

H10912

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. RA-05-01-99

Registry No. H-10912

LOCALITY

State Alaska

General Locality Womens Bay to Kodiak Harbor and Approaches

Sublocality St Paul Harbor

1999

CHIEF OF PARTY
CDR Daniel R. Herlihy

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DATE FEB 16 2001

NOAA FORM 77-28 (11-72)		U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION		REGISTER NO. H-10912
HYDROGRAPHIC TITLE SHEET				
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-05-01-99
State <u>Alaska</u>				
General Locality <u>Womens Bay to Kodiak Harbor and Approaches</u>				
Sublocality <u>St Paul Harbor</u>				
Scale <u>1:5,000</u>		Date of Survey <u>Aug. 2 - Aug. 9, 1999</u>		
Instructions Date <u>July 2, 1999</u>		Project No. <u>OPR-P337-RA</u>		
Vessel <u>NOAA Ship Rainier (2121, 2122, 2123, 2124, 2125, 2126)</u>				
Chief of Party <u>CDR Daniel R. Herlihy, NOAA</u>				
Surveyed by <u>RAINIER Personnel</u>				
Soundings taken by echo sounder, hand lead, pole <u>Knudsen 320M, RESON 8101 MB</u>				
Graphic record scaled by <u>RAINIER PERSONNEL</u>				
Graphic record checked by <u>RAINIER PERSONNEL</u>				
Evaluation by <u>M. Lathrop</u>		Automated plot by <u>HP Design Jet 750C</u>		
Verification by <u>R. Mayor, E. Domingo, D. Doles, M. Lathrop</u>				
Soundings in <u>Fathoms and tenths</u> at <u>MLLW</u>				
REMARKS: <u>Time in UTC. Revisions and marginal notes in black</u>				
<u>were generated during office processing. All separates</u>				
<u>are filed with the hydrographic data. As a result page</u>				
<u>numbering may be interrupted or non-sequential.</u>				
<u>AWOIS/SURF 2/15/01 MCR</u>				

PROGRESS SKETCH

OPR-P337-RA
Womens Bay to Kodiak Harbor
and Approaches
ALASKA

August 1999

Chart 16594

NOAA Ship RAINIER
CDR Daniel R. Herlihy
Commanding

Sheet	Reg No	Started	Percent	Completed	Submitted	SQNM
A	H10816	8/3/99	100	8/9/99	1.58	1.58
B	H10812	8/2/99	100	8/9/99	1.91	1.91
C	H10913	8/2/99	100	8/9/99	14.85	14.85

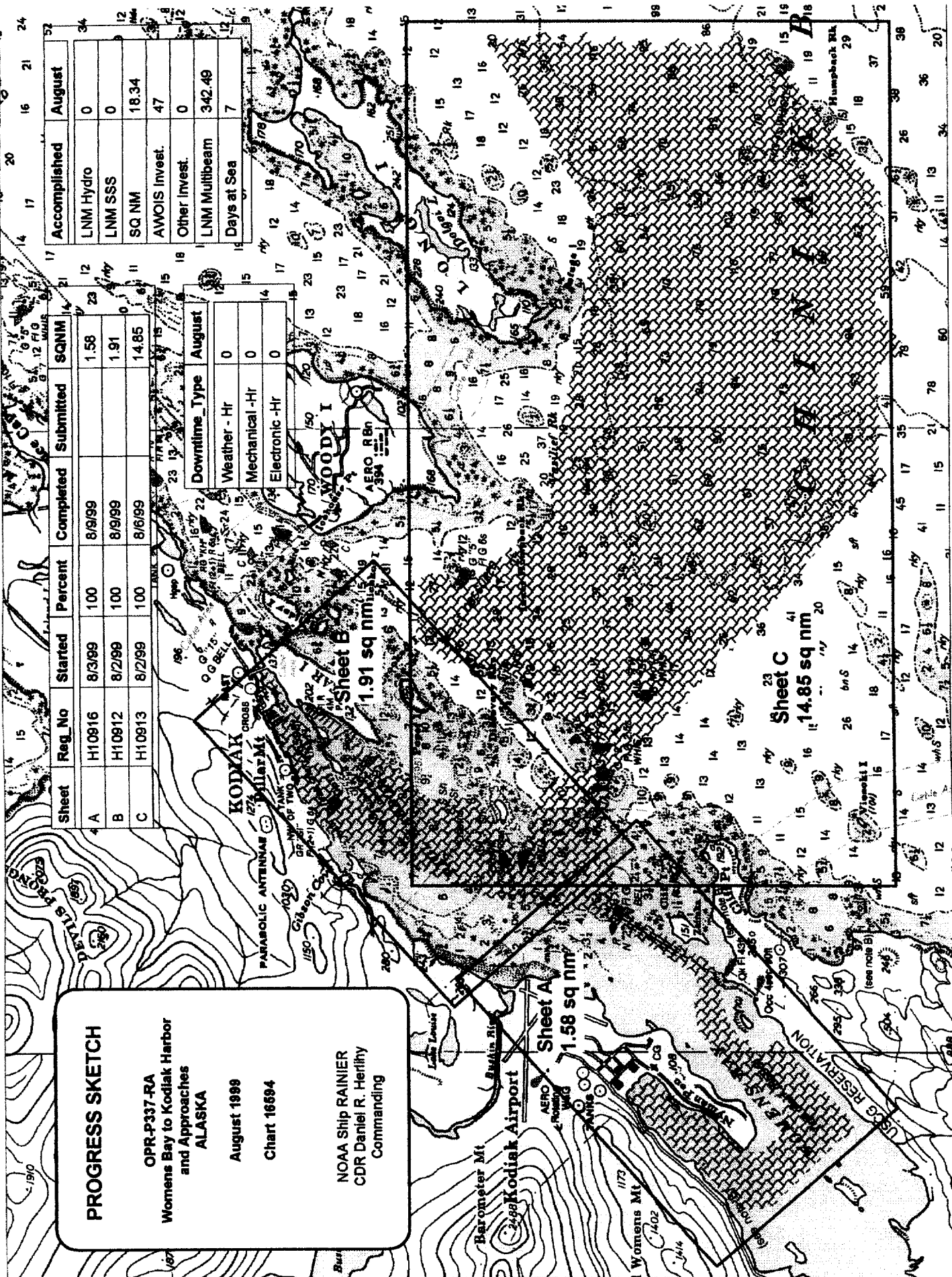
Downtime Type	August
Weather - Hr	0
Mechanical -Hr	0
Electronic -Hr	0

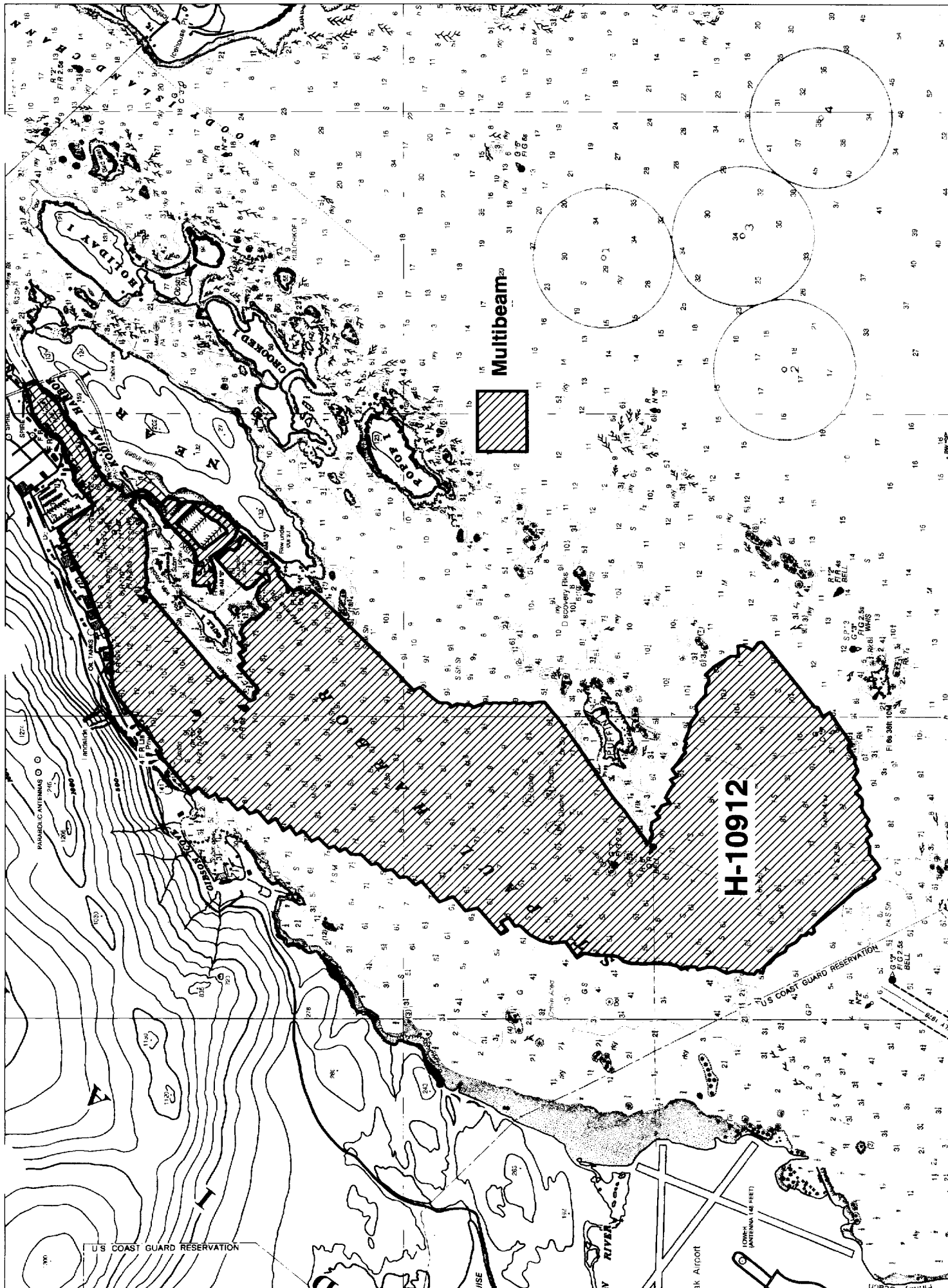
Accomplished	August
LNM Hydro	0
LNM SSS	0
SQ NM	18.34
AWOIS Invest.	47
Other Invest.	0
LNM Multibeam	342.49
Days at Sea	7

Sheet B
1.91 sq nm

Sheet A
1.58 sq nm

Sheet C
14.85 sq nm





Descriptive Report to Accompany Hydrographic Survey H10912

Field Number RA-05-01-99

Scale 1:5,000

August 1999

NOAA Ship RAINIER

Chief of Party: Commander Daniel R. Herlihy, NOAA

A. PROJECT ✓

This navigable area survey was completed as specified by Hydrographic Survey Letter Instructions OPR-P337-RA dated July 2, 1999. Survey H10912 corresponds to sheet B as defined in the sheet layout. This project is being conducted in response to a request from the U.S. Coast Guard Integrated Support Command (ISC) Kodiak for a new hydrographic survey to be conducted in preparation for the home porting of the 282 foot CGC ALEX HALEY and to support other vessels accessing the facility. This project will provide contemporary hydrography from Womens Bay to Kodiak Harbor, Alaska and approaches. Fuel, cargo, and fishing vessels transit this area. There is concern that undetected hazardous features may exist in the areas common to this project that would not have been detected by the prior surveys using vertical beam echosounders. With the use of shallow water multibeam systems, it is the intent of this survey to provide modern and accurate hydrographic survey data to supersede prior surveys performed from 1933 through 1983 in an effort to update NOS Charts 16013, 16580, 16593, 16594, 16595, and 16596.

B. AREA SURVEYED. / see Eval Rpt., section B

The survey area is St. Paul Harbor, and Kodiak Harbor and approaches, and covers approximately 1.8 square nautical miles of a navigation waterway. The survey limits are depicted below in Figure 1 on a detail of Chart 16595. The survey's northern limit is latitude 57°47'20"N and the southern limit is latitude 57°44'21"N. The survey's western limit is longitude 152°27'41"W and the eastern limit is longitude 152°23'48"W. Data acquisition was conducted from August 02 to August 09, 1999 (DN 214 to 221).

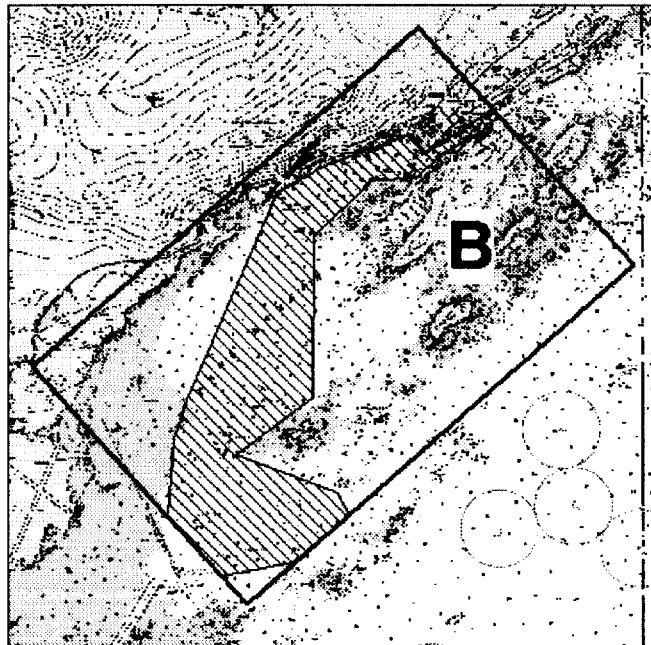


Figure 1 - Survey Limits

C. SURVEY VESSELS ✓

Data were acquired by RAINIER's survey launches (vessel numbers 2121, 2122, 2124, and 2126) as noted in the Survey Information Summary included with this report. See Project Related Data for OPR-P337-RA-99 for vessel descriptions and configurations. Vessels 2121 and 2126 were used exclusively for acquisition of shallow-water multibeam data. Vessel 2122 was used for detached positions and AWOIS investigations, while vessel 2124 was used as a dive platform during AWOIS investigations. No unusual vessel configurations or problems were encountered during this survey.

D. AUTOMATED DATA ACQUISITION AND PROCESSING ✓

Coastal Oceanographic's HYPACK version 8.9 was utilized for vessel navigation and line tracking during acquisition of detached positions and shallow-water multibeam (SWMB) data. Final detached positions (DP's), features, and soundings based on preliminary tides were saved in MapInfo 5.0 format.

Shallow-water multibeam (SWMB) echosounder data were acquired using Triton-Elics ISIS software version 4.32 and processed using the CARIS Hydrographic Information Processing System (HIPS) software version 4.3.

Shallow-water multibeam depth data were reviewed with CARIS Hydrographic Data Cleaning System (HDCS). Depth fliers were identified and manually flagged as "rejected". Vessel positioning and attitude data from each system were similarly displayed and manually cleaned. Additionally, instantaneous speed as computed from the positioning data was checked for speed jumps exceeding 3 knots as an indication of potential position fliers. For this survey, all soundings beyond a maximum angle of 60° off nadir were rejected in an attempt to reduce noise and refraction errors in the outer beams.

After review and cleaning, Reson 8101 depth, position and attitude data were merged with sound velocity, tide, and dynamic draft correctors to compute the corrected depth and position of each sounding. Data were then further cleaned in HDCS "Subset Mode." Processed soundings were read into a CARIS Workfile by selecting shoal biased "line-by-line" binning at a density of 1.5mm at scale of the survey. After performing quality assurance on digital terrain models (DTMs) created within CARIS, processed soundings were then exported into HPS through HPTools. Preliminary tides were applied in the Hydrographic Processing System (HPS) and the processed soundings were excessed using a 3mm character size, and plotted at a 2 mm character size to produce the final sounding plot. Soundings based on preliminary tides were saved in MapInfo format. Raster images registered in MapInfo facilitated chart and prior survey comparisons

Survey H10912 is defined as sheet 02 in HPS. The CARIS workfile name is defined as kodiak_b2, and the project name is identified as P337_SheetB in HDCS.

All final Detached Positions and soundings were based on preliminary tides to produce final plots in MapInfo using UTM Zone 5 projection.

A complete listing of software is included in Appendix H. ✱

E. SONAR EQUIPMENT

Side Scan Sonar (SSS) equipment was not used on this survey. However, it should be noted that the Reson SeaBat 8101 SWMB system provides a low-resolution digital SSS record of the SWMB swath. This SSS imagery is primarily used to aid in final processing of the SWMB depth data to aid in determining whether anomalous soundings are true features or noise.

✱ Filed with the hydrographic data.

F. SOUNDING EQUIPMENT

One category of echosounder system was used for acquisition of sounding data and is described below.

Launch Shallow Water Multibeam (SWMB) (VN 2121, 2123, 2126)

The shallow water multibeam (SWMB) system utilized for this survey was the Reson SeaBat 8101, which is a 240 kHz multibeam system that measures relative water depths across a wide swath perpendicular to the vessel's heading. The Reson 8101 ensonifies the seafloor with a 150° swath, consisting of 101 individual 1.5° x 1.5° beams. A TSS POS/MV Position and Orientation Sensor was used to determine corrections for the effects of vessel motion during survey operations. Serial numbers for the Reson 8101 and POS/MV are included in the Appendix H. *

It should be noted that vertical beam echosounders (VBES) were utilized as a quality assurance tool for SWMB. Vessels 2121, 2123, and 2126 are equipped with the Knudsen 320M, which is a dual frequency (100 kHz, 24 kHz) digital recording echosounder with an analog paper trace. Sounding data acquired by this system were used for two purposes. First, VBES depth data were compared online to nadir beams of the shallow water multibeam. A digital comparison between the two is displayed within the ISIS GUI interface. Second, during acquisition digital VBES data is sent to ISIS, which then focuses the shallow water multibeam on a variable "gate" determined from the VBES data. The latter is extremely helpful in areas of extreme relief, when the shallow water multibeam tends to lose bottom lock. VBES data were not used for final sounding plot compilation and are not included with the digital data. VBES serial numbers are included in the Appendix H. *

G. CORRECTIONS TO ECHO SOUNDINGS

Water Level Correctors

Soundings were reduced to Mean Lower-Low Water using preliminary observed tide data for station Womens Bay, AK (945-7292) obtained from the Center for Operational Oceanographic Products and Services (CO-OPS) web site. These data were used to create CARIS tide file "Kodiak_obs_tides.tid." This table was applied to all SWMB soundings for final inspection prior to suppression of data and conversion to HPS. The same tide data were used to create HPS table #1. All tide correctors were fully adjusted during final application of tide correctors in HPS for the MapInfo tidal zoning scheme supplied with the project files.

Listings of HPS tide tables used for H10912 and tidal correctors as provided in the Project Instructions for H10912 are provided in the Survey Information Summary included with this report

The operating National Water Level Observation Network (NWLON) tide station at Kodiak Island, Womens Bay, Alaska (945-7292) served as primary control for datum determination. RAINIER personnel installed a Sutron 8200 tide gauge at Near Island (945-7258) on August 2, 1999. The purpose of this gauge was to provide information for completion of an overall area zoning scheme and additional information for inclusion in the Tide Prediction Tables. In accordance with the Letter Project Instructions, since hydrography was not conducted in the area around Near Island, this gauge was not required for hydrography on ~~H10916~~. The Near Island gauge was removed on August 9, 1999. Refer to the Field Tide *H10912* Notes and supporting data in Appendix D for gauge performance and level closure information. This information has been forwarded to N/CS41 in accordance with HSG 50 and FPM 4.8. A request for approved tides was forwarded to N/CS41 on August 13, 1999, in accordance with FPM 4.8.

Raw water level data from the Near Island gauge was forwarded to N/OPS1 on September 3, 1999 in accordance with HSG 50 and FPM 4.7. The Pacific Hydrographic Branch (PHB) will apply final approved (smooth) tides to the survey data during final processing. *Approved tide note dated Nov. 30, 1999 is attached.*
* Filed with the hydrographic data.

Sound Velocity Correctors:

The velocity of sound through water was determined by a minimum of one cast every four hours of SWMB acquisition in accordance with the Draft Standing Project Instructions. Cast information is included in the Survey Information Summary and in Appendix I ~~*~~ Sound Velocity Profile Data.

The sound velocity casts were acquired with SBE SEACAT Profilers (S/N 2543 and 2477). Calibration reports and dates are included with the Project Related Data for OPR-P342-RA-99. Velocity correctors were computed using the program VELOCWIN version 4 beta 2, which generates sound velocity correction tables for both CARIS and HPS. Sound velocity correctors were applied in CARIS during post processing.

Settlement and Squat Correctors:

The following table shows when the vessel offset correctors used for this survey were determined:

Vessel No.	Date of static draft and transducer offset measurements	Method of Settlement and Squat Measurement	Date of Settlement and Squat Measurement	Location of Settlement and Squat Measurement
2121	March 1999	OTF	March 1999	Port Angeles, WA
2123	March 1999	OTF	March 1999	Port Angeles, WA
2126	March 1999	OTF	March 1999	Port Angeles, WA

Settlement and squat correctors, static draft measurements and vessel offsets are included with the project data for OPR-P337-RA.

Heave, Pitch, Roll and Heading, Including Biases and Navigation Timing Errors:

SWMB launches (VN2121, 2123 and 2126) utilize a TSS POS/MV Model 320 Position and Orientation System (POS), which provides accurate navigation and attitude data (heave, pitch, roll and heading) to correct for the effects of vessel motion during survey operations. The POS generates attitude data in three axes (roll, pitch and heading) to an accuracy of 0.05° or better. Heave measurements supplied by the POS maintain an accuracy of 5% of the measured vertical displacement for movements that have a period of up to 10 seconds. The POS delivers heading measurements by two distinct methods. First, the Dynamic Heading Alignment determines the vessels heading by using the data supplied by the Internal Measurement Unit (IMU) and GPS receivers to achieve heading that is, at best, accurate to within 0.35°. This method suffers from drift but is relatively unaffected by noise. Second, the GPS Azimuth Measurement System (GAMS) determines the geographic vector between two GPS antennas fixed to the vessel by comparing the phase of satellite signals they receive. The error from this method is largely due to noise, but exhibits no drift. The POS uses the advantages of each method to compensate for the disadvantages of the other to arrive at an optimal accuracy of 0.05° and a heave accuracy of 0.1 meter. Serial numbers are located in Appendix H. *

Heave, roll, pitch, and navigation latency biases were determined during patch tests conducted at Port Angeles, WA on March 26-28, 1999 for vessels 2126 and 2123, and at Shilshole, WA, on July 7, 1999 for vessel 2121. SWMB vessel offsets, dynamic draft correctors, and system bias values are contained in CARIS Vessel Configuration Files (VCF's) and were created using the program "VCFEDIT" in CARIS. These offsets and biases are applied to the sounding data during processing in CARIS. A printout of each VCF is contained in Project Related Data for OPR-P337-RA-99, and the VCF's themselves are included with the digital HDCS data.

** Filed with the hydrographic data.*

H. HYDROGRAPHIC POSITION CONTROL / *See Eval Rpt., section I*

The horizontal datum for this project is NAD 83. All soundings were positioned with differential GPS (DGPS) using the USCG beacons located at KENAI (Beacon ID 896) and KODIAK (Beacon ID 897), AK.

Launch to launch DGPS performance checks were conducted in accordance with Section 3.2 of the FPM. Differential corrections from USCG reference stations were received by the independent launch positioning systems as they were rafted together with their GPS antennae 2-3 meters apart. Copies of DGPS performance checks are included with the Project Related Data for OPR-P337-RA.

I. SHORELINE / *See Eval Rpt., section J*

Method of Shoreline Verification

There were no photogrammetric source data for this project. Shoreline shown on the Final Field Sheet and Detached Position Plot is digitized from chart 16595 (13th edition, February 14, 1998) and is shown for reference purposes only. During AWOIS investigations and near-shore operations, the digitized shoreline was checked for its accuracy. Any changes are annotated on the field sheet in red, and Detached Positions were taken to provide position and feature changes.

Detached positions were recorded within HYPACK and on DP forms and processed in HPS. These indicate significant features and features not found on the chart.

A detailed "DP Plot" ^{*} in MapInfo format is provided showing all detached positions and shoreline changes with notes relating to each feature. Updated shoreline and features are also depicted on the final sounding plot. ^{*}

Changes and New Features

Several changes and new features were found and are depicted on the final sounding plot and DP plot in red. Detached positions taken on AWOIS items are discussed in Section M.

Recommendations

The Hydrographer recommends that the shoreline revisions as depicted on the final field sheet be used to update charted shoreline. ^{cancel} These changes are in the MapInfo digital files named "Shoreline" and "Shoreline_Update."

J. CROSSLINES /

SWMB launch crosslines totaled 2.94 nautical miles, or 3.2% of SWMB mainscheme lines. SWMB crosslines were in agreement with mainscheme hydrography. SWMB crosslines agreed within 0.5 meters with SWMB mainscheme. The Quality Control Report (CARIS HPS) for the SWMB launch checkline file averaged 90.9% with a depth tolerance of 0.023. See Appendix E for the detailed reports.

K. JUNCTIONS /

The following contemporary surveys junction with H10912:

** Filed with the hydrographic data.*

Registry #	Scale	Date	Project	Junction side
H10913	1:10,000	1999	OPR-P337-RA-99	East
H10916	1:5,000	1999	OPR-P337-RA-99	South

Soundings from survey H10913 and survey H10916 agreed very well with H10912, generally matching within 0.2 meters. Final comparisons will be made at the Pacific Hydrographic Branch (PHB) after application of smooth tides.

L. COMPARISON WITH PRIOR SURVEYS *See Eval Rpt., section M*

In accordance with correspondence from N/CS3 dated September 3, 1999, no prior survey comparisons were required. A copy of the electronic mail message is included in Appendix J. *

M. ITEM INVESTIGATIONS

There were ⁶ ~~1~~ Automated Wreck and Obstruction Information System (AWOIS) items investigated within the survey area.

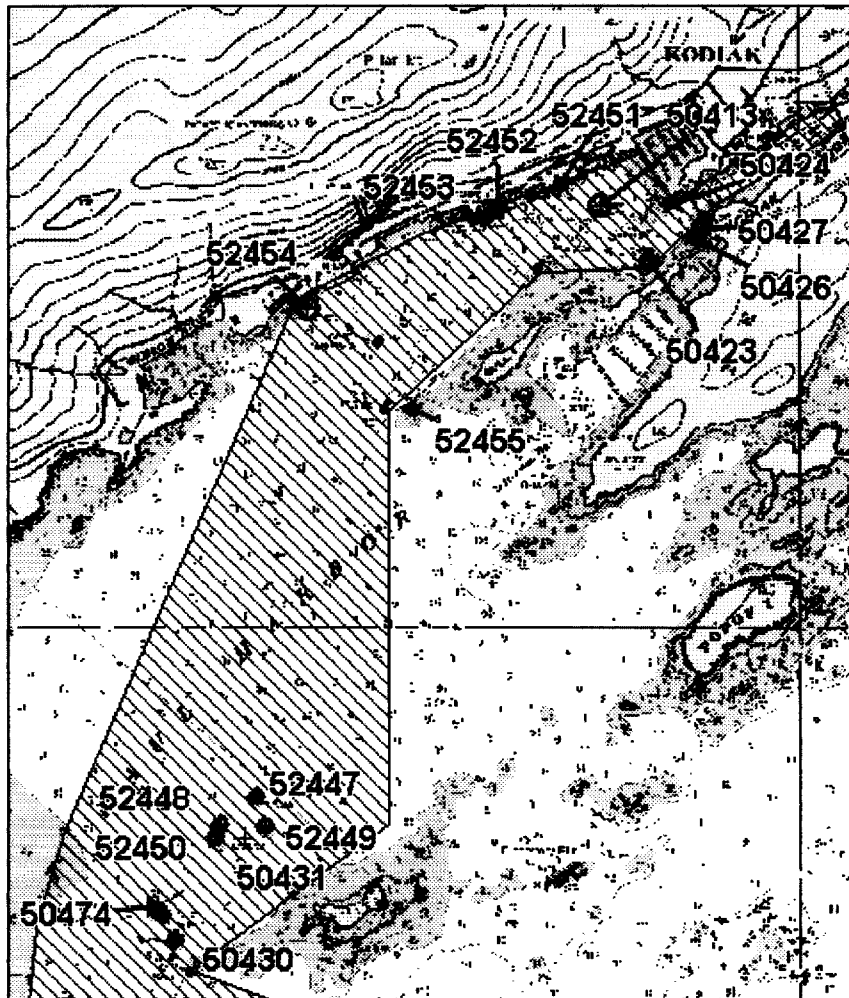


Figure 2: Item Investigation Locations

* Filed with hydrographic data

AWOIS 50413**1. Area of Investigation:**

AWOIS Number: 50413
State and Locality: Kodiak Harbor, Alaska
Reported Position: Latitude: 57°47'04.07N
Longitude: 152°24'56.57 W
Datum: NAD83
Type of Feature: Soundings on Rocks
Reported Depths: 4 ½ fm, 5 ½ fm

2. Description and Source of Item (taken from the AWOIS database):

H6758/42WD--25FT HANG, NO CLEARANCE, 29FT SOUNDING IN AREA. VISUAL POSITIONING LAT.57-47-07.4N, LONG.152-24-47.8W.

H9003/68--PMC-SP-1-68, HDEG CATEGORY 1; HYDRO STATES THAT 4 1/4 FM. ROCK THOROUGHLY INVESTIGATED AND LEAST DEPTH FOUND TO BE 29FT. (PREDICTED). FAIRWEATHER MAR 8/21/82--NEGATIVE INVESTIGATION BY SIDE SCAN DIVERS, ECHO SOUNDER, LOCAL INQUIRY. RECOMMENDS DELETION.

H10032/82--S-P304-FA-82; PSR NO.413; SIDE SCAN SONAR SEARCH (EXTENT AND % OF COVERAGE NOT GIVEN IN DESCRIPTIVE REPORT), CONVENTIONAL HYDRO, AND DIVER CIRCLE SEARCH NEGATIVE. LOCALS HAD NO INFO. HYDROGRAPHER RECOMMENDS DELETING WRECK FROM CHART (HOWEVER, WRECK IS NOT CHARTED ON 9TH EDITION REFERENCED BY HYDROGRAPHER. A 4 3/4FM ROCK IS CHARTED). 32FT SNDG (MLLW) IS PLOTTED ON FIELD SHEET IN LAT.57-47-06.8N, LONG.152-24-49.4W, 10M WEST OF CHARTED ROCK SOUNDING. SIDE SCAN SONAR CONTACT IN LAT.57-47-08N, LONG.152-24-48W NOT DEVELOPED.

H10032/82, ADDITIONAL FIELD WORK--OPR-P146-FA-83; DIVERS SEARCH FOUND ROCK SHOAL IN LAT.57-47-06.81N, LONG.152-24-48.73W, LD OF 27.6FT PREDICTED TIDES. HYDRO. RECOMMENDS CHARTING ROCK SHOAL WITH LD OF 27.6FT. EVALUATOR RECOMMENDS ROCK VERIFIED AND SHOULD BE CHARTED FROM PRESENT SURVEY AS 28 FOOT ROCK IN LAT.57-47-06.78N, LONG.152-24-48.73W AND A 33 FOOT ROCK IN LAT.57-47-07.62N, LONG.152-24-48.04W.

3. Survey Requirements: Update least depths on rocks in immediate area, using shallow water multibeam or diver investigation. 50 m search radius.

4. Method of Investigation: 100% bottom coverage using SWMB.

5. Results of Investigation: A least depth of ~~4.5~~ fm was located at 57°47'4.099"N, 152°24'56.152"W, within the radius of AWOIS #50413. ^{4.4}

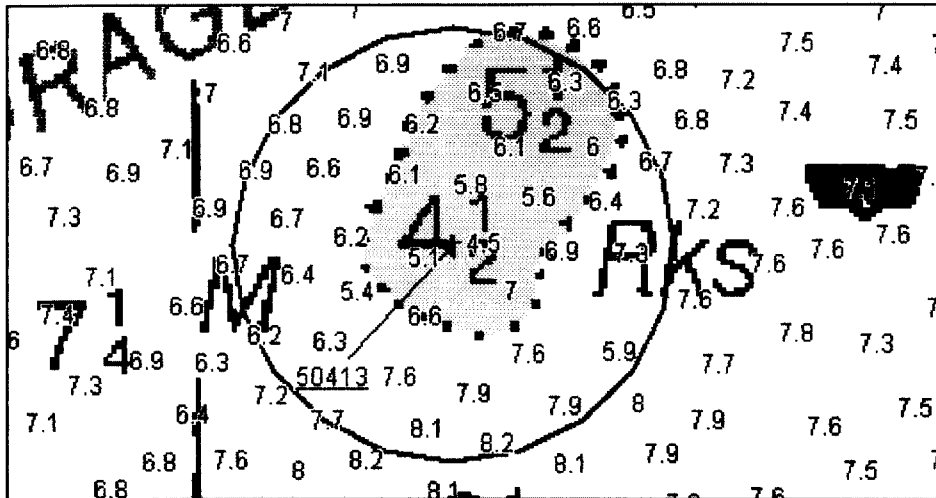
*Concur
after
smooth tides*

6. Comparison with Prior Surveys: The charted AWOIS obstruction is shown as a rock with a depth of 27 feet on prior survey H10032, whereas the same position on the contemporary survey shows least depths of 37 ft.

7. Comparison with the Chart and Charting Recommendation: Compared with chart 16595; 13th Ed., Feb 14, 1999; 1:20,000, 1:10,000 inset. Contemporary hydrographic survey supports the 4.5 fm

charted sounding and the hydrographer recommends retaining the rocks as charted and using present survey depths to supersede charted depths in the area once reduced for smooth tides. *Concur*

8. Evaluator Comments:



AWOIS 50423**1. Area of Investigation:**

AWOIS Number: 50423
State and Locality: Kodiak Harbor, AK
Reported Position: Latitude: 57/46/55.87N
Longitude: 152/24/42.90 W
Datum: NAD83
Type of Feature: Submerged Wreck
Reported Depth: 5 ¾ fm

2. Description and Source of Item (taken from the AWOIS database):

UNKNOWN SOURCE--VISIBLE WRECK (POSSIBLY PHOTOGRAMMETRIC BUT NO RECORD OF IT ON BP65529 PHOTO CHART REVISIONS).

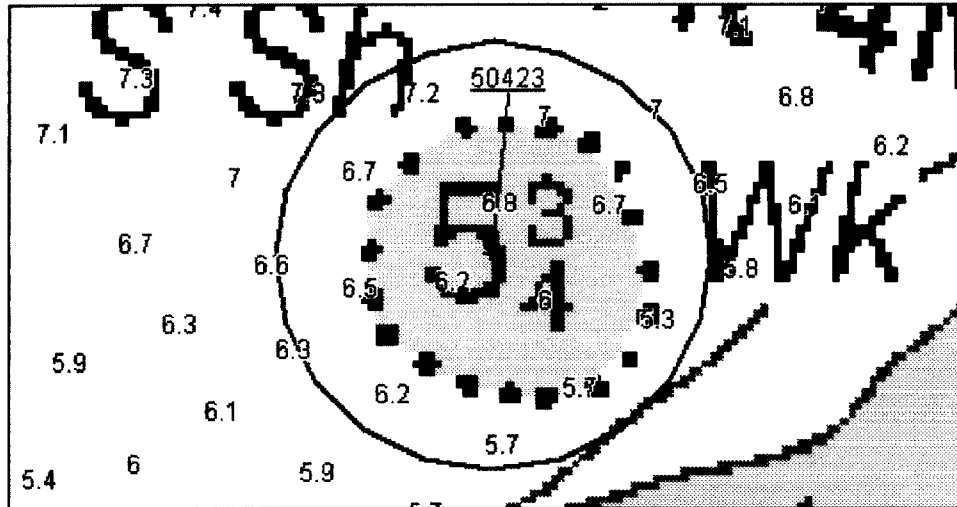
NM18/64--CHARTLET WITH VISIBLE WK. POS. LAT.57-46-58N, LONG.152-24-35W CHART SCALED AT 1:10,000.

H9003/68--PMC-SP-1-68, HDEG CATEGORY 1; WRECK NOT FOUND, NO SPECIFIC INVESTIGATION. CHART REVISED TO SUBMERGED WRECK.

MAR--8/21/82, S-P304-FA-82; BEAMED AND PLANKED BARGE HULL FOUND AT POSITION LAT.57-46-58.2N, LONG.152-24-34.9W, APPROX. 25FT L, 10FT W, ON BEACH 2FT ABOVE HWL. SIDE SCAN LOCATED SUBM. WRECK AT POS. LAT.57-46-58.5N, LONG.152-24-35.1W, DP 1503, 15X10FT PROTRUDING 6.5FT OFF BOTTOM. (FIRST POSITION IS NOT NEAR HWL. RESOLVE BY CHECKING SMOOTH SHEET.)

H10032/82--S-P304-FA-82; REMNANTS OF VESSEL LOCATED BY SIDE SCAN SONAR. DIVER INVESTIGATION. ITEM LOCATED IN LAT.57-46-58.58W, LONG.152-24-35.06W. 5FT X 10FT PROTRUDING 6.5FT. ABOVE BOTTOM (HYDRO. POS. #5104). METHOD OF OBTAINING LD NOT GIVEN.

3. **Survey Requirements:** 100 % Shallow-water multibeam; diver investigation. Update least depth on wreck. Update condition, if possible. 30m search radius.
4. **Method of Investigation:** 100% bottom coverage using SWMB.
5. **Results of Investigation:** The wreck was not visible with SWMB. Depths in the vicinity ranged from 5.3 to 7.2 fm (32 to 43 feet). *concur*
6. **Comparison with Prior Surveys:** The charted AWOIS wreck is depicted with a least depth of 35 ft on prior survey H10032. Depths in the vicinity range from 32 to 43 ft.
7. **Comparison with the Chart and Charting Recommendation:** Compared with chart 16595; 13th Ed., Feb 14, 1999. 1:20,000; 1:10,000 inset). The chart depicts a 5 ¾-fathom wreck. The hydrographer recommends deleting the wreck and charting the present survey soundings. *concur*

8. Evaluator Comments:

AWOIS 50424**1. Area of Investigation:**

AWOIS Number: 50424
State and Locality: Kodiak Harbor, AK
Reported Position: Latitude: 57/47/04.49N
Longitude: 152/24/36.94W
Datum: NAD83
Type of Feature: Obstruction
Reported Depth: N/A

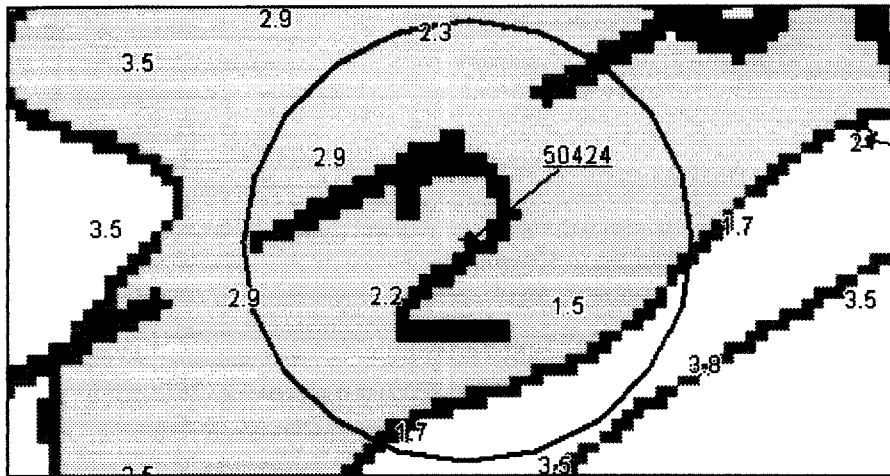
2. Description and Source of Item (taken from the AWOIS database)::

H9003/68--PMC-SP-1-68, HDEG CATEGORY 1; OBSTRUCTION COVERED 3FT AT MLLW, NOT IDENTIFIED. SEXTANT POSITION SCALED FROM SURVEY IN LAT.57-47-07.2N, LONG.152-24-29.1W.

MAR--8/21/82, S-P304-FA-82;--NEGATIVE SEARCH BY SIDE SCAN, ECHO SOUNDER, LOCAL INQUIRY. (SEARCH MAY BE INCONCLUSIVE SINCE SIDE SCAN NOT GENERALLY ACCEPTABLE IN THESE SHALLOW DEPTHS WITHOUT SPECIAL TOWING RIG).

H10032/82--CONVENTIONAL HYDRO. (10M LINE SPACING), SIDE SCAN SONAR, AND VISUAL SEARCH AT LOW WATER DID NOT LOCATE OBSTRUCTION. HYDROGRAPHER LOCATED A 12 FT LEAST DEPTH IN THE AREA AT 57 47 07.2, 152 24 29.1. LOCALS HAVE NO KNOWLEDGE OF WRECKS IN AREA. HARBOR-MASTER'S ASSISTANT STATED THAT SEVERAL SMALL WRECKS WERE REMOVED FROM THE BASIN OUTSIDE THE BREAKWATER IN 1974. VESSEL TRAFFIC PRECLUDED DIVING IN AREA. HYDRO. AND EVALUATOR CONSIDERS ITEM DISPROVED. (N/CG241. 100% ECHO SOUNDER COVERAGE NOT ATTAINED, SIDE SCAN SONAR COVERAGE NOT CONSIDERED SUFFICIENT, AND NO BOTTOM DRAG/ DIVER SEARCH. ITEM NOT DISPROVED, SJV). OBSTRUCTION WAS REMOVED FROM CHART PER EVALUATORS COMMENTS.

3. **Survey Requirements:** 100% shallow-water multibeam; 200% side-scan sonar; dive investigation. 20m search radius. Although item was removed from the chart, there was some doubt from the prior survey evaluation as to the side scan capability and detection likelihood of 10-meter echosounder line spacing.
4. **Method of Investigation:** Partial SWMB coverage within the AWOIS item radius was obtained. The remainder of the search area was too shallow for safe navigation of the SWMB launch.
5. **Results of Investigation:** A portion of the AWOIS radius was covered by SWMB. No indication of an obstruction was found in the vicinity.
6. **Comparison with Prior Surveys:** AWOIS item #50424 is in the vicinity of a 12-ft sounding on the prior sounding H10032, whereas the same position on the contemporary survey shows a least depth of 9 ft (1.5fm). *Concur*
7. **Comparison with the Chart and Charting Recommendation:** Compared with chart 16595; 13th Ed., Feb 14, 1999; 1:20,000, 1:10,000 inset. Obstruction was removed from the chart. Hydrographer recommends that the present survey depths be used to supersede charted depths in the area. *Concur*

8. Evaluator Comments:

AWOIS 50426**1. Area of Investigation:**

AWOIS Number: 50426
State and Locality: Kodiak Harbor, AK
Reported Position: Latitude: 57/46/59.29N
Longitude: 152/24/29.84W
Datum: NAD83
Type of Feature: Wreck
Reported Depth: N/A

2. Description and Source of Item:

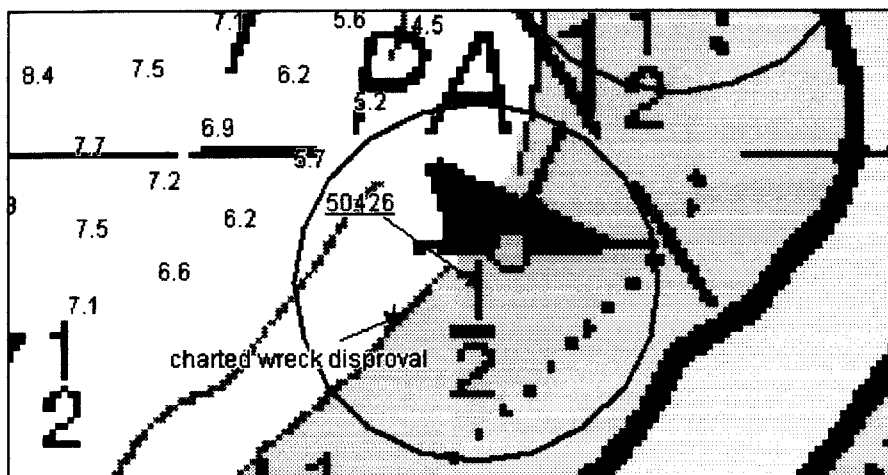
CL1593/79--NOAA SHIP SURVEYOR; REMAINS OF WOODEN HULL PRESUMED TO BELONG TO A CABIN STRANDED NEARBY WAS LOCATED, ABOUT 30FT L, VISIBLE AT HW. ESTIMATED POSITION IS QUESTIONBLE. THE LISTED POSITION WAS SCALED FROM CHART BASED ON A MARKED CHART SECTION INCLUDED IN CL. (PHOTOGRAPHS ACCOMPANY LETTER).

LNM7/80--SEE CL1593/79 .

NM8/80--SEE CL1593/79 FAIRWEATHER MAR 8/21/82--LOCATED WK AT LISTED POSITION. WOOD HULL, REMAINS SCATTERED ALONG HWL, PORTION BARE 1FT (MLLW). LARGEST SECTION ON BEACH 5X12 FT. LOCALS SAY WK THERE SINCE EARLY 1950,S. HYDRO CONSIDERED NON-DANGEROUS AND RECOMMENDS DELETION.

H10032/82--S-P304-FA-82; ASSIGNED: S-P304. ITEM 426. (COMPLETE): REMAINS OF WOODEN HULL AND ASSORTED MARINE HARDWARE LOCATED IN LAT.57-47-02N, LONG.152-24-22W DURING VISUAL SEARCH AT LW. REMAINS SCATTERED OVER 100FT OF BEACH AND EXTEND FROM THE HIGH TIDE STORM LINE TO NO DEEPER THAN 1.0FT ABOVE MLLW. LARGEST SECTION MEASURES 5X12FT. LOCAL FISHERMAN STATE WRECK HAS BEEN IN PRESENT POSITION SINCE EARLY 1950'S AND MOST OF VESSEL WASHED UP ONTO NEAR ISLAND BY TIDAL WAVE OF 1964. (INFO. CONCERNING WRECK'S POSITION OBTAINED FROM LOCALS CONFLICTS WITH PHOTOS SUBMITTED BY SURVEYOR IN 1979, CL1593/79). HYDRO. RECOMMENDS DELETING WRECK FROM CHART. EVALUATOR CONCURS. (CHARTED AS VISIBLE WRECK, PA ON CHART 16595. 10TH ED 9/25/82)

3. **Survey Requirements:** Visual search; singlebeam development. 30m search radius. Update the condition of debris for current charting recommendation.
4. **Method of Investigation:** A 15-minute visual and echosounder search was conducted on DN 216 by VN 2122 at low water. Water visibility approx. 3m.
5. **Results of Investigation:** The wreck was not located.
6. **Comparison with Prior Surveys:** Prior survey H10032 depicts a 15-foot sounding in the vicinity of AWOIS item #50426.
7. **Comparison with the Chart and Charting Recommendation:** Compared with chart 16595; 13th Ed., Feb 14, 1999; 1:20,000, 1:10,000 inset. The chart depicts a visible wreck along the shoreline. The Hydrographer recommends removing the wreck from the chart. *CONCUR*

8. Evaluator Comments:

AWOIS 50427**1. Area of Investigation:**

AWOIS Number: 50427
State and Locality: Kodiak Harbor, AK
Reported Position: Latitude: 57/47/01.29N
Longitude: 152/24/27.84W
Datum: NAD83
Type of Feature: Wreck
Reported Depth: N/A

2. Description and Source of Item:

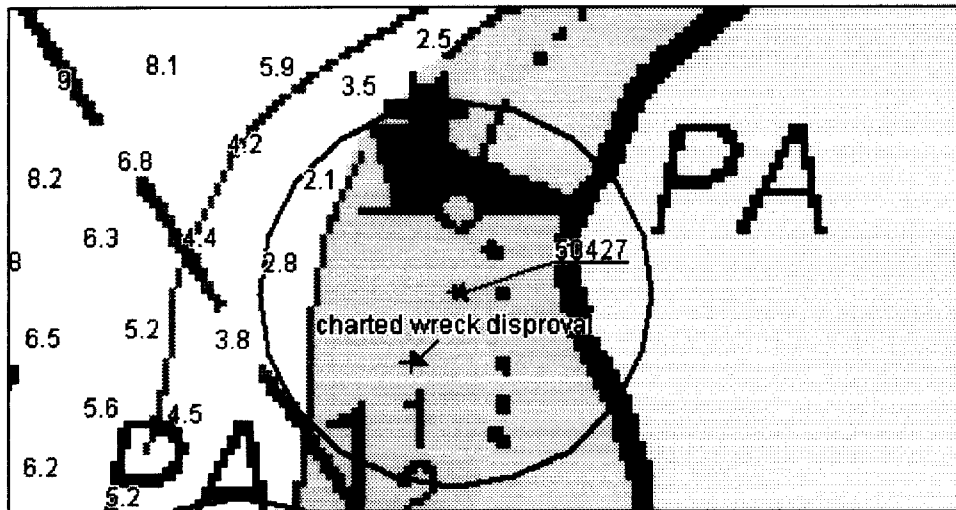
CL1593/79--NOAA SHIP SURVEYOR; REMAINS OF WOOD DECK HOUSE FROM RECENTLY GROUNDING VESSEL LOCATED BY VISUAL INSPECTION, VISIBLE AT HW. THE LISTED POSITION WAS SCALED FROM CHART BASED ON MARKED CHART SECTION INCLUDED IN CL. ESTIMATED POS. IS QUESTIONABLE.

LNM7/80--SEE CL1593/79

NM8/80--SEE CL1593/79

FAIRWEATHER MAR 8/21/82--LOCATED DECK HOUSE 150 FT NW OF ITEM 50426, 30 FT ABOVE HWL ON GRASSY SLOPE. NO HAZARD, HYDROGRAPHER RECOMMENDS DELETION. H10032/82--S-P304-82; REMAINS OF WOODEN DECK HOUSE LOCATED BY VISUAL INSPECTION AT LW. 150FT NW OF PSR 50426. NOT CONSIDERED FROM THE WRECK DESCRIBED IN PSR 50426 ITEM APPROX. 30FT ABOVE HIGH TIDE LINE ON GRASSY SLOPE OF NEAR ISLAND. HYDRO. RECOMMENDS DELETING FROM CHART. EVALUATOR CONCURS. (CHARTED AS VISIBLE WRECK PA ON CHART 16595, 10TH ED 9/25/82).

- 3. Survey Requirements:** Visual search; singlebeam development. 30m search radius. Update the condition of wreck for current charting recommendation.
- 4. Method of Investigation:** A 15-minute visual and echosounder search was conducted on DN 216 by VN 2122 at low water. Water visibility approx. 3m.
- 5. Results of Investigation:** No indication of a wreck was noted during the search.
- 6. Comparison with Prior Surveys:** The wreck is not depicted on prior survey H10032.
- 7. Comparison with the Chart and Charting Recommendation:** Compared with chart 16595; 13th Ed., Feb 14, 1999; 1:20,000, 1:10,000 inset. The wreck is depicted along the shore on chart 16595. The Hydrographer recommends deleting the wreck from the chart. *concur*

8. Evaluator Comments:

AWOIS 50430**1. Area of Investigation:**

AWOIS Number: 50430
State and Locality: St. Paul Harbor, AK
Reported Position: Latitude: 57/45/12.34 N
Longitude: 152/26/56.23 W
Datum: NAD83
Type of Feature: Obstruction
Reported Depth: 35 ft

2. Description and Source of Item:

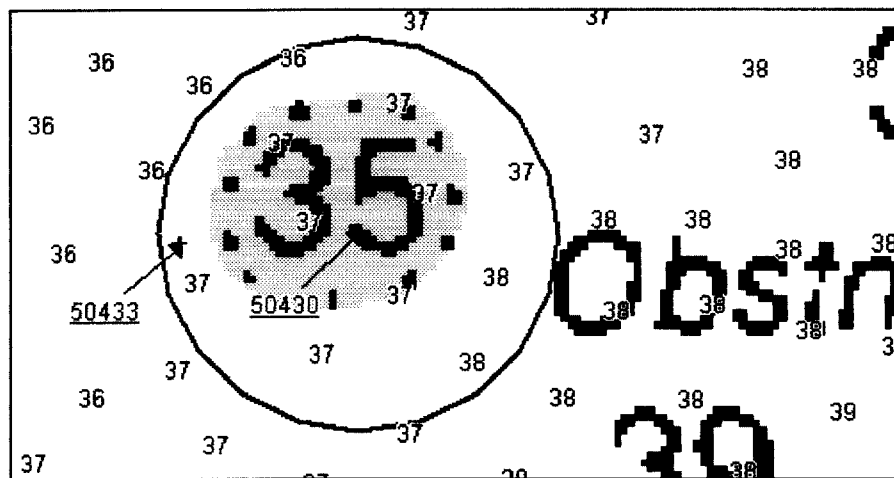
CL488/82--SOUTHWEST ALASKA PILOTS ASSOCIATION; SS PRESIDENT CLEVELAND REPORTED 31FT DEPTH BETWEEN BUOYS 6 AND 7 ON 3/3/82. VESSEL HAS 35 1/4FT DRAFT AND PASSED THE AREA AT A 5.3FT HIGH TIDE.

FAIRWEATHER MAR 8/21/82--31.5FT DEPTHS FOUND IN AREA BY ECHO SOUNDER/ SSS. SEARCH REVEALED NO CONTACTS. DIVERS DESCRIBE BOTTOM AS SANDY WITH NUMEROUS 1 1/2FT MOUNDS.

H10032/82--(IN PROCESS) H10032/82--S-P304-FA-82; SIDE SCAN SONAR SEARCH NEGATIVE. CONVENTIONAL HYDRO. LOCATED TWO 31.5FT. SOUNDIN IN LAT.57-45-17.5N, LONG.152-26-56W. AND LAT.57-45-17.5W, LONG.152-26-59W. DIVER INVEST. FOUND SANDY BOTTOM WITH SAND MOUNDS 1 TO 1.5FT. HIGHER THAN SURROUNDING BOTTOM.

H10032/82, ADDITIONAL FIELD WORK--OPR-P146-FA-83, LTR. N/MOP21, DATED 5/31/83 DIVERS SEARCH LOCATED OLD CRAB POT RISING 14 INCHES OFF BOTTOM IN POS. LAT.57-45-15.06N, LONG.152-26-48.37W. LD BY LEAD LINE OF 35FT. HYDRO. RECOMMENDS AND EVALUATOR CONCURS DEPTH OVER CRAB POT BE CHARTED.

3. **Survey Requirements:** Shallow water multibeam. 30m search radius. Update least depth on obstruction.
4. **Method of Investigation:** Shallow water multibeam.
5. **Results of Investigation:** 100% coverage from SWMB reveals no depths less than 6 fm (36 ft) within the AWOIS radius. No feature resembling a crab pot was detected.
6. **Comparison with Prior Surveys:** The item is depicted as a 35-ft obstruction on the prior survey H10032, whereas the same position on the contemporary survey shows least depths of ~~35~~ ³⁶ ft. *Concur after smooth tides*
7. **Comparison with the Chart and Charting Recommendation:** Compared with chart 16596; 11th Ed.; July 10, 1993; 1:10,000. The chart depicts an obstruction with a depth of 35 feet. The hydrographer recommends deleting the 35-ft (5³/₄fm) Obstruction and charting the present survey results. *Concur*

8. Evaluator Comments:

AWOIS 50431**1. Area of Investigation:**

AWOIS Number: 50431
State and Locality: St. Paul Harbor, AK
Reported Position: Latitude: 57/45/16.70N
Longitude: 152/27/00.9 W
Datum: NAD83
Type of Feature: Obstruction
Reported Depth: 30 ft

2. Description and Source of Item:

H5441B/33WD--HANG AT 28FT. NO CLEARANCE, NO SOUNDINGS IN AREA.

CL30/68--PMC-SP-6-67; SHOAL INVESTIGATION IN VICINITY, DEVELOPMENT OVER 28FT HANG WITH NEGATIVE RESULTS, GENERAL DEPTH 33-35FT.

BL73237--SEE CL30/68

CL101/73--PMC/SP-4-RA-71; CHARTED 4.5FM SHOAL DEVELOPED WITH ECHO SOUNDER DEPTHS GENERALLY 0-0.7FM DEEPER THAN CHARTED. LEAST DEPTH FOUND WAS 5.2FMS (PREDICTED). CONCLUDES THAT AREA HAS SUBSIDED. DR CONTAINS LTR FROM COE REQUESTING A RESURVEY OF AREA DUE TO INCREASED VESSEL DRAFTS INTO KODIAK

BP85212--ACCOMPLIANIES CL101/73, NOT AVAILABLE.

FAIRWEATHER MAR 8/21/82--SIDE SCAN (400%) AND ECHO SOUNDER DEVELOPED AREA WITH OUT INDICATION OF SHOALING.

H10032/82--S-P304-82-FA; 400% SIDE SCAN SONAR SEARCH AND DIVER INVESTIGATION. NEGATIVE. ASSIGNED: S-P304, ITEM 431

H10032/82, ADDITIONAL FIELD WORK--OPR-P146-FA-83; LTR. N/MOP21, DATED 5/31/83 DIVER SEARCH CENTERED IN LAT.57-45-18.74N, LONG.152-26-52.10W 70FT RADIUS LOCATED SIX FT SQUARE CONCRETE BLOCK, RISING 4FT OFF BOTTOM. LD BY LEAD LINE 30FT (MLLW). NO POSITION FOR BLOCK GIVEN IN DR. HYDRO. AND EVALUATOR RECOMMEND CHARTING CONCRETE BLOCK LD OF 30FT (MLLW). POS. SCALED FROM SURVEY AS FOLLOWS; 57-45-19.1N, 152-26-53W (NAD 27)

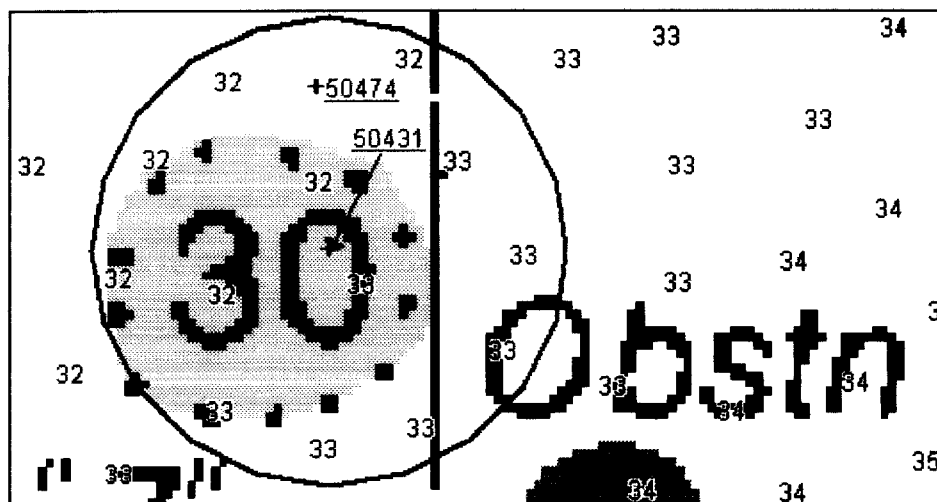
3. Survey Requirements: Shallow water multibeam. 30m search radius. Update least depth.

4. Method of Investigation: Shallow water multibeam

5. Results of Investigation: 100% coverage from SWMB reveals no depths less than 5.3 fm (32ft) within the AWOIS radius. *Concur*

6. Comparison with Prior Surveys: The item is depicted as an obstruction with a least depth of 30 feet on prior survey H10032, whereas the contemporary survey shows a least depth of 32 ft at the same position.

7. **Comparison with the Chart and Charting Recommendation:** Compared with chart 16596; 11th Ed.; July 10, 1993; 1:10,000. The charted obstruction (30ft sounding) is not supported by the contemporary SWMB survey. The Hydrographer recommends deleting the obstruction from all charts. *Concur, correct chart the area based on the present survey.*
8. **Evaluator Comments:**



AWOIS 52447**1. Area of Investigation:**

AWOIS Number: 52447
State and Locality: St. Paul Harbor, AK
Reported Position: Latitude: 57°45'34.06N
Longitude: 152°26'33.28W
Datum: NAD83
Type of Feature: Obstruction
Reported Depth: 43 ft

2. Description and Source of Item:

H10032/82-83--S-P304-FA; DIVE INVESTIGATION OF SSS CONTACT. DIVERS LOCATED TWO STEEL STRUCTURES PROTRUDING 3 1/2 FT OFF THE BOTTOM WITH A LEAST DEPTH OF 43 FT.

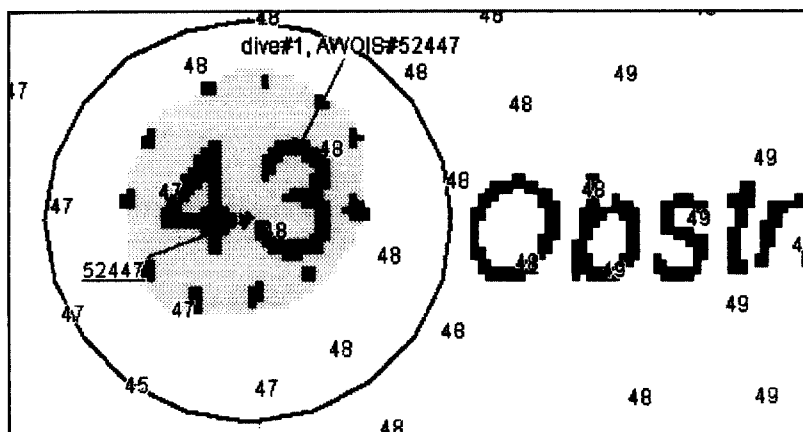
3. Survey Requirements: Shallow water multibeam. 30m search radius. Update least depth.

4. Method of Investigation: Shallow water multibeam and dive investigation.

5. Results of Investigation: 100% SWMB coverage revealed depths of 47 to 48ft within the vicinity of AWOIS item # 52447. A 20m radius dive search was conducted on DN 217 by VN 2124 at 57°45'34.5"N, 152°26'33.5"W. Dive results indicate a flat, sandy bottom. No obstruction was found.

6. Comparison with Prior Surveys: Prior survey H10032 shows a 43-ft obstruction at 57°45'34.0"N, 152°26'33.3"W, whereas the present survey indicates depths of 47 to 48ft. *Concur*

7. Comparison with the Chart and Charting Recommendation: Compared with chart 16596; 11th Ed.; *Concur* July 10, 1993; 1:10,000. The Hydrographer recommends deleting the charted 43-ft obstruction at 57°45'29.9"N, 152°26'43.9"W and using present soundings to supersede charted soundings. *Concur*.

8. Evaluator Comments:

AWOIS 52448**1. Area of Investigation:**

AWOIS Number: 52448
State and Locality: St. Paul Harbor, AK
Reported Position: Latitude: 57°45'29.85N
Longitude: 152°26'43.32W
Datum: NAD83
Type of Feature: Obstruction
Reported Depth: 43 ft

2. Description and Source of Item:

H10032/82-83--S-P304-FA; DIVE INVESTIGATION OF SSS CONTACT. DIVERS LOCATED TWO 55-GALLON STEEL DRUMS, RISING 2 FT OFF THE BOTTOM WITH A LEAST DEPTH OF 43 FT.

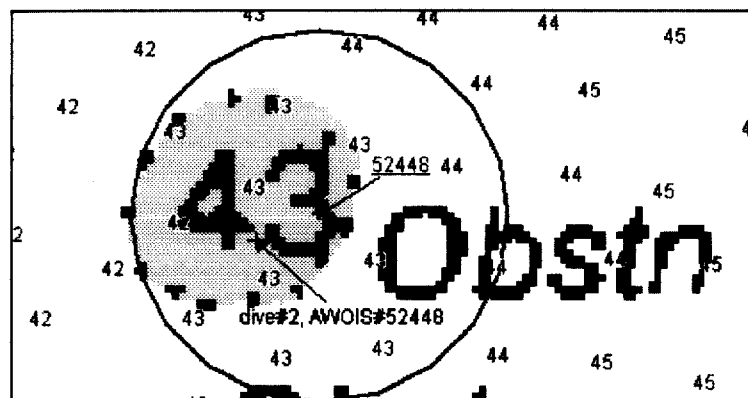
3. Survey Requirements: Shallow water multibeam. 30m search radius. Update least depth.

4. Method of Investigation: Shallow water multibeam, least depth dive using 20m search radius.

5. Results of Investigation: 100% SWMB coverage reveals depths of ^{41 42}42 to 43 feet in the vicinity of the charted 43-ft obstruction. On DN 217, VN 2124, divers found a 3x3x3ft crab pot at 57°45'29.7"N, 152°26'43.9"W (least depth of 13.06m, 42.85ft) while searching for the two 55-gallon steel drums. No steel drums were found during the search. *Concur after smooth tides*

6. Comparison with Prior Surveys: Prior survey H10032 depicts steel drums with 43-ft and 44-ft least depths. This obstruction was not verified with SWMB or dive operations, however, the present survey also acquired ^{42 43}43 to 44ft soundings in the vicinity of AWOIS item # 52448. *Concur after smooth tides*

7. Comparison with the Chart and Charting Recommendation: Compared with chart 16596; 11th Ed.; July 10, 1993; 1:10,000. The drums are depicted as an obstruction with a least depth of 43 feet. The Hydrographer recommends deleting the charted obstruction and charting a new obstruction in position at 57°45'29.7"N, 152°26'43.9"W with a least depth of 43 feet. *Concur after smooth tides*

8. Evaluator Comments:

AWOIS 52449**1. Area of Investigation:**

AWOIS Number: 52449
State and Locality: St. Paul Harbor, AK
Reported Position: Latitude: 57°45'29.64N
Longitude: 152°26'30.74W
Datum: NAD83
Type of Feature: Obstruction
Reported Depth: 45 ft

2. Description and Source of Item:

H10032/82-83-S-P304-FA; DIVE INVESTIGATION OF SSS CONTACT. DIVERS LOCATED A 6 X 6 FT SQUARE CRAB POT, RISING 2.3 FT OFF THE BOTTOM WITH A LEAST DEPTH OF 45 FT.

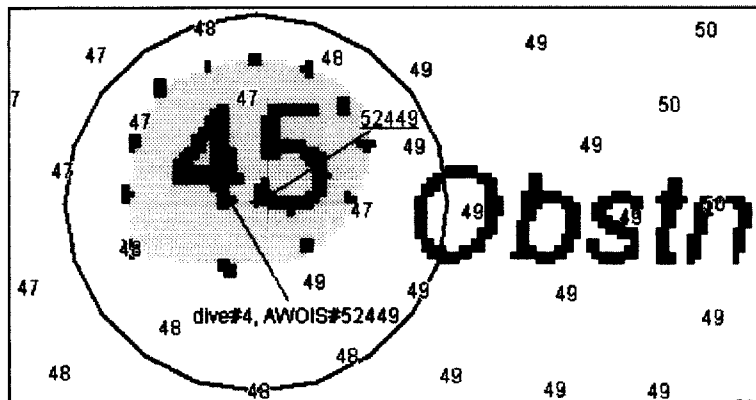
3. Survey Requirements: Shallow water multibeam. 30m search radius. Update least depth.

4. Method of Investigation: Shallow water multibeam, least depth dive using 20-m search radius.

5. Results of Investigation: 100% SWMB coverage of the area reveals depths of 47 to 48ft in the vicinity of the charted 45ft Obstruction. On DN217, VN2124, divers found a 6x6x3ft high crab pot 57°45'29.7"N, 152°26'31.0"W (least depth of 14.15m, 46.4ft) rising 3 feet off the bottom with a least depth of 45ft. A second crab pot (3x3x3ft) ranging 64ft, bearing 060°M from the target was found by divers during the same search. Least depth obtained for the smaller crab pot was 14.58m (47.8ft).

6. Comparison with Prior Surveys: Prior survey H10032 reveals a depth of 45ft in the vicinity of the charted 45ft obstruction, whereas least depth obtained from the present survey is 46.4ft at 57°45'29.7"N, 152°26'31.0"W. *concur*

7. Comparison with the Chart and Charting Recommendation: Compared with chart 16596; 11th Ed.; July 10, 1993; The chart depicts an obstruction with a depth of 45 feet. The Hydrographer recommends revising the charted obstruction to 'Obstns' and retaining the position and depth. It is the Hydrographer's opinion that the two obstructions would not be distinguishable features at chart scale due to their proximity. *concur*

8. Evaluator Comments:

AWOIS 52450**1. Area of Investigation:**

AWOIS Number: 52450
State and Locality: St. Paul Harbor, AK
Reported Position: Latitude: 57°45'27.88N
Longitude: 152°26'44.67W
Datum: NAD83
Type of Feature: Obstruction
Reported Depth: 41 ft

2. Description and Source of Item:

H10032/82-83--S-P304-FA; DIVE INVESTIGATION OF SSS CONTACT. DIVERS LOCATED 4 X 4 FT STEEL BOX, RISING 2 FT OFF THE BOTTOM WITH A LEAST DEPTH OF 41 FT.

3. Survey Requirements: Shallow-water multibeam. 30m search radius. Update least depth.

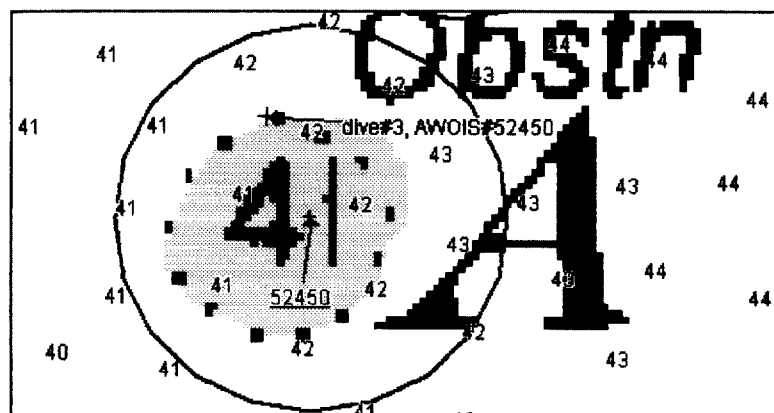
4. Method of Investigation: Shallow water multibeam, diver investigation.

5. Results of Investigation: Soundings from 100% coverage with SWMB support the 41-ft depth; however, no obstruction was apparent in the data. In addition, a 20m radius dive search was conducted on DN217, VN2124 at 57°45'28.4"N, 152°26'45.0"W, and the 4x4 steel box was not found. *CONCURRED*

6. Comparison with Prior Surveys: Prior survey H10032 shows a 41-ft. sounding at 57°45'27.5"N, 152°26'44.7"W. 41-ft soundings were acquired using SWMB for the contemporary survey at 57°45'28.0"N 152°26'45.3"W, within the search area of AWOIS item 52450.

7. Comparison with the Chart and Charting Recommendation: Compared with chart 16596; 11th Ed.; July 10, 1993; 1:10,000. The chart shows an obstruction with a least depth of 41 feet.

Because no obstruction was found and present survey depths agree with the charted obstruction, the Hydrographer recommends removing the obstruction from the chart and charting soundings from this survey. *CONCURRED*

8. Evaluator Comments:

AWOIS 52451**1. Area of Investigation:**

AWOIS Number: 52451
State and Locality: Kodiak Harbor, AK
Reported Position: Latitude: 57/47/06.7N
Longitude: 152/25/08.1W
Datum: NAD83
Type of Feature: piles
Reported Depth: N/A

2. Description and Source of Item:

H-9003/68; A GROUP OF THREE PILES CHARTED IN THE FOLLOWING POSTIONS, NAD 83:

57-47-07.04 N 152-25-06.66 W
57-47-06.70 N 152-25-08.10 W
57-47-06.59 N 152-25-08.68 W

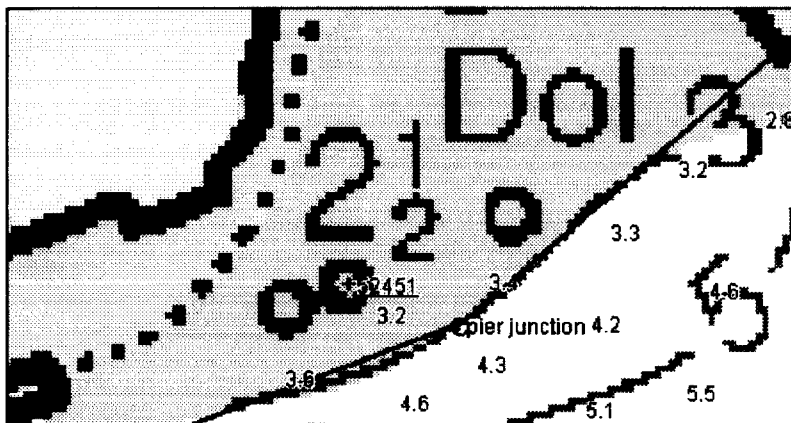
3. Survey Requirements: Visual search; Dive investigation; 200% side scan; Singlebeam development. Search 20M about each of the positions listed in the history.

4. Method of Investigation: A visual search was conducted in this area on DN 2122 DN 216.

5. Results of Investigation: A new pier was found to extend offshore of the AWOIS item positions and is defined by a detached position (fix # 20026).

6. Comparison with Prior Surveys: Prior survey H10032 reveals a 19-ft sounding in the vicinity of AWOIS item # 52451. A new pier exists in this area that was once navigable.

7. Comparison with the Chart and Charting Recommendation: Compared with chart 16595; 13th Ed., Feb 14, 1999; 1:20,000, 1:10,000 inset. The Hydrographer recommends removing the 3 charted piles and adding a new pier as shown on the final DP plot. *concur*

8. Evaluator Comments:

AWOIS 52452**1. Area of Investigation:**

AWOIS Number: 52452
State and Locality: Kodiak Harbor, AK
Reported Position: Latitude: 57/47/03.3N
Longitude: 152/25/25.11W
Datum: NAD83
Type of Feature: Dolphins
Reported Depth: N/A

2. Description and Source of Item:

H-9003/68; TWO DOLPHINS SHOWN IN THE FOLLOWING CHARTED POSITION, NAD 83

57-47-03.30 N 152-25-25.11 W
57-47-03.69 N 152-25-26.40 W

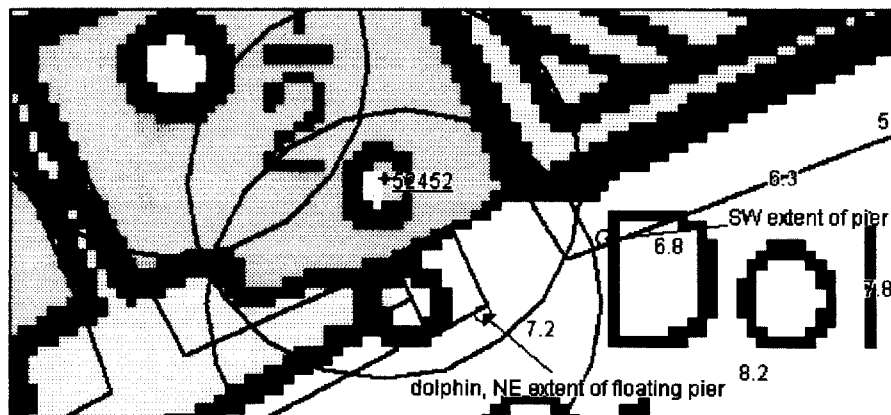
3. Survey Requirements: Visual search; Dive investigation; 200% side scan; Singlebeam development. Search 20M about each of the positions listed in the history.

4. Method of Investigation: 10-minute visual search.

5. Results of Investigation: On DN 216, VN 2122, a 10-minute visual inspection of the area revealed no indication of the dolphins, however, it should be noted that detached positions (fix #'s 20027-20029) depict a floating pier attached to a permanent pier. This cultural feature is offshore of the AWOIS items 52452 and 52453.

6. Comparison with Prior Surveys: The new piers found in the search area of the dolphins are not depicted on prior survey H10032.

7. Comparison with the Chart and Charting Recommendation: Compared with chart 16595; 13th Ed., Feb 14, 1998; 1:20,000, 1:10,000 inset. The Hydrographer recommends charting the floating pier attached to the permanent pier as shown on the final DP plot, and deleting the two dolphins from the chart. *concur*

8. Evaluator Comments:

AWOIS 52453**1. Area of Investigation:**

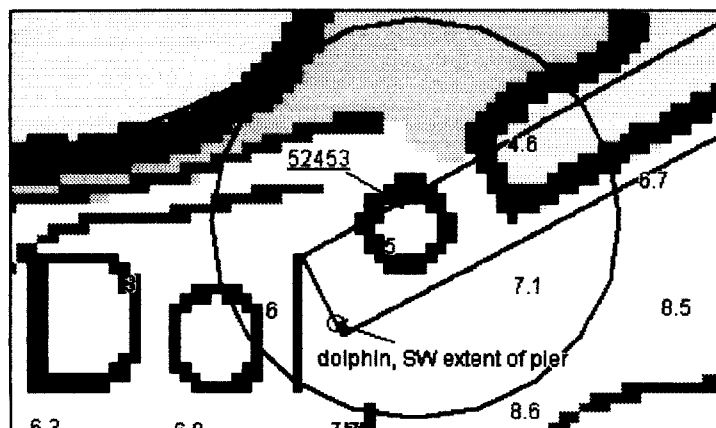
AWOIS Number: 52453
State and Locality: Kodiak Harbor, AK
Reported Position: Latitude: 57/47/02N
Longitude: 152/25/28.7W
Datum: NAD83
Type of Feature: Dolphins
Reported Depth: N/A

2. Description and Source of Item:

TWO DOLPHINS APPEARING FROM MISCELLANEOUS SOURCE AND CHARTED IN THE FOLLOWING NAD 83 POSITIONS:

57-47-01.93 N 152-25-28.68 W
57-47-02.90 N 152-25-24.98 W

3. **Survey Requirements:** Visual search; Dive investigation; 200% side scan; Singlebeam development. Search 20 meters about each of the positions listed in the history.
4. **Method of Investigation:** 10-minute visual search.
5. **Results of Investigation:** On DN 216, VN 2122, a 10-minute visual inspection of the area shows no indication of the dolphins, however, it should be noted that detached positions (fix #'s 20027-20029) depict an extension of a permanent pier. This cultural change is offshore of the AWOIS item #'s 52452 and 52453.
6. **Comparison with Prior Surveys:** Present survey indicates cultural changes that has occurred in the pier structure when compared with prior survey H10032.
7. **Comparison with the Chart and Charting Recommendation:** Compared with chart 16595; 13th Ed., Feb 14, 1998; 1:20,000, 1:10,000 inset. The new pier covers the position of the charted dolphins. The Hydrographer recommends charting the extension of the permanent pier as shown on the final DP plot and deleting the charted dolphins. *concur*
8. **Evaluator Comments:** ADD NEW DOLPHIN TO END OF EXTENDED PIER.



AWOIS 52454**1. Area of Investigation:**

AWOIS Number: 52454
State and Locality: Kodiak Harbor, AK
Reported Position: Latitude: 57°46'48.50N
Longitude: 152°26'18.7W
Datum: NAD83
Type of Feature: Obstruction
Reported Depth: 28ft

2. Description and Source of Item:

FE289/86--CRAB POT 5 X 3 X 6 FT WITH A LEAST DEPTH OF 28 FT LOCATED IN POS.57-46-48.50 N, 152-26-18.7 W

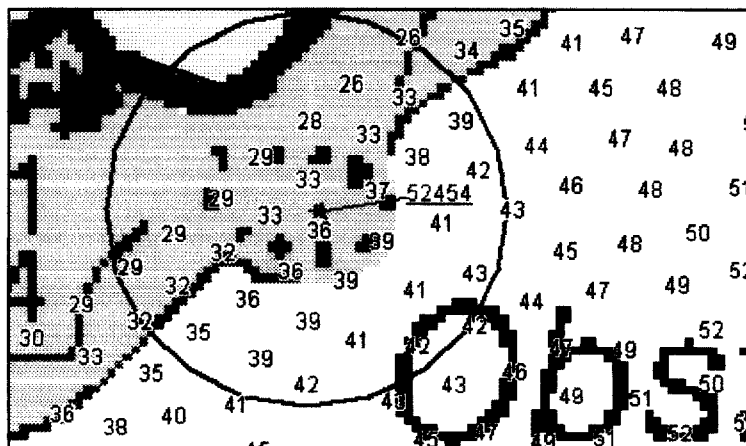
3. Survey Requirements: Shallow water multibeam. Dive Investigation. 50m search radius. 200% side scan. Singlebeam development.

4. Method of Investigation: 100% SWMB coverage acquired over the navigable area of the charted obstruction on DN 216, VN 2121.

5. Results of Investigation: Present survey reveals depths of 26 to 43ft in the vicinity of the charted obstruction. No indication of a 5x3x6-ft crab pot with a least depth of 28ft was found.

6. Comparison with Prior Surveys: Prior survey H10032 reveals 23- to 43-ft soundings in the vicinity of the obstruction. Present survey reveals depths of 26 to 43ft in the area of the obstruction. No obstruction is indicated on H10032. *concur*

7. Comparison with the Chart and Charting Recommendation: Chart 16595 (13th Ed., Feb 14, 1998; 1:20,000, 1:10,000 inset) shows an obstruction at 57°46'48.5"N, 152°26'18.7"W. The Hydrographer recommends that the obstruction be removed from the chart and that soundings from this survey supersede charted soundings in the vicinity. *concur.*

8. Evaluator Comments:

AWOIS 52455**1. Area of Investigation:**

AWOIS Number: 52455
State and Locality: St. Paul Harbor, AK
Reported Position: Latitude: 57°46'33.29N
Longitude: 152°25'49.85W
Datum: NAD83
Type of Feature: Obstruction
Reported Depth: -1 ft

2. Description and Source of Item:

H-10032/82—CONCRETE BLOCK UNCOVERS 1 FOOT AT MLLW

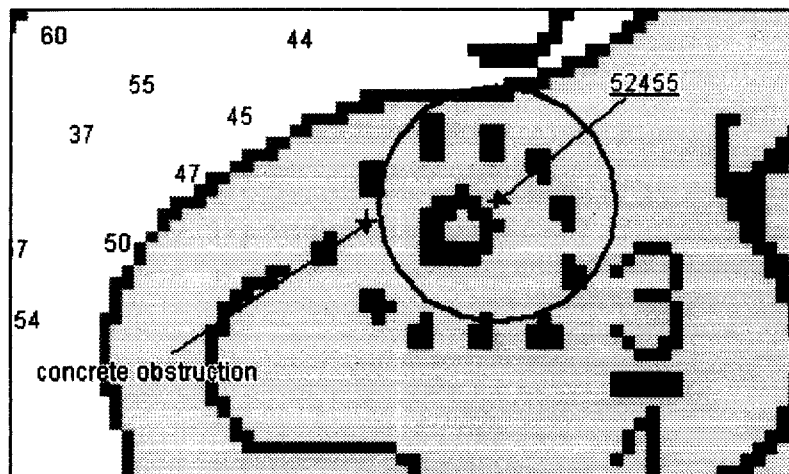
3. Survey Requirements: Visual search. Dive Investigation. 20m search radius. Singlebeam development. Update the depth/height of concrete block.**4. Method of Investigation:** 10-minute visual search at low water.**5. Results of Investigation:** On DN 216, VN 2122, a 2x4m concrete block was found at 57°46'33.2"N, 152°25'51.2"W. The corrected height of the concrete block is 0.6m (2ft) above MLLW.

2.6 ft.

max 2115/01

6. Comparison with Prior Surveys: Prior survey H10032 depicts a concrete obstruction in the vicinity of the charted submerged obstruction, which was verified by this survey.**7. Comparison with the Chart and Charting Recommendation:** Compared with chart 16595; 13th Ed., Feb 14, 1999; 1:20,000, 1:10,000 inset. The chart depicts the item as a submerged obstruction. The Hydrographer recommends revising the position of the charted obstruction from 57°46'33.3"N, 152°25'49.9"W to 57°46'33.2"N, 152°25'51.2"W.

concur.

8. Evaluator Comments:

N. COMPARISON WITH THE CHART

Survey H10912 was compared to Chart 16594 (13th Ed.; April 4, 1998, 1:78,900), Chart 16595 (12th Ed.; January 19, 1991, 1:20,000) and Chart 16596 (11th Ed.; July 10, 1993, 1:10,000). *latest ed. is 13th Feb 14, 1998*

Depths from Chart 16595 were generally $\frac{1}{2}$ fathom deeper than survey depths. Notable differences are addressed below.

In the vicinity of a charted $7\frac{1}{4}$ -fathom sounding at $57^{\circ}47'0.9''N$, $152^{\circ}25'29.3''W$, the present survey revealed a depth of ~~8.6~~ ^{8.5} fathoms. This area is close to shore and was covered by 100% SWMB. *Concur after smooth tides*

In the vicinity of a charted 4-fathom sounding at $57^{\circ}46'44.2''N$, $152^{\circ}26'1.7''W$, approximately 54m WNW of buoy GR "GI", the present survey revealed a depth of 5.6 fathoms. The area was covered with 100% SWMB. *Concur*

In St. Herman Bay, at $57^{\circ}46'22.2''N$, $152^{\circ}25'17.2''W$, a 9.3-fathom sounding was taken in the vicinity of a charted 8-fathom sounding. However, the present survey revealed a depth of ~~8~~ ^{8.3} fathoms at $57^{\circ}46'22.6''N$, $152^{\circ}25'14.5''W$, approximately 47 meters NE of the charted 8-fathom sounding. The area was covered with 100% SWMB. *Concur after smooth tides*

At the entrance to St. Herman Bay, soundings $\frac{1}{2}$ fathom to 2 fathoms shoaler than charted depths were obtained, the shoalest of which is an ~~8.2~~ ^{8.3}-fathom sounding at $57^{\circ}46'23.91''N$, $152^{\circ}25'32.92''W$, near a charted 10-fathom depth. From inspection of the DTM and multibeam data in subset mode, the Hydrographer believes that these are soundings obtained on rocks. None are considered dangerous to navigation. *Concur after smooth tides*

The charted pier centered at $57^{\circ}47'00.78''N$, $152^{\circ}25'38.38''W$ was found to have been extended, and a third privately-maintained flashing red light has been added to the pier. Additionally, an existing light on this pier appears to have been repositioned to accommodate the additional length. Refer to detached positions #20030 - 20032. *Concur*

A feature believed to be an obstruction with a least depth of ~~7.8~~ ^{7.6} fathoms was located at $57^{\circ}46'12.36''N$, $152^{\circ}25'27.79''W$. This item is visible in the multibeam data and has the appearance of a man-made object. Divers did not further investigate the item, although 100% SWMB coverage was obtained in the area. The Hydrographer recommends charting an obstruction with a least depth of ~~7.8~~ ^{7.6} fathoms at this position. *Concur after smooth tides*

Depths from Chart 16594 generally agreed with current survey depths within a $\frac{1}{2}$ fathom. The only notable difference was an 8-fathom sounding charted at $57^{\circ}44'55.0''N$, $152^{\circ}26'20.5''W$, where the present survey revealed a depth of 9 fathoms. *Concur*

Depths from chart 16596 were consistently three to four feet deeper than this survey. *Concur*

Final sounding comparisons will be made at PHB after application of smooth tides. *Concur*

The Hydrographer recommends that present survey depths be used to supersede depths on all charts in their common areas. *Concur*

Numerous detached positions were obtained in the Kodiak Harbor area. This was done in an effort to better depict the cultural changes and features in the area. The hydrographer recommends charting the cultural changes as depicted on the final DP plot. *Concur*

A 100m radius visual search was conducted on DN 216, VN 2122 for a charted mooring buoy at 57°47'04.4"N, 152°24'50.6"W. No mooring buoy was found during the search. Detached position # 20062 was taken as a disproof position.

A charted rock at 57°46'56.3"N, 152°24'32.6"W, in the vicinity of daybeacon G "1" was not found when a visual and echosounder search was conducted by VN 2122 on DN 216 at low water.

The charted breakwater under construction at St. Herman Harbor (57°46'34.6"N, 152°25'14.2"W) is completed and was positioned by VN 2122 on DN 216 (DP #'s 20045-20052). From discussions with the harbormaster, the harbor will undergo future modifications. The old breakwater at 57°46'37.9"N, 152°24'54.1"W will be removed and a new floating dock will be constructed in the vicinity. In addition, daybeacon G "7" at 57°46'42.6"N, 152°24'59.8"W, will be moved further Southwest of Uski Island into deeper water. No positions were obtained on the old breakwater and daybeacon G "7" due to these changes. Contact information for the Kodiak Harbor harbormaster is included in Appendix J.

Dangers to Navigation ✓

No danger to navigation reports were submitted for this survey. *Concur*

O. ADEQUACY OF SURVEY ✓

Survey H10912 is complete and adequate to supersede charted soundings and features in their common areas. Near one-hundred percent shallow-water multibeam coverage was obtained within in the survey area; no indications of shoaling were observed surrounding any multibeam holidays.

P. AIDS TO NAVIGATION ✓

Seven floating aids to navigation, ^{two} ~~three~~ fixed aids to navigation and ^{thirteen} ~~twelve~~ lights were located within the H10912 survey area. Each were verified on DN 216, VN 2122, with detached positions and were found to adequately serve their purpose. All aids to navigation were depicted adequately on Chart 16595 except for the following:

Kodiak Boat Harbor Daybeacon 2, was located at 57°47'6.4"N, 152°24'30.3"W, approximately 20m away from its charted position of 57°47'6.2"N, 152°24'31.4"W. *chart at survey position*

Entrance Channel Buoy 11, was located at 57°47'1.4"N, 152°24'41.5"W, approximately 80 meters away from its charted position of 57°46'59.6"N, 152°24'44.8"W. *chart at survey position*

The NE extent of Uski Island was positioned by VN2122, DN216, fix # 20041. This position (57°46'56.9"N, 152°24'34.6"W) is approximately 5m away from and below North Entrance Light 2, which is charted approximately 47m away bearing 159°T at 57°46'55.4"N, 152°24'33.5"W. The light was unreachable by launch. The aid appears to be accurately charted and serves its intended purpose. *Retain North Entrance Light 2 at charted position*

South Entrance Daybeacon 7, charted at 57°46'42.4"N, 152°24'59.8"W, was not positioned during this survey due the modification of the breakwater at St. Herman Bay Boat Harbor. In the future, G "7" will be moved from its current location to better aid in navigating the boat harbor (from discussions with the harbormaster). The time at which G "7" will be moved is unknown, however, the location will be SW of its present location, closer to the 3m contour. Contact information for the Kodiak Harbor harbormaster is included in Appendix J. * *Retain Daybeacon 7 as charted until removed & repositioned to new location upon completion of breakwater modification project.*

South Approach Buoy G C "1" was located at 57°46'27.5"N, 152°25'20.6"W by VN 2122 on DN 216, approximately 60 meters away from its charted position of 57°46'28.0"N, 152°25'17.2"W. *chart at survey position.*

Q. STATISTICS ✓

Refer to the Survey Information Summary attached to this report.

R. MISCELLANEOUS ✓

Due to time constraints resulting from the short duration of this project, bottom samples were not acquired.

S. RECOMMENDATIONS ✓

The Hydrographer recommends charting an inset of St. Herman Bay Boat Harbor on Chart 16595. This was also requested by the Kodiak Harbor harbormaster largely because of the increase in traffic by fishing vessels and recreational boats, the construction of the new breakwater, destruction of the old breakwater, and relocation of ATONS. *concur*

T. REFERRAL TO REPORTS ✓

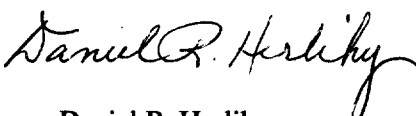
The following supplemental reports contain additional information relevant to this survey:

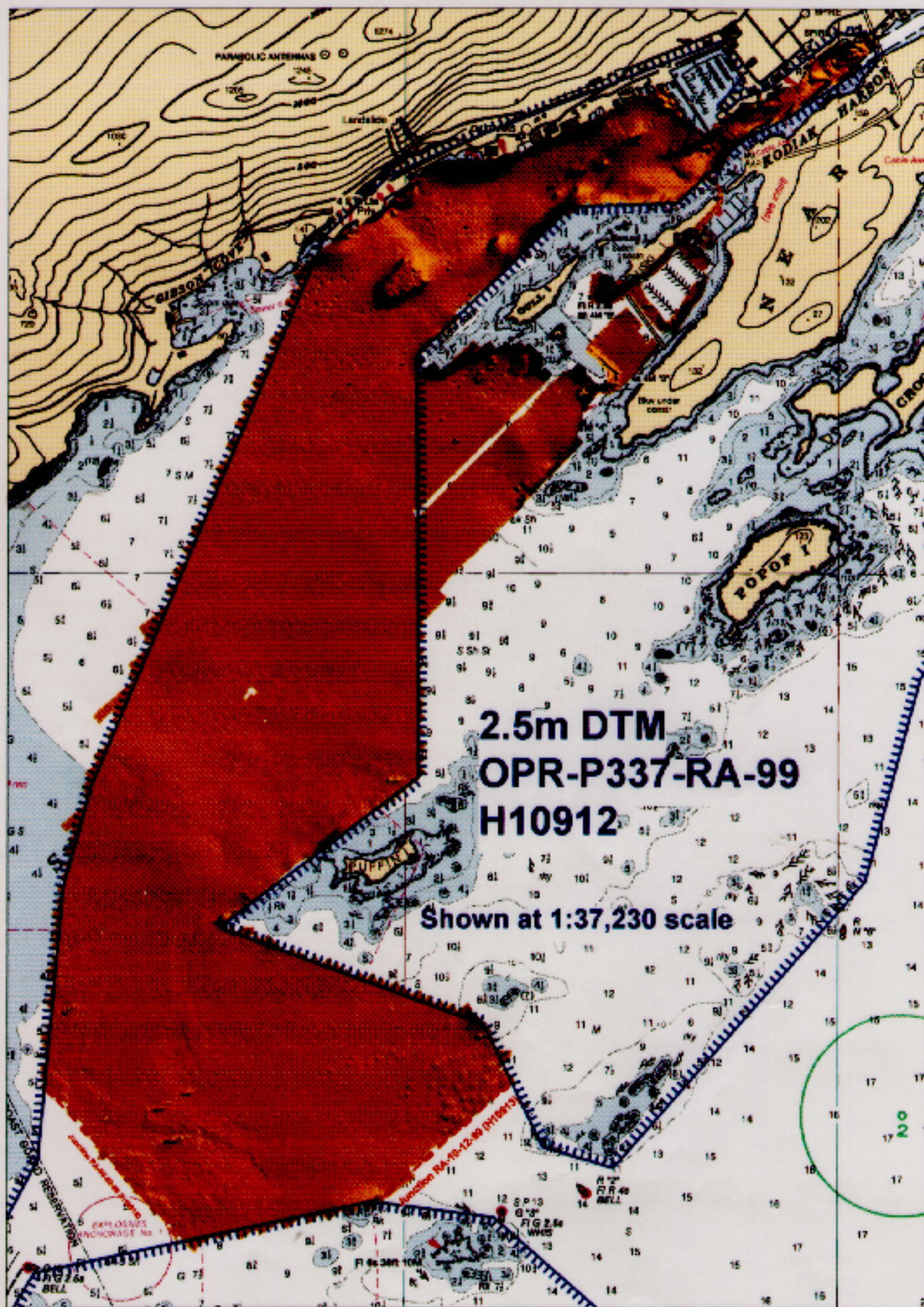
<u>Title</u>	<u>Date Sent</u>	<u>Office</u>
OPR-P337-RA-99 1999 Coast Pilot Report	September 1999	N/CS26
Project Related Data for OPR-P337-RA-99	September 1999	N/CS34

Respectfully Submitted,

for 
Paul J. McAnally
Senior Survey Technician, NOAA

Approved and Forwarded,


Daniel R. Herlihy
Commander, NOAA
Commanding Officer



List of Horizontal Control Stations

NAME	Year Established	Ellipsoidal Height	STATE	Type	Latitude	Longitude	Site ID	Source of Position
KENAI	n/a	n/a	AK	USCG Beacon	60 40.100 N	151 21.000 W	896	USCG
KODIAK	n/a	n/a	AK	USCG Beacon	57 37.100 N	152 11.600 W	897	USCG

B. Landmarks and Nonfloating Aids to Navigation Lists

(not applicable)

Survey Information Summary

Project: OPR-P337-RA **Project Name:** AY TO KODIAK HARBOR AND APPROACHES

Instructions Dated: 7/2/99 **Project Change Info:**

Sheet Letter: B **Registry Number:** H-10912

Sheet Number: RA-05-01-99

Survey Title: ST PAUL HARBOR

Data Acquisition Dates: **From:** 02-Aug-99 214 **To:** 09-Aug-99 221

Vessel Usage Summary

VESNO	MS	SPLITS	DEV	XL	S/L	DP	BS	DIVE
2121								
2122						1		
2124								1
2126								

Sound Velocity Cast Information

Tide Zone Information

Zone #	Time Corr.	Height Corr.
SWA6	-00 hr 06 min	0.99
SWA7	-00 hr 12 min	0.99

Tide Gage Information

Tide Gage #	Gage Name	Installed	Removed
945-7258	NEAR ISLAND	8/2/99	8/9/99

Statistics Summary

Type	Total:
DIVE	4
DP	61
SWMB	91.28

Percent XL:

SQNM: 0

A. Danger to Navigation Reports

(not applicable)

APPROVAL SHEET

for


H10912

RA-05-01-99

Standard field surveying and processing procedures were followed in producing this survey in accordance with the NOS Hydrographic Surveys Specifications and Deliverables; the Hydrographic Survey Guidelines; and the Field Procedures Manual, as updated for 1998.

The field sheet and accompanying records have been examined 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.

Approved and Forwarded,



Daniel R. Herlihy
Commander, NOAA
Commanding Officer
NOAA Ship RAINIER



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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: November 30, 1999

HYDROGRAPHIC BRANCH: Pacific

HYDROGRAPHIC PROJECT: OPR-P337-RA-99

HYDROGRAPHIC SHEET: H-10912

LOCALITY: Womens Bay to Kodiak Harbor and Approaches,
AK

TIME PERIOD: August 2 - August 9, 1999

TIDE STATION USED: 945-7292 Kodiak, AK
Lat. 57° 43.8'N Lon. 152° 30.8'W

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 2.399 meters

REMARKS: RECOMMENDED ZONING

Use zone(s) identified as: SWA2 & SWA3.

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.

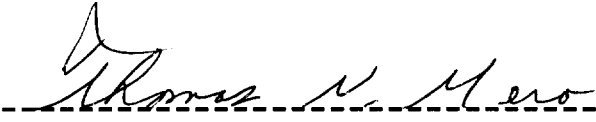
Note 2: Kodiak, AK was used for datum control and tidal zoning in this hydrographic survey. Accepted datums for this station have been updated recently and have changed significantly from previous values.

The current National Tidal Datum Epoch (NTDE) used to compute tidal datums is the 1960-78 NTDE. Traditionally, NTDEs have been adjusted when significant changes in Mean Sea Level (MSL) trends are found through analyses among the stations of the National Water Level Observation Network (NWLON). Epochs are updated to ensure that tidal datums are the most accurate and practical for navigation, surveying and engineering applications and reflect the existing local sea level conditions. For instance, analyses of sea level trends show that a new NTDE is necessary and efforts are underway to update the 1960-78 NTDE to a more recent 19-year time period.



TIDE NOTE FOR HYDROGRAPHIC SURVEY SHEET H-10912 cont.

However, analyses also show that there are several geographic areas which are strongly anomalous from the average sea level trends found across the NWLON and must be treated differently. One of these areas includes the region surrounding Kodiak Island. Relative sea level in this area is decreasing at an anomalous rate due to land emergence from the retreat of glaciers over recent geological time. NOS has adopted a procedure of computing accepted tidal datums for these anomalous regions by using an MSL value calculated from the last several years of data rather than the 19-year NTDE. The accepted range of tide is still based on the 19-year NTDE and, when applied to the updated MSL, will result in updated values for Mean High Water (MHW) and Mean Lower Low Water (MLLW) derived through standard datum calculation procedures. For Kodiak, the MSL value was computed from the period of 1994-1998. This resulted in a lowering of the MLLW datums relative to land by up to -0.56 ft compared to MLLW elevations used in previous surveys. Subordinate tide stations in the area used for hydrographic surveys and controlled by Kodiak will be affected similarly. Accepted datums have been computed and may be accessed on the Internet through the URL specification <http://www.co-ops.nos.noaa.gov>.

 11/30/99

CHIEF, REQUIREMENTS AND DEVELOPMENT DIVISION

Final tide zone node point locations for OPR-P337-RA-99,
Sheet H-10912.

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 SWA2			
-152.398958 57.790749	945-7292	0	1.00
-152.430862 57.78665			
-152.48236 57.76518			
-152.503015 57.736076			
-152.47823 57.7222			
-152.475115 57.718136			
-152.446622 57.726453			
-152.417935 57.743023			
-152.402983 57.766936			
-152.388275 57.777842			
-152.383931 57.781897			
-152.386842 57.794828			
-152.398958 57.790749			
Zone SWA3			
-152.290852 57.760019	945-7292	-6	1.00
-152.279861 57.763544			
-152.313664 57.781426			
-152.337172 57.796228			
-152.355834 57.811007			
-152.386842 57.794828			
-152.383931 57.781897			
-152.388275 57.777842			
-152.402983 57.766936			
-152.417935 57.743023			
-152.446622 57.726453			
-152.475115 57.718136			
-152.529456 57.646896			
-152.492274 57.629746			
-152.402467 57.684398			
-152.290852 57.760019			

GEOGRAPHIC NAMES

H-10912

Name on Survey	A ON CHART NO. 16505	B ON PREVIOUS SURVEY NO.	C ON U.S. QUADRANGLE MAPS	D FROM LOCAL INFORMATION	E ON LOCAL MAPS	F P.O. GUIDE OR MAP ATLAS	G RANDOMLY	H U.S. LIGHT LIST	K
ALASKA (title)	X		X						1
DISCOVERY ROCKS	X		X						2
GIBSON COVE	X		X						3
GULL ISLAND	X		X						4
KODIAK (pp1)	X		X						5
KODIAK HARBOR	X								6
NEAR ISLAND	X		X						7
POPOF ISLAND	X		X						8
PUFFIN ISLAND	X		X						9
ROUND ISLAND	X		X						10
SAINT HERMAN BAY	X		X						11
SAINT PAUL HARBOR	X		X						12
USKI ISLAND	X		X						13
WOMENS BAY (title)	X		X						14
									15
									16
									17
									18
									19
									20
									21
									22
									23
									24
									25

Dennis J. Rasmussen
Chief Cartographer

FEB 1 - 2000

HYDROGRAPHIC SURVEY STATISTICS

H-10912

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT
SMOOTH SHEET		1	SMOOTH OVERLAYS: POS., ARC, EXCESS		
DESCRIPTIVE REPORT		1	FIELD SHEETS AND OTHER OVERLAYS		
DESCRIP- TION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR- GRAMS	PRINTOUTS	ABSTRACTS/ SOURCE DOCUMENTS
ACCORDION FILES					
ENVELOPES					
VOLUMES					
CAHIERS					
BOXES					

SHORELINE DATA

SHORELINE MAPS (List):
 PHOTOBATHYMETRIC MAPS (List): NA
 NOTES TO THE HYDROGRAPHER (List): NA
 SPECIAL REPORTS (List): NA
 NAUTICAL CHARTS (List): 16595, 16596

OFFICE PROCESSING ACTIVITIES

The following statistics will be submitted with the cartographer's report on the survey

PROCESSING ACTIVITY		AMOUNTS		
		VERIFICATION	EVALUATION	TOTALS
POSITIONS ON SHEET				
POSITIONS REVISED				
SOUNDINGS REVISED				
CONTROL STATIONS REVISED				
		TIME-HOURS		
		VERIFICATION	EVALUATION	TOTALS
PRE-PROCESSING EXAMINATION				
VERIFICATION OF CONTROL				
VERIFICATION OF POSITIONS				
VERIFICATION OF SOUNDINGS				
VERIFICATION OF JUNCTIONS				
APPLICATION OF PHOTOBATHYMETRY				
SHORELINE APPLICATION/VERIFICATION				
COMPILATION OF SMOOTH SHEET		241.0		241.0
COMPARISON WITH PRIOR SURVEYS AND CHARTS				
EVALUATION OF SIDE SCAN SONAR RECORDS				
EVALUATION OF WIRE DRAGS AND SWEEPS				
EVALUATION REPORT			76.0	76.0
GEOGRAPHIC NAMES				
OTHER* (Chart Compilation)			135.0	135.0
*USE OTHER SIDE OF FORM FOR REMARKS		TOTALS	241.0	211.0
				452.0
Pre-processing Examination by R. Davies		Beginning Date 10/6/99	Ending Date 10/8/99	
Verification of Field Data by R. Mayor, E. Domingo, M. Lathrop		Time (Hours) 241.0	Ending Date 1/30/01	
Verification Check by I. Almacen, L. Deodato		Time (Hours) 18.0	Ending Date 1/29/01	
Evaluation and Analysis by M. Lathrop		Time (Hours) 76.0	Ending Date	
Inspection by I. Almacen		Time (Hours) 3.0	Ending Date 1/30/01	

EVALUATION REPORT

H-10912

A. PROJECT

The hydrographer's report contains an adequate discussion of the project information.

B. AREA SURVEYED

The survey area is adequately described in the hydrographer's report. Page-size plots of the charted area depicting the limits of supersession accompany this report as Attachment 1.

Bottom samples were not collected for this survey. Depths range from 1.1 to 11.0 fathoms.

C. SURVEY VESSELS

The hydrographer's report contains adequate information relating to survey vessels.

D. AUTOMATED DATA ACQUISITION AND PROCESSING

The acquisition and processing of data in the field has been discussed in the hydrographer's report, section D.

Office processing of survey data was conducted using the same Computer Aided Resource Information System (CARIS) and Hydrographic Processing system (HPS) used by the Hydrographer. MicroStation 95 was used to compile the smoothsheet.

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

The drawing files necessarily contain information that is not part of the HPS data set such as geographic names text, line-type data, and minor symbolization. In addition, those soundings deleted from the drawing for clarity purposes remain unrevised in the HPS digital files to preserve the integrity of the original hydrographic data set. Cartographic codes used to describe the digital data are those authorized by the Specifications and Deliverables, April, 1999.

The data are plotted on NAD83 using a Universal Transverse Mercator, Zone 5 projection and are depicted on a single sheet.

E. SONAR EQUIPMENT

Side scan sonar equipment was not used.

F. SOUNDING EQUIPMENT

Sounding equipment has been adequately addressed in the hydrographer's report.

G. CORRECTIONS TO SOUNDINGS

Soundings and elevations have been reduced to Mean Lower Low Water (MLLW) or Mean High Water (MHW) as appropriate with verified tide correctors obtained from CO-OPS. The correctors are zoned direct from station 945-7292, Womens Bay, Alaska.

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

H. CONTROL STATIONS

Section H of the hydrographer's report contain adequate discussions of horizontal control and hydrographic positioning.

The positions of horizontal control stations used during hydrographic operations are published values based on NAD 83. The geographic positions of all survey data are based on NAD 83. The smooth sheet is annotated with an NAD 27 adjustment tick based on values determined with the NGS program NADCON. Geographic positions based on NAD 27 may be plotted on the smooth sheet utilizing the NAD 83 projection by applying the following corrections:

Latitude: -2.711 seconds (-83.880 meters)
Longitude: 7.857 seconds (129.898 meters)

I. HYDROGRAPHIC POSITION CONTROL

Differential GPS (DGPS) was used to control this survey. A horizontal dilution of precision (HDOP) not to exceed 2.0 was specified in the project instructions.

During data collection satellite configuration, as indicated by HDOP and the number of satellites, is monitored visually on HYPACK. During multibeam operations final positions are provided by the POS-MV that combines the DGPS position with inertial navigation information. In the event that the differential GPS corrector signal is lost, the POS-MV will continue to provide positions based on inertial navigation. Data was analysed during processing to ensure it contained no significant errors.

J. SHORELINE

There are no latest photogrammetric source data for this survey. The shoreline in brown on the smooth sheet is for orientation only, and originates with chart 16595, 13th edition, February 14, 1998.

There were numerous MHWL revisions throughout the survey area. These revisions have been depicted in red on the smooth sheet and are adequate to supersede prior photogrammetric shoreline maps.

K. CROSSLINES

Crosslines are adequately discussed in the hydrographer's report.

L. JUNCTIONS

Survey H-10912 junctions with the following surveys:

<u>Survey</u>	<u>Year</u>	<u>Scale</u>	<u>Area</u>
H-10913	1999	1:10,000	East
H-10916	1999	1:5,000	South

The junctions with surveys H-10913 and H-10916 are complete. A "Joins" note has been added to the smooth sheet. Depths are in good agreement within the common area.

M. COMPARISON WITH PRIOR SURVEYS

<u>Survey</u>	<u>Year</u>	<u>Scale</u>	<u>Datum</u>
H-5441*	1933	1:10,000	Valdez
H-6758	1942	1:10,000	Valdez
H-8490	1959	1:5,000	NAD27
H-9003	1968	1:5,000	NAD27
H-9763	1978	1:5,000	NAD27
H-10032	1982	1:5,000	NAD27

* H-5441 also includes a 1:5,000 wire-drag survey.

The present survey was compared to digital copies of all of the prior surveys. The registration of these prior surveys was good after accounting for the datum shift. The legibility of the digital copies was good.

Prior survey H-5441 covers the southern portion of the present survey, St. Herman Bay, plus a shoal area of Kodiak Harbor. Sounding agreement is within 1 fathom of the present survey depths and most areas are within

½ fathom. The prior soundings in the shoal area in Kodiak Harbor are up to 0.8 fathoms shoaler than the present survey. H-5441 also used wire-drag which touched bottom on this shoal. The present survey does not support this depth. The difference is likely due to gradual scouring of the shoal.

Prior survey H-6758 is a wire-drag survey and covers all but the southern portion of the present survey. All present survey depths are deeper than the cleared depths from the wire-drag survey. Two of the three actual soundings in Kodiak Harbor agree with the present survey and there is a 29 ft. sounding where the present survey shows 26 ft.

Prior survey H-8490 covers only the southwest edge of the present survey. Sounding agreement is good with the present survey depths deeper by 1 to 3 feet.

Prior survey H-9003 covers the northern part of the present survey (Kodiak Harbor). Sounding agreement is good with the present survey depths shoaler by 1 to 2 feet in certain areas.

Prior survey H-9763 covers the southern portion of the present survey. Sounding agreement is good with the present survey depths shoaler by 1 to 3 feet. Note that the present survey depths fall between the depths of H-9763 and H-8490 in common areas.

Prior survey H-10032 covers all but the southern portion of the present survey. Sounding agreement is good with the present survey depths shoaler by 1 to 4 feet in certain areas.

Survey H-10912 is adequate to supersede the above prior surveys within the common area.

N. ITEM INVESTIGATIONS

There were 16 AWOIS items assigned to this survey. They were adequately addressed in Section M of the hydrographer's report.

O. COMPARISON WITH CHART

Survey H-10912 was compared with the following charts:

<u>Chart</u>	<u>Edition</u>	<u>Date</u>	<u>Scale</u>
16594	13th	Apr. 4, 1998	1:78,900
16595	13th	Feb. 14, 1998	1:20,000
16596	11th	July 10, 1993	1:10,000

a. Hydrography

Charted hydrography originates with the previously discussed prior surveys, which have been adequately addressed in section M and require no further discussion.

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

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

Survey H-10912 is adequate to supersede charted hydrography within the charted area.

b. Dangers To Navigation

No dangers to navigation were discovered during survey operations and/or during office processing.

P. ADEQUACY OF SURVEY

Hydrography contained on survey H-10912 is adequate to:

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

A holiday, 25 meters wide and 900 meters long, exists in the vicinity of 57°46'19"N, 151°25'37"W. The bottom of the area is fairly flat and the width is less than the specified line spacing. There is no indication of shoaling on both sides of the holiday area.

The hydrographic records and reports received for processing are adequate and conform to the requirements of the Hydrographic Manual, 4th Edition, revised through Change No. 3, the Hydrographic Survey Guidelines, the Field Procedures Manual, April 1994 Edition, and the NOS Hydrographic Surveys Specifications and Deliverables, dated April 23, 1999.

Q. AIDS TO NAVIGATION

Fifteen fixed aids and seven floating aids to navigation exist within the survey area. They were located and adequately mark the features intended. See the hydrographer's report for complete details.

R. STATISTICS

Statistics are adequately itemized in the hydrographer's report.

S. MISCELLANEOUS

Miscellaneous information is discussed in the hydrographer's report. No additional miscellaneous items were noted during office processing.

T. RECOMMENDATIONS

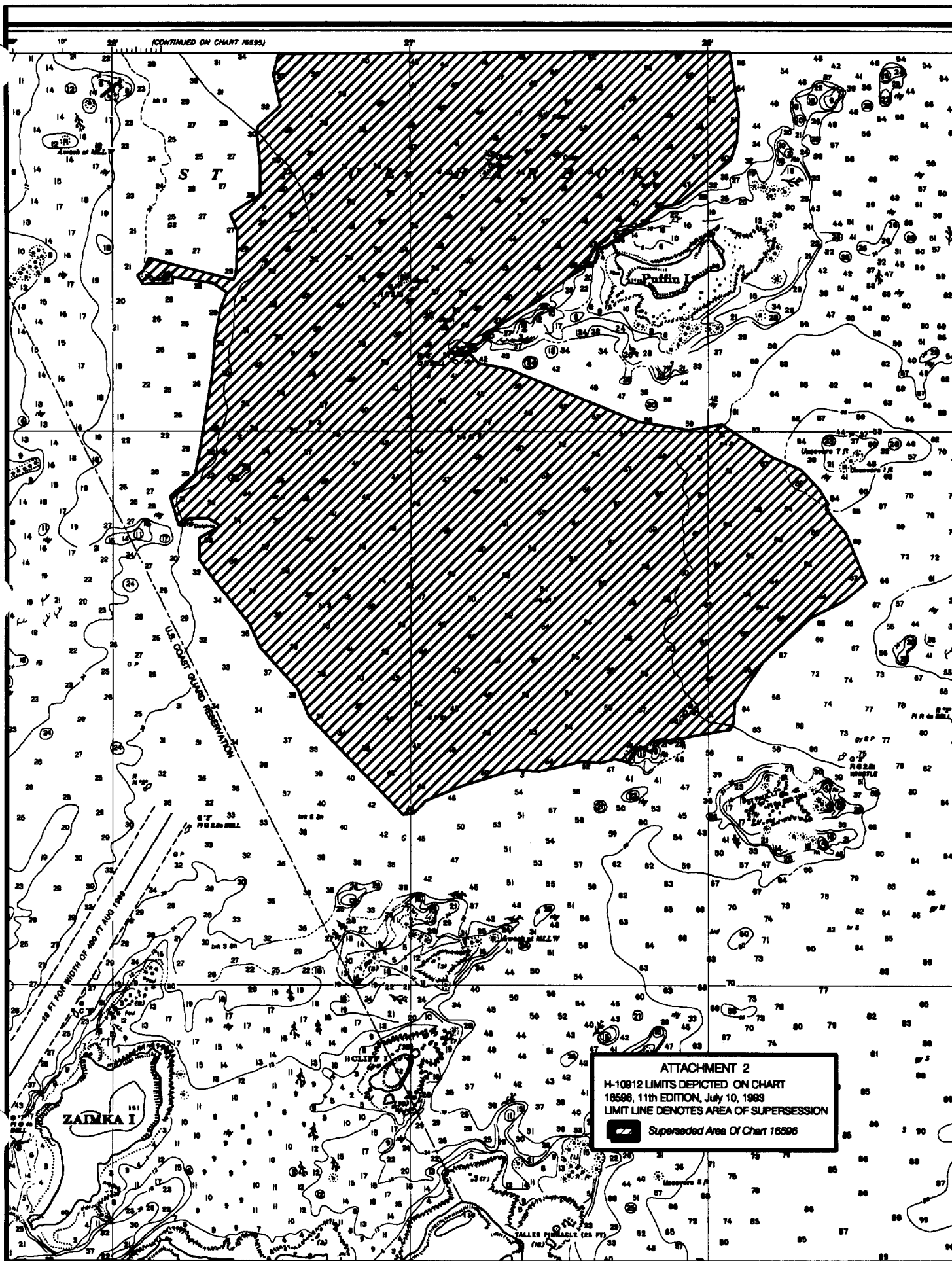
This is a good hydrographic survey. No additional work is recommended

U. REFERRAL TO REPORTS

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



Mark Lathrop
Physical Scientist




APPROVAL SHEET
H-10912

Initial Approvals:

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


for  Date: 2-6-01
Dennis HM, Chief, Cartographic Team
Pacific Hydrographic Branch

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

for  Date: 2-6-01
James C. Gardner
Captain, NOAA
Chief, Pacific Hydrographic Branch

Final Approval

Approved:

 Date: 16 Feb 2001
for Samuel De Bow, LCDR, NOAA
Captain, NOAA
Chief, Hydrographic Surveys Division

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10912

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.

SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED