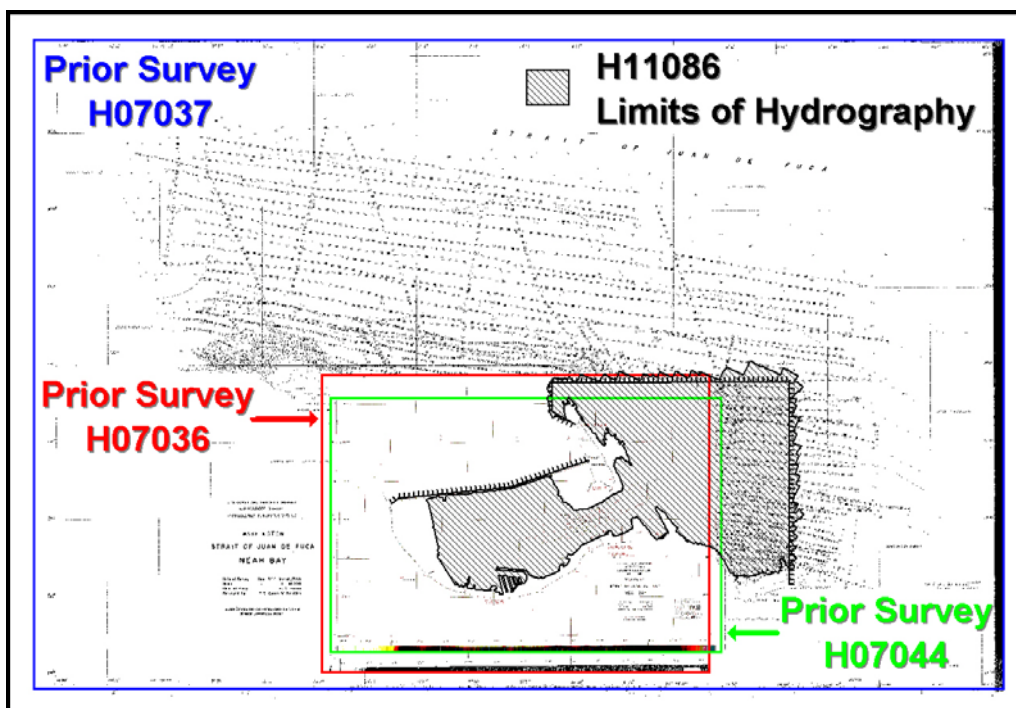


Figure 6. H11086 Prior survey comparison

D.5 Dangers to Navigation

Twenty-four dangers to navigation were found and reported to the Marine Chart Division for verification and final submission to the Thirteenth Coast Guard District on February 8, 2002. A copy of the preliminary Danger to Navigation Report is included in Appendix I.⁴⁰

One immediate danger to navigation was reported to the Thirteenth Coast Guard District on October 26, 2001. Follow-up correspondence with the Coast Guard has verified the removal of the obstruction. A copy of the email is included in Appendix I.⁴¹ The Hydrographer does not recommend charting this obstruction.⁴²

D.6 Aids to Navigation

Survey H11086 included seven aids to navigation (ATONs). Each of the ATONs was found to serve its intended purpose. However, there is one discrepancy between the chart and survey for the following ATON:

Neah Bay Inner Daybeacon "2" (USCG Light List 16165) no longer exists. A new buoy "4" has been positioned approximately 127 meters southwest from the charted daybeacon at 48°22'30.93"N, 124°36'07.72"W (381,358.32E, 5,359,250.10N).



Figure 7. New Buoy "4"

All other ATONs in the survey area are charted correctly.⁴³

D.7 Miscellaneous

Bottom samples were collected at thirty-six locations within the survey limit for H11086. The bottom characteristics at the entrance to the bay mainly consist of pebbles and broken shells, lending to the agreement with the current charted rocky and hard condition.⁴⁴

Courtesy sounding plots were supplied to Crowley Marine Services, Inc. and the Captain of the Barbara Foss Tug on November 26, 2001.⁴⁵ Copies of the correspondence are included in Appendix V. The Pacific Hydrographic Branch will supply a final copy of the smooth sheet upon completion.⁴⁶

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.

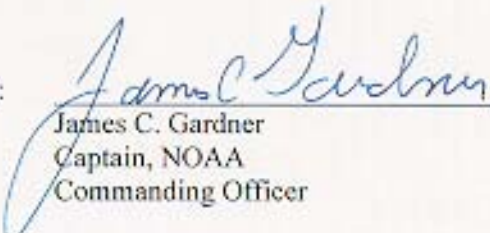
The digital data and supporting records have been reviewed by me, are considered complete and adequate for charting purposes, and are approved. All records are forwarded for final review and processing to N/CS34, Pacific Hydrographic Branch.

Survey H11086 is complete and adequate to supersede charted soundings in their common areas. No additional work is required for this survey.⁴⁷

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-N342-RA-01	February 4, 2002	N/CS34
Horizontal and Vertical Control Report for OPR-N342-RA-01	February 4, 2002	N/CS34
Coast Pilot Report for OPR-N342-RA-01	TBD	N/CS26


Approved and Forwarded:


James C. Gardner
Captain, NOAA
Commanding Officer


Date: 2-6-02

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

Survey Sheet Manager:


Kimberley S. Sampadian
Physical Scientist, NOAA

Field Operations Officer:


Edward J. Van Den Ameele
Lieutenant, NOAA

Revisions Compiled During Office Processing and Certification

¹ Concur with hydrographer's statements as made in paragraphs 1 and 2..

² Concur

³ The detached positions and bottom samples were graphically displayed on one MapInfo plot provided by the hydrographer. This plot is filed with the hydrographic data.

⁴ Concur

⁵ Concur. Appendix V is filed with the hydrographic data.

⁶ Concur. Hydrographic survey data collected during the 1940's is still the source for much of the charted information.

⁷ The shoreline verification and bottom sample plot was analyzed during office processing and portrayed on the smooth sheet as warranted. Depth data within the kelp areas appears to be consistent with surrounding hydrography and has been compiled based on the survey information.

⁸ Concur. Reclassification of features to mean high water were adjusted during office processing and portrayed on the smooth sheet as warranted.

⁹ Appendix IV is filed with the hydrographic data. The approved tide note dated December 19, 2001 is attached to this report.

¹⁰ Appendix VI is filed with the hydrographic data. The eighteen (18) AWOIS Item Investigation Forms and recommended final smooth sheet portrayal are attached to this report
¹¹ Comparison was made in the office with chart 18484, 10th Edition, July 5, 1997 and the 11th Edition, dated Feb. 1, 2004. This chart is the largest scale which falls completely within the survey area.

¹² Concur with hydrographer's statements. Chart 17 *Rk* as depicted on the smooth sheet.

¹³ Concur. Chart this area based on the present survey findings.

¹⁴ Concur with clarification. Chart submerged wrecks, 11 *Wk* and 15 *WK*, as portrayed on the smooth sheet.

¹⁵ Concur. Chart these piles as shown on the smooth sheet (7 *Obstn*, 11 *Obstn*, and pile, covers 1 foot at MLLW).

¹⁶ Concur. Chart 11 *Rk* and 5 *Obstn* as located by this survey and shown on the smooth sheet.

¹⁷ Concur

¹⁸ Concur. Soundings have been shown in green on the H-drawing.

¹⁹ Concur with hydrographer's statements.

²⁰ Concur. Except as noted by the hydrographer, the evaluator recommends the present survey supersede the charted data within the common area.

²¹ Concur. DM-10273 is not the source for charted shoreline depicted on 18484. Shoreline shown on chart 18484 originates from prior surveys and miscellaneous sources. Refer to the attached email regarding correspondence on this matter.

²² Filed with the hydrographic data.

²³ Concur with clarification. The new marina should be compiled on the chart as depicted on the smooth sheet unless the As-built blueprints are made available to the Marine Chart Division.

²⁴ Concur with clarification. Chart the bridge section as portrayed on the smooth sheet.

²⁵ Concur with clarification. Chart the new fish pen as portrayed on the smooth sheet.

²⁶ Concur with clarification. Chart the new pier extents as portrayed on the smooth sheet.

²⁷ Concur. Chart the shoal depths with *rky* note as portrayed on the smooth sheet.

²⁸ Concur. The two DM rocks were disproved during hydrographic survey operations. The area of investigation is made up of several shoal soundings marking the higher points of a submerged ledge which is covered by kelp. The evaluator recommends that the chart portray this area based on the smooth sheet.

²⁹ Concur. Chart 12 foot depth as shown on the smooth sheet.

³⁰ Concur

³¹ Concur with clarification. Chart this area based on the present survey findings.

³² Concur with clarification. Chart this area based on the present survey findings.

³³ Concur. The charted reef has been transferred to the smooth sheet from H-7036(1945) and shown in black on the smooth sheet and has been identified on a unique Microstation level.

³⁴ Detached position, bottom sample, and field sheet plots are filed with the hydrographic data.

³⁵ DM-10273 should be used on the chart as the source for the fast mean high water line, mean lower low water line and offshore point features not positioned during survey operations. Attached cultural features on DM-10273 (Piers, breakwater, etc.) are shown as a single line width and differ from the charted depiction (see endnote 20). The evaluator recommends that MCD use the best source in these areas to portray on the chart.

³⁶ Differences with the prior surveys have been generally discussed below. Overall the present survey reflects a shoaler bias of 2-3 feet since the prior work. Additionally, several new cultural changes have occurred since the prior work and are graphically portrayed on the smooth sheet. Changes with the prior surveys is largely attributed to more modern data acquisition techniques. With the exception of those items discussed in the descriptive report, the present survey is adequate to supersede the prior work within the common area.

³⁷ Concur

³⁸ Concur

³⁹ Concur

⁴⁰ Danger to navigation report is attached to this report. Appendix I is filed with the hydrographic records. Not all the reported dangers to navigation were shown on the H-drawing during office compilation. This decision was based on a more comprehensive portrayal of the surveyed area using the final plotted data.

⁴¹ Correspondence with the US Coast Guard is attached to this report.

⁴² Concur

⁴³ Concur with hydrographer's statements as discussed in section D.6. The evaluator recommends that MCD chart the fixed and floating aids to navigation based on the latest source data.

⁴⁴ Concur. Bottom samples have been depicted on the smooth sheet and compiled on the chart as warranted.

⁴⁵ Concur

⁴⁶ Concur. Appendix V is filed with the hydrographic records.

⁴⁷ Concur. See endnotes 20 and 35.

Hydrographic Survey Registry Number: H11088

**ADVANCE
INFORMATION**

Survey Title: State: Washington
Locality: Northwest Pacific Coast
Sub-locality: Neah Bay

Project Number: OPR-N342-RA

Survey Dates: October 6 - 26, 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
18484	1:10,000	10 th	7/05/97
18485	1:40,000	14 th	1/31/98

DANGERS:

Feature	Depth(ft)	Depth(fm)	Latitude	Longitude
Obstruction	1	0¼	48°22'09.692"N	124°36'13.246"W
Obstruction*	5	0¾	48°22'31.297"N	124°36'01.902"W
Wreck	11	1¾	48°22'21.592"N	124°37'15.192"W
Wreck	15	2½	48°22'39.080"N	124°36'20.204"W
Sounding	3	0¼	48°22'50.185"N	124°35'29.129"W
Sounding	8	1¼	48°22'28.189"N	124°34'19.349"W
Sounding	8	1¼	48°22'33.318"N	124°35'55.025"W
Sounding	8	1¼	48°22'12.470"N	124°34'07.155"W
Sounding	9	1½	48°22'34.710"N	124°35'49.820"W
Sounding	10	1¾	48°22'28.829"N	124°34'53.485"W
Sounding	11	1¾	48°22'15.436"N	124°34'05.685"W
Sounding	12	2	48°22'32.948"N	124°34'57.008"W
Sounding	15	2½	48°23'08.906"N	124°35'47.425"W
Sounding	16	2½	48°22'23.778"N	124°34'49.596"W
Sounding	17	2¾	48°22'23.376"N	124°34'14.590"W
Sounding	18	3	48°22'26.667"N	124°35'39.890"W
Sounding	18	3	48°22'21.958"N	124°36'05.178"W
Sounding	19	3	48°22'35.559"N	124°35'17.221"W
Sounding	20	3¼	48°22'27.248"N	124°36'08.705"W
Sounding	22	3¾	48°22'26.610"N	124°37'08.316"W
Sounding	23	3¾	48°22'11.745"N	124°36'51.206"W
Sounding	23	3¾	48°22'37.451"N	124°36'29.510"W

ADVANCE
INFORMATION

Sounding 25 4¼ 48°22'19.070"N 124°34'24.355"W

Foul area with obstructions defined with the following extents: 48°22'36.90"N 124°37'31.43"W,
48°22'29.57"N 124°37'31.25"W, 48°22'25.13"N 124°37'19.08"W, 48°22'34.50"N 124°37'16.29"W,
48°22'33.92"N 124°37'10.11"W, 48°22'39.27"N 124°37'10.47"W.

COMMENTS:

* 5-foot obstruction is the remains of charted daybeacon that no longer exists. A new buoy "4" is positioned approximately 127 meters southwest from the charted daybeacon at 48°22'30.93"N, 124°36'07.72"W.

Questions concerning this report should be directed to the Commanding Officer, NOAA Ship RAINIER (206) 553-4194 or co.rainier@noaa.gov.

ADVANCE
INFORMATION

Chart 18484

10th edition, July 5, 1997

Scale depicted 1:10,000

Revisions from NOAA hydrographic
survey H11086

NOAA Ship RAINIER
1801 Fairview Avenue E.
Seattle, WA 98102
(206) 553-4794

Chartlet 1 of 2

*This graphic may not be up to date
with all Notice to Mariners information.
Do not paste onto NOAA charts.*

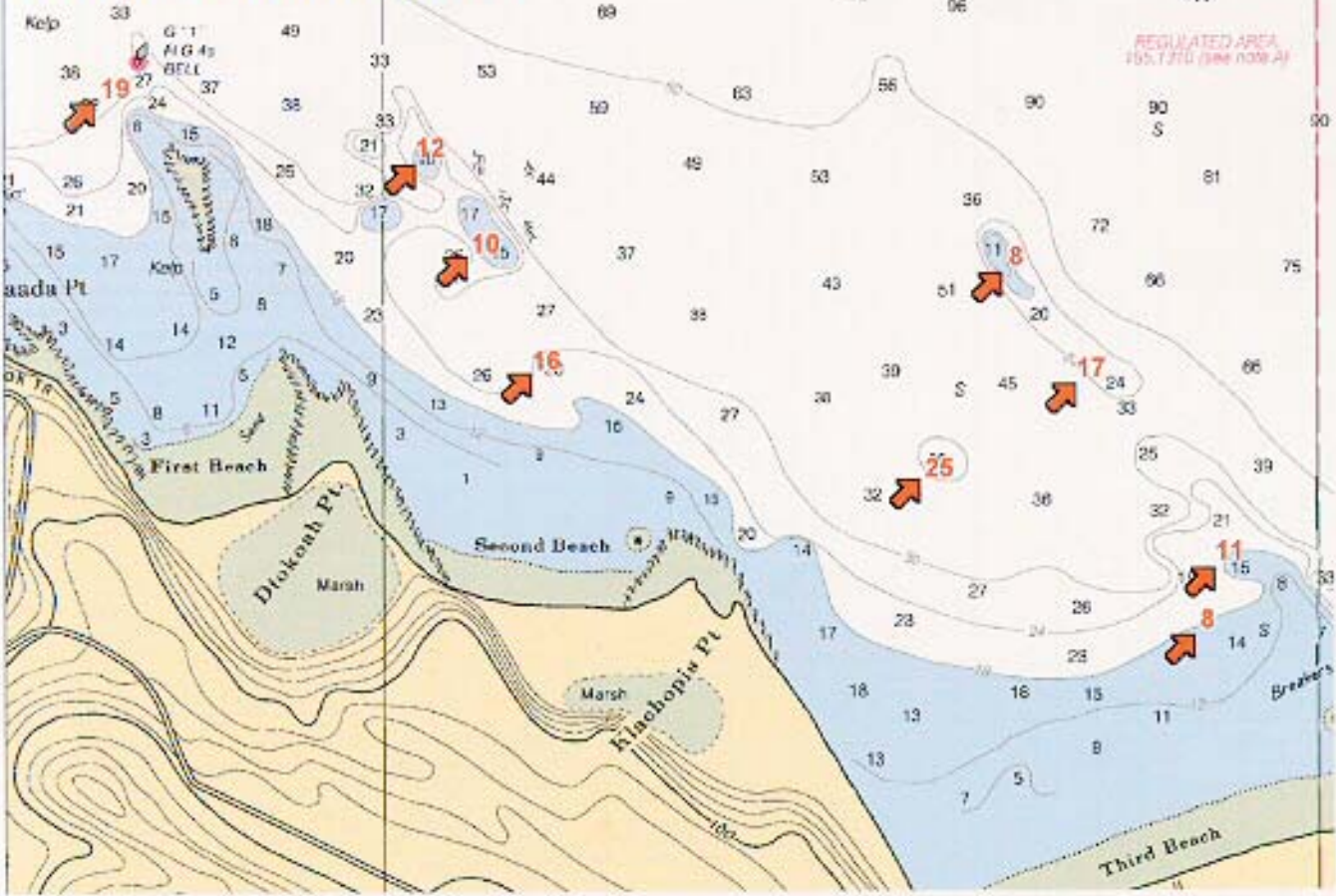


Chart 18484

N E A H
B A Y

10th edition, July 5, 1997
Scale depicted 1:10,000

Revisions from NOAA hydrographic
survey H11086

NOAA Ship RAINIER
1801 Fairview Avenue E.
Seattle, WA 98102
(206) 553-4794

Chartlet 2 of 2

**This graphic may not be up to date
with all Notice to Mariners information.
Do not paste onto NOAA charts.**

15
Foul with
Obstructions

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WK

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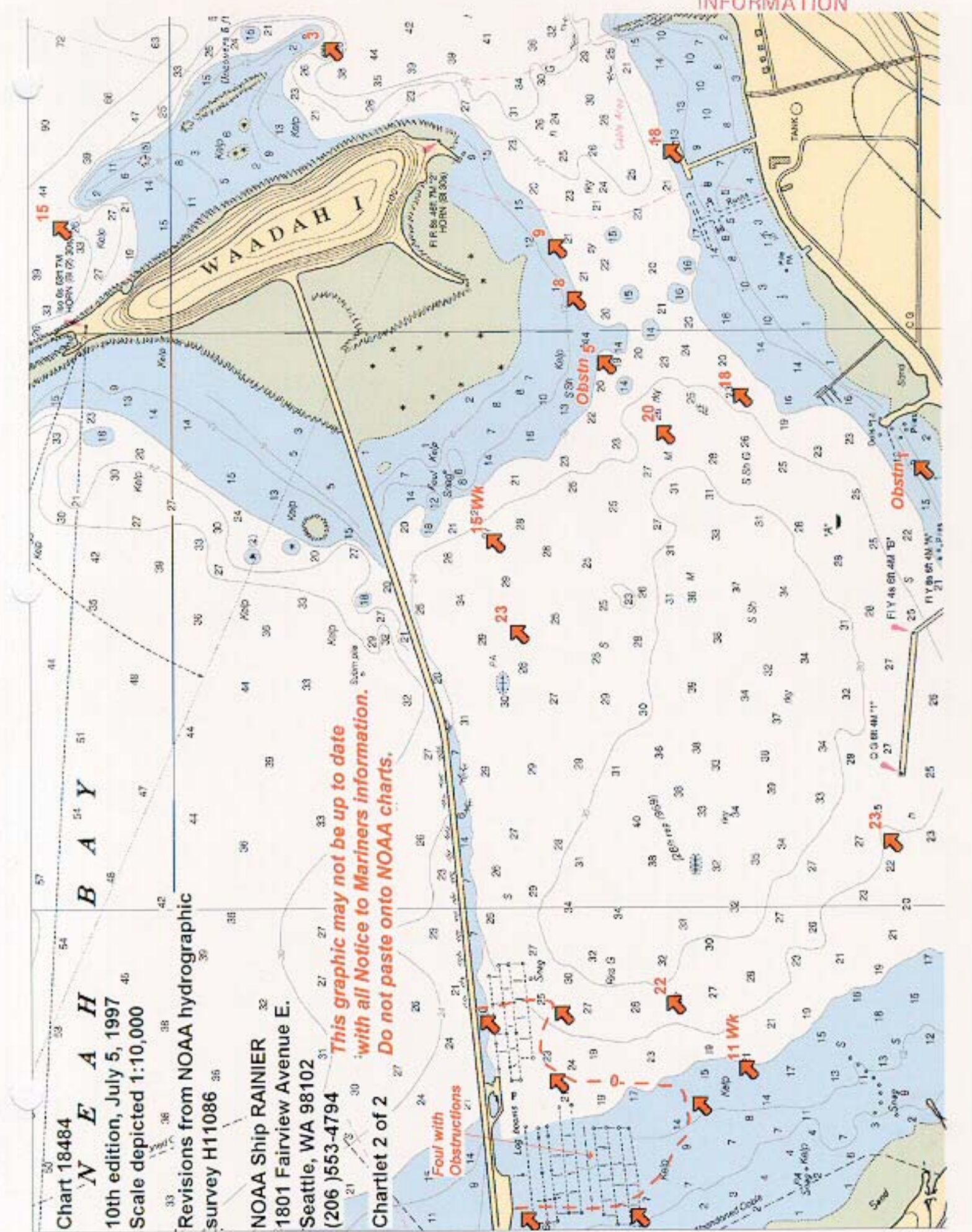
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ADVANCE
INFORMATION



Subject: Danger to Navigation in Neah Bay

Date: Fri, 26 Oct 2001 19:55:33 +0000

From: "FOO Rainier" <foo.rainier@ranems.pmc.noaa.gov>

Reply-To: foo.rainier@noaa.gov

Organization: NOAA Ship RAINIER

To: rsandhu@pacnorwest.uscg.mil

CC: Dennis Hill <Dennis.Hill@noaa.gov>, Don Haines <Don.Haines@noaa.gov>, "Kimberley S. Sampadian" <kimberley.s.sampadian@ranems.pmc.noaa.gov>, CO Rainier <co.rainier@ranems.pmc.noaa.gov>

ADVANCE
INFORMATION

Dir sir/madam:

While conducting hydrographic survey H11086 in Neah Bay, Washington, the NOAA Ship RAINIER discovered the following danger to navigation on October 25:

A submerged mooring buoy was located in position 48/22/11.0 N, 124/36/21.5 W. The mooring bouy measures 10 ft high by 4 feet wide, and is submerged to approximately 6 inches below the surface. The buoy was investigated by divers and is believed to be fast to the bottom.

It is requested that this information be included in the Local Notice to Mariners and considered for a Broadcast Notice to Mariners. Further information can be obtained on RAINIER survey projects by contacting the Operations Officer at foo.rainier@noaa.gov.

--

LT Edward J. Van Den Ameele, NOAA
Field Operations Officer
NOAA Ship RAINIER
foo.rainier@noaa.gov
1-877-665-6533 at sea
1-206-553-4794 in port Seattle

Danger to Navigation Report

Hydrographic Survey Registry Number: H11086

Survey Title: State: Washington
Locality: Strait of Juan de Fuca
Sub-locality: Neah Bay

Project Number: OPR-N326-RA

Survey Dates: October 25, 2001

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

ADVANCE
INFORMATION

CHARTS AFFECTED:

<u>Chart</u>	<u>Scale</u>	<u>Edition</u>	<u>Date</u>
18484	1:40,000	14	1/31/1998

DANGERS:

<u>Feature</u>	<u>Depth(ft or fms)</u>	<u>Latitude</u>	<u>Longitude</u>
Obstn	Awash	48°22'11.0"N	124°36'21.5"W

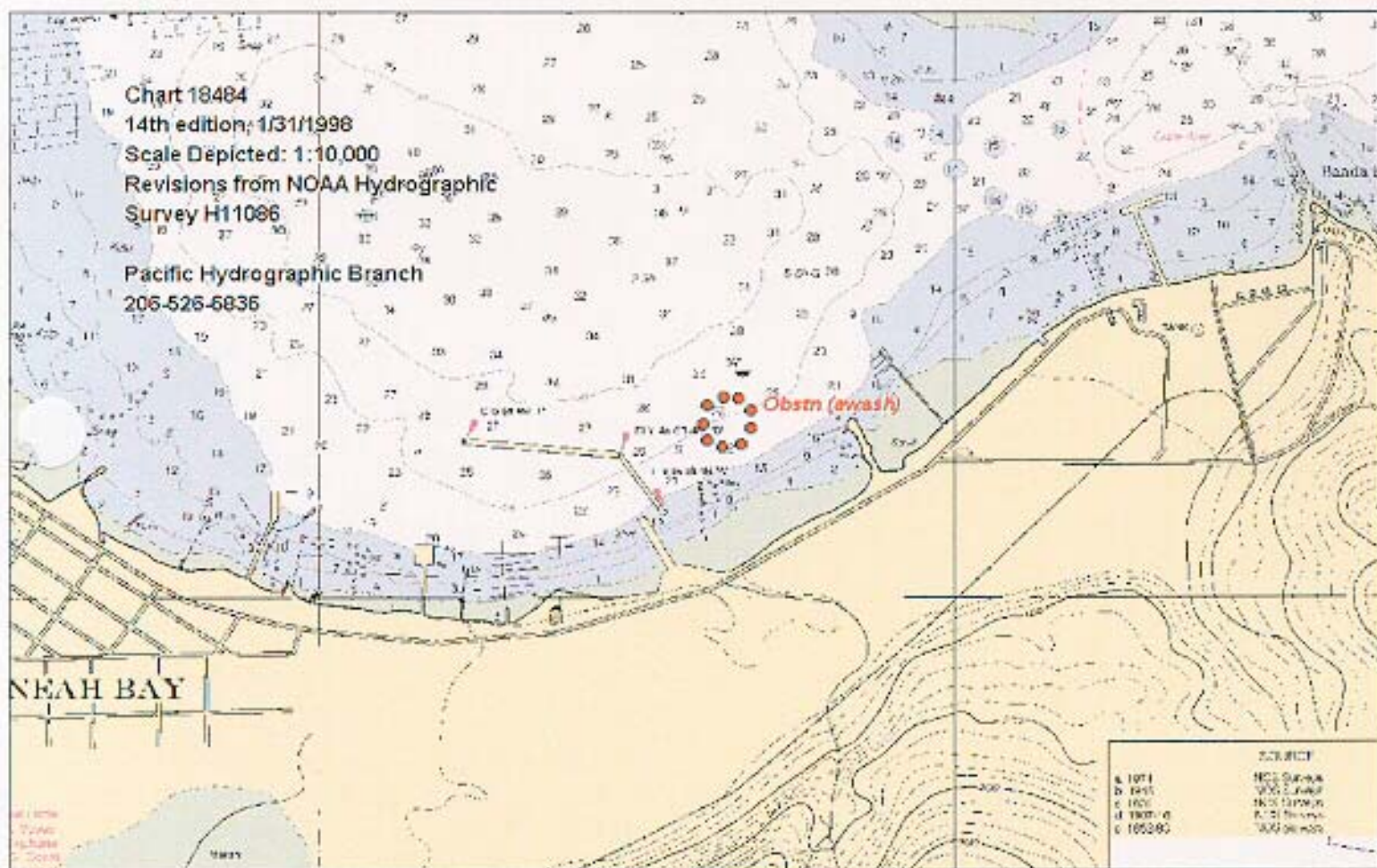
COMMENTS:

A mooring buoy measuring 10ft. high by 4ft. wide covered approximately 6 inches at the time of observation.
Buoy investigated by divers and believed to be fast to the bottom.

[Click here to view chartlet 18484](#)

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

ADVANCE
INFORMATION



RE: Danger to Navigation in Neah Bay

ADVANCE
INFORMATION

Subject: RE: Danger to Navigation in Neah Bay
Resent-From: FOO.Rainier@noaa.gov
Date: Wed, 30 Jan 2002 07:27:58 -0800
From: "Sandhu, Ryan" <RSandhu@pacnorwest.uscg.mil>
To: "'foo.rainier@noaa.gov'" <foo.rainier@noaa.gov>

LT Van Den Ameele,

Yes, the submerged Neah Bay mooring buoy that you previously reported was removed by USCGC Henry Blake. After your email, the hazard was immediately reported in a Broadcast Notice to Mariners and then also in Local Notice to Mariners 44/01 (10/30/01). Since Henry Blake's schedule did not allow then to get out to Neah Bay until December the hazard was added to the chart as a temporary correction in LNM 47/01 (11/20/01). After the mooring buoy was removed on 13 Dec 01 a Broadcast Notice to Mariners was issued and the temporary chart correction was deleted in LNM 51/01 (12/18/01). Thanks for your help in identifying this hazard to navigation.

I guess the short answer would have been - No - the buoy does not need to be applied to the chart.

Sincerely,

Ryan Sandhu

USCG District 13
Aids to Navigation
(206) 220-7280
rsandhu@pacnorwest.uscg.mil

-----Original Message-----

From: FOO Rainier [mailto:foo.rainier@ranems.pmc.noaa.gov]
Sent: Tuesday, January 29, 2002 1:25 PM
To: Sandhu Ryan
Subject: Re: Danger to Navigation in Neah Bay

Mr. Sandhu:

Just following up on this submerged buoy in Neah Bay. Do you know if it was ever removed? We are at a point where we need to decide if it should be applied to the nautical chart.

Thanks for your help,

-EJ

--

LT Edward J. Van Den Ameele, NOAA
Field Operations Officer
NOAA Ship RAINIER
foo.rainier@noaa.gov
www.moc.noaa.gov/ra
1-206-553-4794 in port Seattle

"Sandhu, Ryan" wrote:

Lt Van Den Ameele,

The buoy should be removed by the middle of December. A work order to remove the buoy was issued to USCGC Henry Blake out of Everett. Thanks for the heads up on the buoy.

In the next Local Notice to Mariners the buoy will be included as a temporary chart correction on charts 18460, 18484, and 18485.

Ryan Sandhu
Marine Information Specialist
(206) 220-7280
rsandhu@pacnorwest.uscg.mil

-----Original Message-----

From: FOO Rainier [mailto:foo.rainier@ranems.pmc.noaa.gov]
Sent: Monday, November 19, 2001 4:32 PM
To: Sandhu, Ryan
Subject: Re: Danger to Navigation in Neah Bay

Mr. Sandhu,

Just following up on this item....could you tell me, would you happen to know if this buoy was removed by the USCG?

Thanks very much for any information you can provide.

-EJV

LT Edward J. Van Den Ameele, NOAA
Field Operations Officer
NOAA Ship RAINIER
foo.rainier@noaa.gov
1-877-665-6533 at sea
1-206-553-4794 in port Seattle

"Sandhu, Ryan" wrote:

>
>
> Dear LT Van Den Ameele,
>
> Thanks for the information. I will put out a BNM and include this
> info in the next LNM.
>
> I have a couple of questions about the buoy I was hoping you could
> answer. Did you notice any markings on the buoy that might help to
> identify the owner? Did it have a light - extinguished or not? What
> color was it? This information will help determine who owns the buoy
> so they can fix it or remove it.
>
> Thanks again.
>
> Ryan J. Sandhu
> Marine Information Specialist

ADVANCE
INFORMATION

> Aids to Navigation and Waterways Management Branch
> USCG District 13
> 915 Second Avenue, Suite 3510
> Seattle, WA 98174
> (206) 220-7280
>
>
> -----Original Message-----
> From: FOO Rainier [mailto:foo.rainier@ranems.pmc.noaa.gov]
> Sent: Friday, October 26, 2001 12:56 PM
> To: Sandhu, Ryan
> Cc: Dennis Hill; Don Haines; Kimberley S. Sampadian; CO Rainier
> Subject: Danger to Navigation in Neah Bay
>
> Dir sir/madam:
>
> While conducting hydrographic survey HI1086 in Neah Bay, Washington,
> the
> NOAA Ship RAINIER discovered the following danger to navigation on
> October 25:
>
> A submerged mooring buoy was located in position 48/22/11.0 N,
> 124/36/21.5 W. The mooring bouy measures 10 ft high by 4 feet wide,
> and
> is submerged to approximately 6 inches below the surface. The buoy
> was
> investigated by divers and is believed to be fast to the bottom.
>
> It is requested that this information be included in the Local Notice
> to
> Mariners and considered for a Broadcast Notice to Mariners. Further
> information can be obtained on RAINIER survey projects by contacting
> the
> Operations Officer at foo.rainier@noaa.gov.
>
> --
> -----
> LT Edward J. Van Den Ameele, NOAA
> Field Operations Officer
> NOAA Ship RAINIER
> foo.rainier@noaa.gov
> 1-877-665-6533 at sea
> 1-206-553-4794 in port Seattle
> -----

ZCZC 0467

1. CCGD13 ENM 1093-01.

WASHINGTON, STRAIT OF JUAN DE FUCA ENTRANCE, NEAH BAY. A SUBMERGED
MOORING BUOY HAS BEEN REPORTED IN APPROXIMATE POSITION 48-22-11N
124-36-21.5 W. THE MOORING BUOY IS 10 FT BY 4 FT AND IS SUBMERGED
APPROXIMATELY 6 INCHES BELOW THE SURFACE. THE MOORING IS REPORTED TO
BE FAST TO THE BOTTOM.

BT

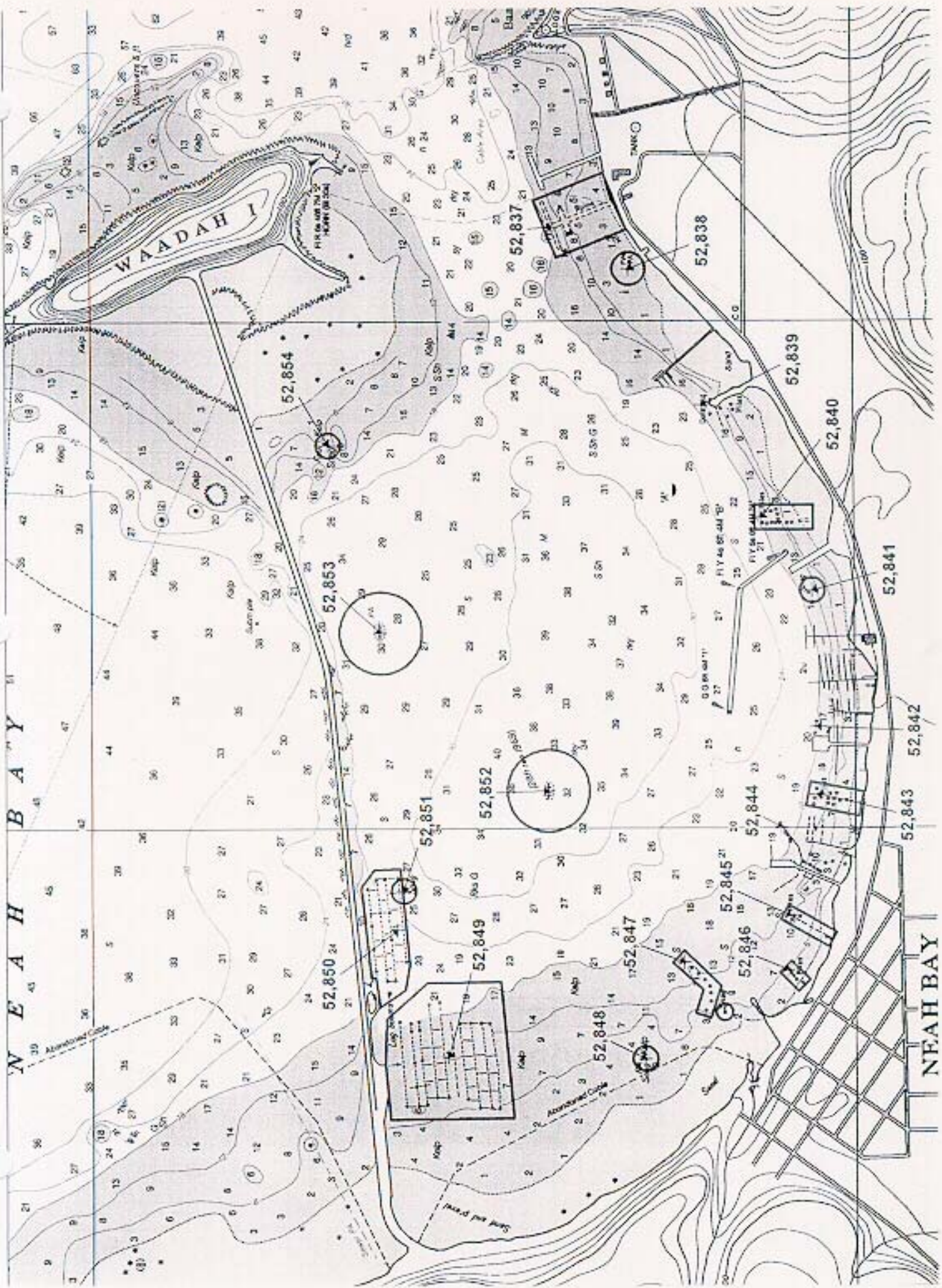
NNNN

(Error Rate= 0.0%)

NEAH BAY

NEAH BAY

WAADAH I



RECRD VESSLTERMS CHART AREA
CARTOCODE SNDINGCODE DEPTH

LAT83 LONG83 NATVDATUM
LATDEC: LONDEC: GPQUALITY
GPSOURCE

PROJECT ITEMSTATUS SEARCHTYPE
RADIUS INIT ASSIGNED
TECNO

Techniqnote

History HISTORY
H7036/45--PIER AND DOLPHINS SHOWN, CENTRAL SEAWARD POS. IS 48-22-23.6 N 124-35-48.8 W NAD 83,
CL971/67--AIR PHOTO REVISION, 1967; PIER REVISED TO RUINS.
DM10273/82--NOS SHORELINE MAP; NO INDICATION OF PIER OR DOLS, KELP LIMIT LINE SHOWN IN THE AREA,
ENTERED 9/01 MCR

Fieldnote INVESTIGATION
DATE(S): 10/06/01, 10/20/01, 10/25/01 (DN: 279, 293, 298)
HYDROGRAPHIC SURVEY NUMBER: H11086
VN: 2121, 2126, 2127 TIME: 20:50:41(UTC)
INVESTIGATION METHODS USED: 100% SWMB and VS
SURVEYED POSITION: LAT. 48/22/23.6N LON. 124/35/48.8W
POSITION DETERMINED BY: DIFFERENTIAL GPS
INVESTIGATION SUMMARY: The charted (18484) pier ruins were disproved with 100% SWMB to the 8ft curve with the remaining search area disproved with visual investigation. Water clarity was clear to the bottom. One detached position (70019) was taken for pile ruins found on shore at the charted pier ruins inshore extent. No evidence of kelp was seen in the charted ruins search area but grass was detected with SWMB.
CHARTING RECOMMENDATION (HYDROGRAPHER): Remove charted (18484) pier ruins with the exception of the pile ruins on shore.
EVALUATOR COMMENTS: Concur with clarification. Chart pile ruins as pier ruins remaining from H-7036(1945).

Proprietary

YEARSUNK NIMANUM

[Print Record](#)

AWOIS 52837

CHARTED PIER RUINS



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 SNOINGCODE DEPTH

LAT83 LONG83 NATIVDATUM
LATDEC: LONDEC: GPQUALITY
GPSOURCE

PROJECT ITEMSTATUS SEARCHTYPE
RADIUS INIT ASSIGNED
TECNIQ
Techniqnote

History HISTORY
CL971/67--CHART CORRECTION LETTER, NOS; BREAKWATER AND PILING LOCATED BY SEXTANT FIXES BY CGS SHIP BOWIE. PILING NOW SHOWN IN THE FOLLOWING NAD 83 POSITIONS:
48-22-11.92 N 124-36-09.94 W
48-22-11.26 N 124-36-11.02 W
48-22-11.23 N 124-36-09.33 W
48-22-10.45 N 124-36-10.35 W
48-22-09.87 N 124-36-11.33 W
48-22-09.59 N 124-36-09.91 W
48-22-09.46 N 124-36-10.5 W
ENTERED 9/01 MCR

Fieldnote INVESTIGATION
DATE(S): 10/19/01, 10/20/01, 10/25/01 (DN: 292, 293, 298)
HYDROGRAPHIC SURVEY NUMBER: H11096
VN: 2122, 2126, 2127 TIME: Varies
INVESTIGATION METHODS USED: VS and 100% SWMB
SURVEYED POSITION: Piling LAT. LON.
1 48-22-11.92 N 124-36-09.94 W
2 48-22-11.26 N 124-36-11.02 W
3 48-22-11.28 N 124-36-09.01 W
4 48-22-10.45 N 124-36-10.35 W
5 48-22-09.87 N 124-36-11.33 W
6 48-22-09.59 N 124-36-09.91 W
7 48-22-09.87 N 124-36-10.43 W
POSITION DETERMINED BY: DIFFERENTIAL GPS
INVESTIGATION SUMMARY: The charted (18484) dols 1 and 2 were disproved with 100% SWMB. Piling 3 was visually verified and a detached position was taken (20214). Pilings 4 and 5 were not visible during low tide but did not disprove. Piling 6 was not found during visual search but piling 7 was visually verified along with a detached position (70029).
CHARTING RECOMMENDATION (HYDROGRAPHER): Remove charted (18484) dols 1, 2 and pile 6. Revise position of charted piling 3 and 7 based on the new positions (20214, 70029). Retain charted pilings 4 and 5.
EVALUATOR COMMENTS: Concur. Chart this area based on the present survey findings.

Proprietary

YEARSUNK NIMANUM

Print Record

RECRD VESSTERMS CHART AREA
CARTOCODE SNDINGCODE DEPTH

LAT83 LONG83 NATVDATUM
LATDEC: LONDEC: GPQUALITY
GPSOURCE

PROJECT ITEMSTATUS SEARCHTYPE
RADIUS INIT ASSIGNED
TECNIQ
Techniqnote

History HISTORY
CL168/63--CHART CORRECTION LETTER: PILING AND FLOATS REPORTED TO BE ESTABLISHED IN JUNE, 1962.
ENTERED 9/01 MCR

Fieldnote INVESTIGATION
DATE(S): 10/19/01 (DN:292)
HYDROGRAPHIC SURVEY NUMBER: H11086
VN: 2127 TIME:18:27:43 (UTC)
INVESTIGATION METHODS USED: VS
SURVEYED POSITION: LAT. 48/22/07.3N LON. 124/36/23.3W
POSITION DETERMINED BY: DIFFERENTIAL GPS
INVESTIGATION SUMMARY: The two swm charted (18484) piles (48/22/07.22 N 124/36/23.93 W and 48/22/07.34 N 124/36/23.08 W) were disproved with 100% SWMB. Eleven piles were visually verified within the search area and detached positions were taken on the extents that were accessible (70033-70037). No floats were found within the search radius. Refer to attached pictures awois_52840.jpg and awois_52840_near_shore.jpg.
CHARTING RECOMMENDATION (HYDROGRAPHER): Remove the two swm disproved charted (18484) piles and revise positions of verified charted piles based on new positions (70033-70037). Replace charted (18484) pier ruins (48/22/05.5 N, 124/36/23.3 W) with two new piles placing them at the swm extent of the pier.
EVALUATOR COMMENTS: (Item 1.) Concur with clarification. Retain remaining six charted piles as visually verified. (Item 2.) Do not concur. Retain charted pier ruins. There were no detached positions taken on the piles.

Proprietary

YEARSUNK NIMANUM

AWOIS 52840

CHARTED PILES



RECRD VESSLTERMS CHART AREA
CARTOCODE SENDINGCODE DEPTH

LAT83 LONG83 NATVDATUM
LATDEC: LONDEC: GPQUALITY
GPSOURCE

PROJECT ITEMSTATUS SEARCHTYPE
RADIUS INIT ASSIGNED
TECNIQ

Techniqnote

History

Fieldnote

Proprietary

YEARSUNK NIMANUM

RECRD VESSLTERMS CHART AREA
CARTOCODE SENDINGCODE DEPTH

LAT83 LONG83 NATVDATUM
LATDEC: LONDEC: GPQUALITY
GPSOURCE

PROJECT ITEMSTATUS SEARCHTYPE
RADIUS INIT ASSIGNED
TECNIQ
Techniqnote

History

HISTORY
AIR PHOTO REVISION, 1965; FIVE PILE ALLPIED TO THE CHART
IN THE FOLLOWING POSITIONS:
48-22-03.23 N 124-36-48.8 W
48-22-03.13 N 124-36-47.93 W
48-22-03.08 N 124-36-47.41 W
48-22-02.16 N 124-36-48.66 W
48-22-02.06 N 124-36-48.2 W
ENTERED 9/01 MCR

Fieldnote

INVESTIGATION
DATE(S): 10/19/01 and 10/20/01 (DN:292 and 293)
HYDROGRAPHIC SURVEY NUMBER: H11086
VN: 2127,2126 TIME: 20:32:18 (UTC)
INVESTIGATION METHODS USED: VS and 100% SWMB
SURVEYED POSITION: LAT. 48/22/03.43 N LON. 124/36/47.47 W
POSITION DETERMINED BY: DIFFERENTIAL GPS
INVESTIGATION SUMMARY: All five charted(18484) piles were disproved with 100% SWMB and visual search (Pos#70067).
CHARTING RECOMMENDATION (HYDROGRAPHER): Remove the five charted (18484) piles.
EVALUATOR COMMENTS: Concur

Proprietary

YEARSUNK NIMANUM

[Print Record](#)

RECRD VESSTERMS CHART AREA
CARTOCODE SINDINGCODE DEPTH

LAT83 LONG83 NATIVDATUM
LATDEC: LONDEC: GPQUALITY
GPSOURCE

PROJECT ITEMSTATUS SEARCHTYPE
RADIUS INIT ASSIGNED
TECNIQ
Techniqnote

History

Fieldnote

Proprietary

YEARSUNK NIMANUM

AWOIS 52843

CHARTED PILES



RECRD VESSLTERMS CHART AREA
CARTOCODE SENDINGCODE DEPTH

LAT83 LONG83 NATIVDATUM
LATDEC: LONDEC: GPQUALITY
GPSOURCE

PROJECT ITEMSTATUS SEARCHTYPE
RADIUS INIT ASSIGNED
TECNIQ
Techniqnote

History

HISTORY
CL168/63--CHART CORRECTION LETTER; PILING AND FLOATS REPORTED TO BE ESTABLISHED IN JUNE, 1962. TWO ROWS OF PILING AND INDIVIDUAL PILES APPLIED TO THE CHART IN THE FOLLOWING POSITIONS:
5 PILES FROM POS 48-22-05.75 N 124-36-59.9 W TO 48-22-05.1 N 124-37-01.6 W
5 PILES FROM POS. 48-22-04.1 N 124-37-04.1 W TO 48-22-02.8 N 124-37-05.1 W
SINGLE PILES IN:
48-22-03.6N 124-37-03.1 W
48-22-02.4 N 124-37-04.1 W
48-22-01.8 N 124-37-03.9 W
48-22-00.8 N 124-37-04.3 W
N W

Fieldnote

INVESTIGATION
DATE(S): 10/19/01 and 10/20/01 (DN: 292 and 293)
HYDROGRAPHIC SURVEY NUMBER: 11086
VN: 2127, 2126 TIME: 21:25:30 (UTC)
INVESTIGATION METHODS USED: VS and 100% SWMB
SURVEYED POSITION: FROM 48/22/05.84 N 124/37/00.15 W TO 48/22/04.54 N 124/37/03.37 W Row of eight piles
FROM 48/22/04.25 N 124/37/04.25 W TO 48/22/02.91 N 124/37/05.39 W Row of ten piles
LAT. 48/22/00.97 N LON. 124/37/04.52 W (Pos #70090)
LAT. 48/22/01.88 N LON. 124/37/04.13 W (Pos #70091)
POSITION DETERMINED BY: DIFFERENTIAL GPS
INVESTIGATION SUMMARY: The first row of charted five piles were verified as a row of eight piles (Pos #70086-70087). The second row of charted five piles were verified as a row of 10 piles (Pos # 70088-70089). The charted (18484) single piles at 48/22/02.4 N 124/37/04.1 W and 48/22/03.6 N 124/37/03.1 W were disproved after visual search (Pos#70090, 70091) in which water clarity was clear to bottom. The remaining charted single piles (48/22/03.6N 124/37/03.1 W and 48/22/02.4 N 124/37/04.1 W) were disproved with 100% SWMB.
CHARTING RECOMMENDATION (HYDROGRAPHER): Remove all charted (18484) single piles and revise the two rows of piles to reflect the new extents and positions.
EVALUATOR COMMENTS: Concur with clarification. Chart piles and dashed pier ruins as found by the present survey and depicted on the smooth sheet.

Proprietary

YEARSUNK NIMANUM

Print Record

RECRD VESSLTERMS CHART AREA
CARTOCODE SNOINGCODE DEPTH

LAT83 LONG83 NATIVDATUM
LATDEC: LONDEC: GPQUALITY
GPSOURCE

PROJECT ITEMSTATUS SEARCHTYPE
RADIUS INIT ASSIGNED
TECNIQ

Techniqnote

History

Fieldnote

Proprietary

YEARSUNK NIMANUM

AWOIS 52845

CHARTED PILES AND PIER RUINS



RECRD VESSLTERMS CHART AREA
CARTOCODE SNOINGCODE DEPTH

LAT83 LONG83 NATVDATUM
LATDEC: LONDEC: GPQUALITY
GPSOURCE

PROJECT ITEMSTATUS SEARCHTYPE
RADIUS INIT ASSIGNED
TECNIQ

Techniqnote

History

Fieldnote

Proprietary

YEARSUNK NIMANUM

RECRD VESSLTERMS CHART AREA
CARTOCODE SENDINGCODE DEPTH

LAT83 LONG83 NATIVDATUM
LATDEC: LONDEC: GPQUALITY
GPSOURCE

PROJECT ITEMSTATUS SEARCHTYPE
RADIUS INIT ASSIGNED
TECNIQ

Techniqnote

History

Fieldnote

Proprietary

YEARSUNK NIMANUM

RECRD VESLTERMS CHART AREA
CARTOCODE SONDINGCODE DEPTH

LAT83 LONG83 NATVDATUM
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 NATVDATUM
LATDEC: LONDEC: GPQUALITY
GPSOURCE

PROJECT ITEMSTATUS SEARCHTYPE
RADIUS INIT ASSIGNED
TECNIQ

Techniqnote

History

Fieldnote

Proprietary
YEARSUNK NIMANUM

RECRD VESLTERMS CHART AREA
CARTOCODE SENDINGCODE DEPTH

LAT83 LONG83 NATVDATUM
LATDEC: LONDEC: GPQUALITY
GPSOURCE

PROJECT ITEMSTATUS SEARCHTYPE
RADIUS INIT ASSIGNED
TECNIQ
Techniqnote

History HISTORY
CL1270/60--COE, LOG BOOMS APPLIED TO THE CHART. ANCHORS TO LOG BOOMS DESCRIBED AS BEING 6 X 6 X 4 FT CONCRETE BLOCKS, WITH 90FT ANCHOR CHAINS. CHAINS EXTEND AT AN ANGLE, OUTWARD FROM THE BOOMS TO THE ANCHOR. ENTERED MCR 9/01

Fieldnote INVESTIGATION
DATE(S): 10/19/01,10/20/01 (DN: 292,293)
HYDROGRAPHIC SURVEY NUMBER: H11086
VN: 2127,2126 TIME: Varies
INVESTIGATION METHODS USED: VS and 100% SWMB
SURVEYED POSITION: New foul area in LAT83 and LONG83: 48/22/37 N 124/37/31 W, 48/22/29 N 124/37/31 W, 48/22/25 N 124/37/24 W, 48/22/25 N 124/37/19 W, 48/22/34 N 124/37/16 W, 48/22/34 N 124/37/10 W, 48/22/39 N 124/37/10 W.
POSITION DETERMINED BY: DIFFERENTIAL GPS
INVESTIGATION SUMMARY: Each boom is verified with a detached position and the charted extents disproved. Each boom is anchored with a chain to an anchor block but not interconnected with each other. This area was also covered with 100% swmb and considered foul with obstructions. The new extents of the foul area are based on the bathymetry and detached positions.
CHARTING RECOMMENDATION (HYDROGRAPHER): Revise the charted (18484) log booms based on the detached positions and chart the new foul area.
EVALUATOR COMMENTS: Concur with clarification. Delete charted log booms. Chart foul area and obstructions as shown on the smooth sheet.

Proprietary

YEARSUNK NIMANUM

[Print Record](#)

RECRD VESLTERMS CHART AREA
CARTOCODE SENDINGCODE 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 NATVDATUM
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
CL1356/84--USCG AUX, 7/7/83; THE 37 FT SOGNEFJORD SUNK IN 29 FT OF WATER AFTER CATCHING FIRE. POSITION DERIVED FROM COMPASS BEARINGS AND GIVEN AS 48 22 38N, 124 36 32W NAD 27, ENTERED 9/01 MCR

Fieldnote INVESTIGATION
DATE(S): 10/08/01 (DN: 281)
HYDROGRAPHIC SURVEY NUMBER: H11086
VN: 2126 TIME: Varies
INVESTIGATION METHODS USED: 100% SWMB
SURVEYED POSITION: LAT. 48/22/37.4 N LON. 124/36/36.6 W
POSITION DETERMINED BY: DIFFERENTIAL GPS
INVESTIGATION SUMMARY: The charted (18484) wreck was disproved with 100% SWMB coverage. However, it should be noted that a new wreck hull with a least depth of 15 feet was detected and investigated approximately 340 meters northeast (48/22/39.08 N 124/36/20.2 W) of the charted wreck.
CHARTING RECOMMENDATION (HYDROGRAPHER): Remove charted (18484) wreck and chart new wreck hull in its surveyed position.
EVALUATOR COMMENTS: Concur with clarification. Chart new wreck, least depth 15 feet, as shown on the smooth sheet.

Proprietary

YEARSUNK NIMANUM

RECRD VESSTERMS CHART AREA
CARTOCODE SENDINGCODE DEPTH

LAT83 LONG83 NATVDATUM
LATDEC: LONDEC: GPQUALITY
GPSOURCE

PROJECT ITEMSTATUS SEARCHTYPE
RADIUS INIT ASSIGNED
TECNIQ

Techniqnote

History

Fieldnote

Proprietary

YEARSUNK

NIMANUM

AWOIS 52854

CHARTED SNAG





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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: December 19, 2001

HYDROGRAPHIC BRANCH: Pacific
HYDROGRAPHIC PROJECT: OPR-N342-RA-2001
HYDROGRAPHIC SHEET: H11086

LOCALITY: Olympic Coast National Marine Sanctuary and Neah
Bay, WA

TIME PERIOD: October 6 - 25, 2001

TIDE STATION USED: 944-3090 Neah Bay, Strait of Juan de Fuca, WA
Lat. 48° 22.1'N Lon. 124° 37.0'W


PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 2.168 meters

REMARKS: RECOMMENDED ZONING

Use zone(s) identified as: PAC230 & PAC233.

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.


----- 12/19/01
CHIEF, REQUIREMENTS AND DEVELOPMENT DIVISION

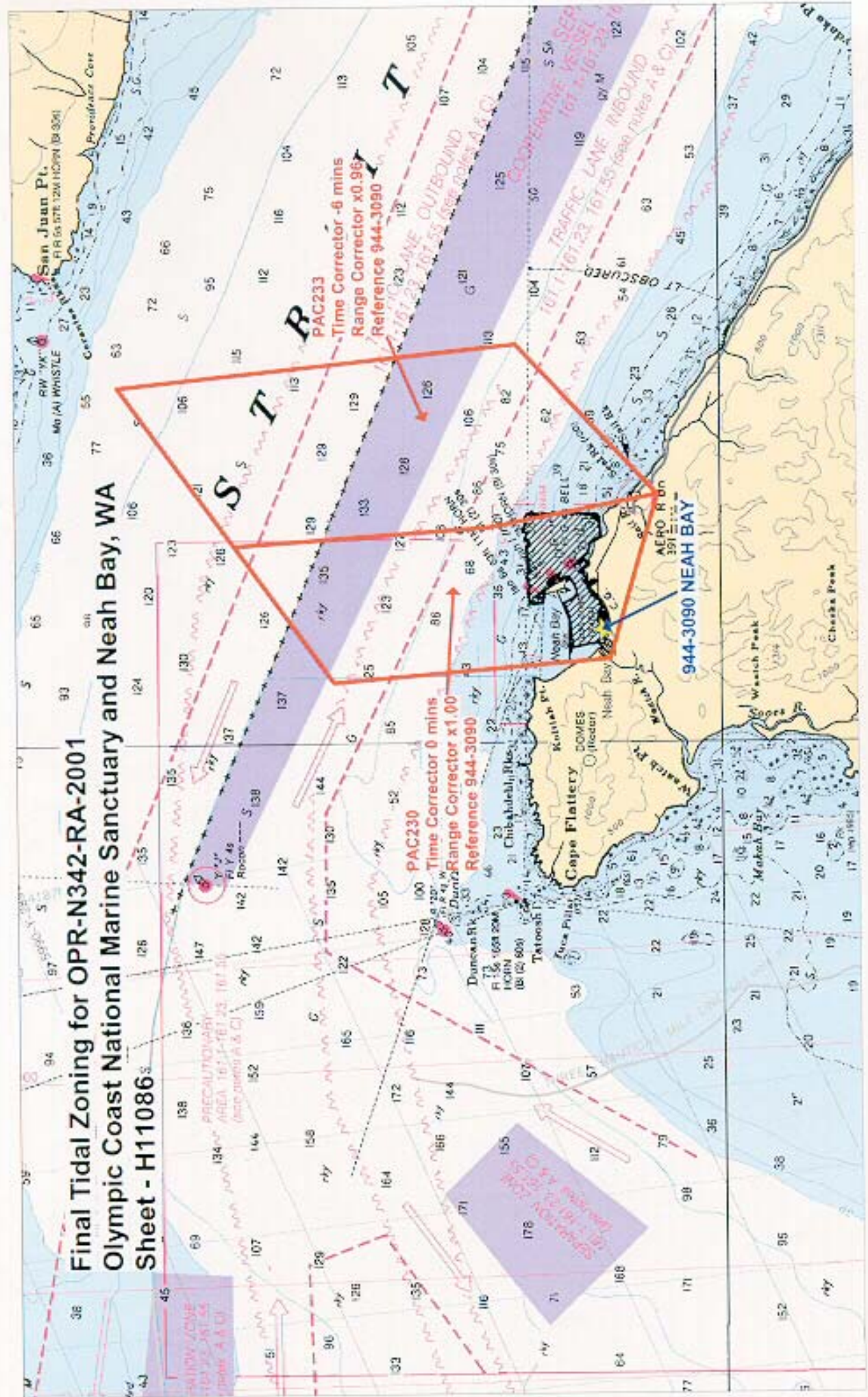


Final tide zone node point locations for OPR-N342-RA-2001,
Sheet H11086.

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

	Tide Station Order	AVG Time Correction	Range Correction
Zone PAC230			
-124.639559 48.44798	944-3090	0	1.00
-124.629548 48.36596			
-124.556283 48.351617			
-124.570704 48.401589			
-124.578447 48.477342			
-124.639559 48.44798			
Zone PAC233			
-124.578447 48.477342	944-3090	-6	0.96
-124.570704 48.401589			
-124.556283 48.351617			
-124.488952 48.393423			
-124.507047 48.511664			
-124.578447 48.477342			

Final Tidal Zoning for OPR-N342-RA-2001 Olympic Coast National Marine Sanctuary and Neah Bay, WA Sheet - H11086



SANDWICH ZONE
107.55-108.55
(Zone A & C)

PRECALCULATED AREA
161.23-161.30
(Zone A & C)

TRAFFIC LANE
167.23-167.55
(Zone A & C)

PAC230
Time Corrector 0 mins
Range Corrector x1.00
Reference 944-3090

PAC233
Time Corrector -8 mins
Range Corrector x0.96
Reference 944-3090

944-3090 NEAH BAY

San Juan Pt.
FR 65 07E 12M HIGH 181 00A

NEAH Pt.

WAUCH Pt.

CAPE FLATTERY Pt.

NEAH Pt.

WAUCH Pt.

Subject: Re: [Fwd: Source Shoreline for Chart 18484 (Neah Bay)]

Date: Tue, 22 Oct 2002 10:11:07 -0400

From: "David Merke" <David.Merke@noaa.gov>

To: Bruce.Olmstead@noaa.gov

Bruce,

I reviewed the histories and standards for any shoreline changes for chart 18484. The original shoreline was compiled using T-6984 A&B 1942-44. This T-sheet was also used for both H-7036 and H-7037. There has been no major shoreline change to this chart since. There was a minor change through a chart letter at N48°22'38"/W124°37'24.3" near some log booms within the area H-7036 covers. Also, A large number of piers were added and deleted through chart letters over the years.

Chart 18484 is at a 1 to 10,000 scale, therefore DM-10273 was not applied to the chart.

I hope this will clarify any discrepancy you might still have. If you need any other assistance don't hesitate to ask.

Dave Merke

David Poltilove wrote:

> Could you please check this out and get back to Bruce Olmstead in
> Seattle.

>
> Thanks!!!

> ----- Original Message -----

> Subject: Source Shoreline for Chart 18484 (Neah Bay)

> Date: Fri, 18 Oct 2002 11:08:46 -0700

> From: "Bruce Olmstead" <Bruce.Olmstead@noaa.gov>

> Organization: phb

> To: David Poltilove <David.Poltilove@noaa.gov>

>
> Dave,

>
> Can you help me to identify the source shoreline for Chart 18484 in Neah
> Bay. It appears that prior survey H-7037 may be the source on the
> eastern half but the western half of the Bay doesn't match up as well
> with H-7036. Additionally, the more recent photography compiled to
> DM-10273 shows many of the pier structures as single lines and not piers
> drawn at scale. The current chart shows some of these piers as doubled
> lined structures. This maybe due to the fact that the DM was compiled
> at 1:20,000. I'm thinking there may be some other source data for
> shoreline?

> Anyhow, any assistance on this would be appreciated.

>
> Bruce



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

November 26, 2001

Mr. Scott Craig
Senior Port Captain
Crowley Marine Services, Inc.
Post Office Box 2287
Seattle, WA 98111-2287

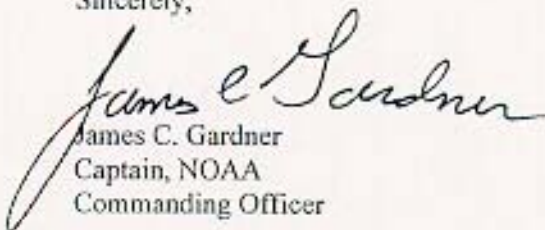
Dear Mr. Craig:

Enclosed as a courtesy is a preliminary sounding plot of NOAA hydrographic survey H11086, Neah Bay, Washington, conducted by NOAA Ship RAINIER in October 2001. Soundings depicted on this plot are based on full bottom coverage obtained using state-of-the-art shallow-water multibeam sonar. Depths are depicted in feet, reduced to mean lower-low water using verified water level data.

Information depicted on the plot is subject to office review and verification, and reflect the state of the sea floor in existence at the time of the survey. The survey has not been updated for inclusion of the latest Local Notice to Mariners information. Do not use this data for navigation.

A final, verified version of this survey, approved for nautical charting purposes, will be forwarded to you once it has been reviewed and certified by NOAA's Pacific Hydrographic Branch. Additional information can be obtained by contacting the Chief, Pacific Hydrographic Branch, and Northwest Regional Navigation Manager, Commander John Lowell, at (206) 526-6835. Reference project OPR-N342-RA-01, and survey H11086.

Sincerely,


James C. Gardner
Captain, NOAA
Commanding Officer

cc: N/CS31 (Haines)
N/CS34 (Lowell)





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

November 26, 2001

Captain Bill Archer
Tug Barbara Foss
P.O. Box 863
Neah Bay, WA 98357

Dear Captain Archer:

Enclosed as a courtesy is a preliminary sounding plot of NOAA hydrographic survey H11086, Neah Bay, Washington, conducted by NOAA Ship RAINIER in October 2001. Soundings depicted on this plot are based on full bottom coverage obtained using state-of-the-art shallow-water multibeam sonar. Depths are depicted in feet, reduced to mean lower-low water using verified water level data.

Information depicted on the plot is subject to office review and verification, and reflect the state of the sea floor in existence at the time of the survey. The survey has not been updated for inclusion of the latest Local Notice to Mariners information. Do not use this data for navigation.

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Sincerely,


James C. Gardner
Captain, NOAA
Commanding Officer

cc: N/CS31 (Haines)
N/CS34 (Lowell)



APPROVAL SHEET
H11086


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.



Date: 9 June 2005
Gary Nelson
Chief, Cartographic Team
Pacific Hydrographic Branch

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



Date: 9 JUNE 2005
Donald W. Haines, CDR/NOAA
CDR, NOAA
Chief, Pacific Hydrographic Branch

MARINE CHART BRANCH
RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-11086

INSTRUCTIONS

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

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

CHART	DATE	CARTOGRAPHER	REMARKS
18484	3/15/04	B. Olmstead	Full Part Before After Marine Center Approval Signed Via Application of
			Drawing No. Soundings and Features From Draft Sheet
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
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