F00575

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey Hydrographic Survey

Field No. N/A

Registry No. F00575

LOCALITY

State Alaska

General Locality Chatham Strait

Sublocality Hawk Inlet

2009

CHIEF OF PARTY

Captain David O. Neander, NOAA

LIBRARY & ARCHIVES

DATE

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

HYDROGRAPHIC TITLE SHEET

REGISTRY No

F00575

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:

State **Alaska**

General Locality **Chatham Strait**

Sub-Locality **Hawk Inlet**

Scale **1:5,000** Date of Survey **11/11/09**

Instructions dated **9/9/2009** Project No. **S-O927-FA-09**

Vessel **NOAA Ship Fairweather (S220), Launches 1010, 1018, 2801, 2802, Ambar 2302**

Chief of party **CAPT David O. Neander, NOAA**

Surveyed by **NOAA Ship Fairweather Personnel**

Soundings by **Reson 7125, 8101 Multibeam Echosounders**

SAR by **Keith Toepfer** Compilation by **Kay MacDonald**

Soundings compiled in **Fathoms**

REMARKS: **All times are UTC. UTM Zone 8N.**

The purpose of this survey is to provide contemporary surveys to update National Ocean Service (NOS) nautical charts. All separates are filed with the hydrographic data. Revisions and end notes in red were generated during office processing. The processing branch concurs with all information and recommendations in the DR unless otherwise noted. Page numbering may be interrupted or non sequential.

All pertinent records for this survey, including the Descriptive Report, are archived at the National Geophysical Data Center (NGDC) and can be retrieved via http://www.ngdc.noaa.gov/.

Descriptive Report to Accompany Hydrographic Survey F00575

Project S-O927-FA-09
Hawk Inlet, Alaska
Scale 1:10,000[1]

November 2009
NOAA Ship *Fairweather*
Chief of Party: Captain David O. Neander, NOAA

A. AREA SURVEYED

The survey area was located in Hawk Inlet, within the sub-locality of Chatham Strait, AK. This survey corresponds to Sheet A in the sheet layout provided with the Project Instructions, as shown in Figure 1 below.

Data acquisition was conducted on November 11, 2009 (DN 315).

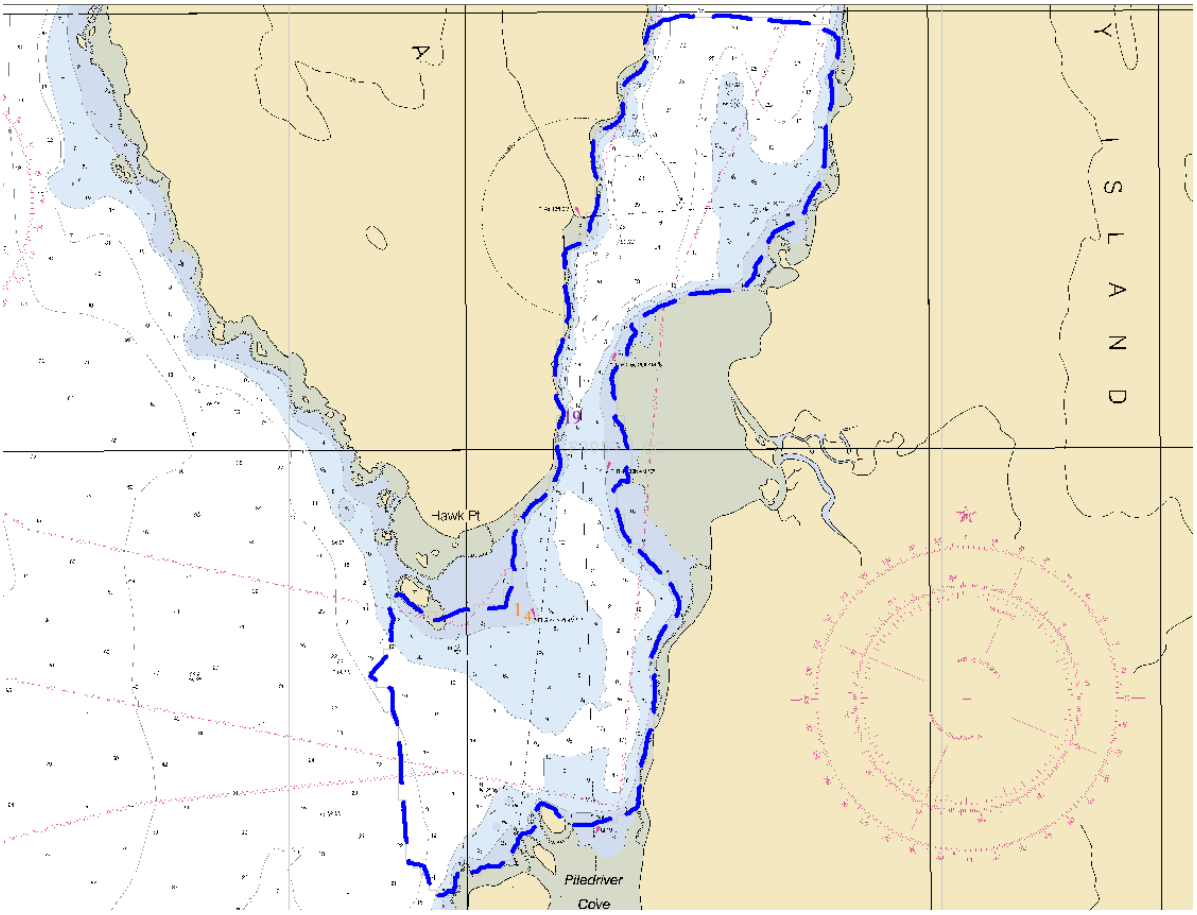


Figure 1: F00575 Survey Outline

One-hundred percent multibeam echosounder (MBES) coverage was obtained in the survey area to at least the 4-meter curve in the survey area. Data were acquired as close to shore as safely possible. Additional coverage was obtained in order to determine least depths over features or shoals. Where

appropriate, shoreline features were given S-57 attribution and included for submission in Notebook .hob files.

Mainscheme and crossline mileage for MBES and shoreline acquisition were calculated and are displayed in Table 1 below.

MAIN SCHEME - Mileage		
0		**Single Beam MS**
40.55		**Multibeam MS mileage**
	0.00	FAIRWEATHER S-220
	11.30	Launch 1010
	13.86	Launch 1018
	6.42	Launch 2801
	8.97	Launch 2802
0		**Side Scan MS**
40.55		**Total MS**
CROSSLINE - Mileage		
0		**Single Beam XL**
3.36		**Multibeam XL**
	0.00	FAIRWEATHER S-220
	0.00	Launch 1010
	0.11	Launch 1018
	1.47	Launch 2801
	1.78	Launch 2802
3.36		**Total XL**
OTHER		
0		**Developments/AWOIS - Mileage**
0.29		**Shoreline/Nearshore Investigation - Mileage**
11		**Total # of Investigated Items**
9		**Total Bottom Samples**
0.7529		**Total SNM**
November 11, 2009		**Specific Dates of Acquisition**
315		**Specific Dn#s of Acquisition**

Table 1: F00575 Survey Statistics

B. DATA ACQUISTION AND PROCESSING

A complete description of data acquisition/processing systems and survey vessels along with quality control procedures and data processing methods are included and described in the *NOAA Ship*

Fairweather 2009 *Data Acquisition and Processing Report* (DAPR), submitted under separate cover. Items specific to this survey and any deviations from the aforementioned report are discussed in the following sections. This hydrographic survey was completed as specified by Hydrographic Survey Project Instructions S-O927-FA-09, dated September 9, 2009 and Change 1 dated September 23, 2009.

B.1. Equipment and Vessels

Equipment and vessels used for data acquisition and survey operations during this survey are listed below in Table 2.

	Launch 1010	Launch 1018	Launch 2801	Launch 2802	Ambar 2302
Hull Registration Number	1010	1018	2801	2802	2302
Builder	Jensen	Jensen	All American Marine	All American Marine	Marine Silverships, Inc
Length Overall	28' 10"	28' 10"	28' 4.25"	28' 4.25"	23'
Beam	10' 8"	10' 8"	9' 6.25"	9' 6.25"	9' 4"
Draft, Maximum	4' 0" DWL	4' 0" DWL	4' 0" DWL	4' 0" DWL	1' 4"
Cruising Speed	24 knots	24 knots	28 knots	28 knots	22 knots
Max Survey Speed	6 knots	6 knots	8 knots	8 knots	
Primary Echo-sounder(s)	RESON 8101	RESON 8101	RESON 7125	RESON 7125	
Sound Velocity Equipment	SBE 19plus	SBE19plus	SBE19plus	SBE19plus	
Attitude & Positioning Equipment	POS/MV V4	POS/MV V4	POS/MV V4	POS/MV V4	
Type of operation	MBES	MBES	MBES	MBES	Shoreline, Shore Station

Table 2: Vessel Inventory

No vessel configurations used during data acquisition deviated from the DAPR.

B.2. Quality Control

B.2.1. Crosslines

Multibeam crosslines for this survey totaled 3.36 linear nautical miles (lnm), comprising 8.14% of the 41.23 lnm of mainscheme MBES hydrography. Both main scheme and crossline mileage are summarized in Table 1 above.

Surface differencing in CARIS BathyDatabase 2.3 was used to assess crossline agreement with main scheme lines. Figure 2 shows a visual depiction of the differences spatially. Crosslines generally agree within 0.5 meters throughout the survey area, except in areas near-shore with steep relief. Differences in

CUBE algorithm selection resulted in higher differences on steep and near shore shoal areas. In the opinion of the Hydrographer, these differences are negligible.

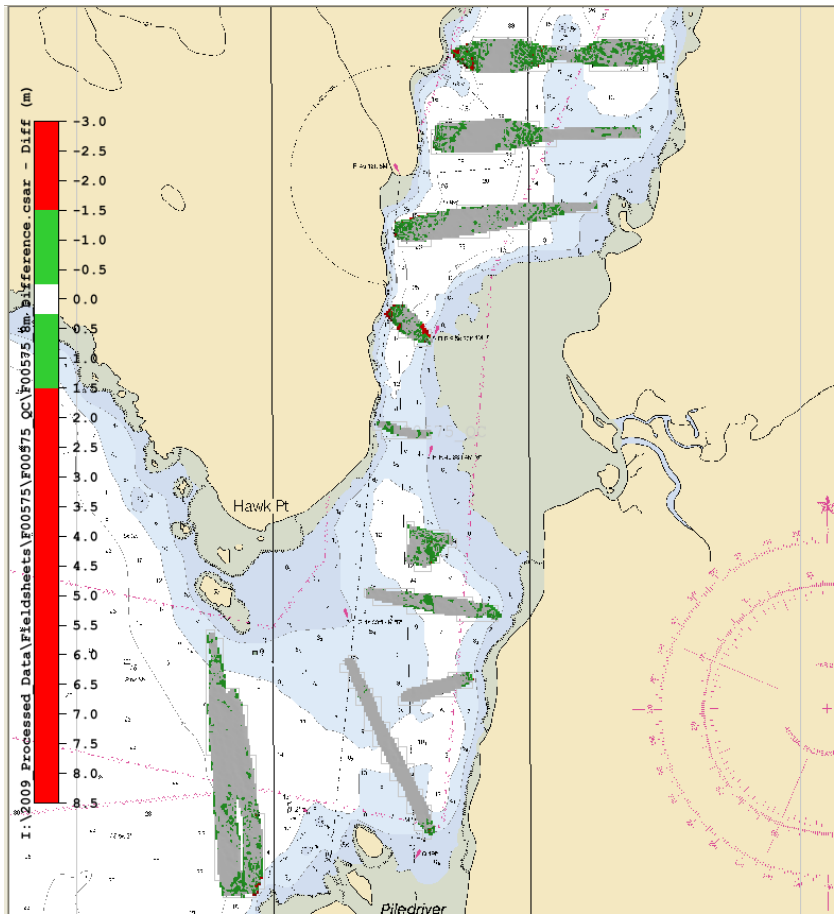


Figure 2: Crossline and main scheme differences (grey indicates 0 – 0.25 meter absolute difference, green indicates .25 – 1.5 meter absolute difference and red indicate greater than 1.5 meter absolute difference).

B.2.2. Junctions

Survey F00575 junctions with no other contemporary surveys.

B.2.3. Quality Control Checks

Multibeam echosounder quality control checks were conducted as discussed in the quality control section B of the DAPR.

B.2.4. Data Quality Factors

COVERAGE ASSESSMENT
Full multibeam echosounder coverage was collected to the Navigable Area Limit Line as deemed by the Hydrographer. No holidays are present in the data.

TRUEHEAVE:
To enable the application of true heave some POS/MV true heave files were "fixed" using the *fixTrueHeave.exe* utility from CARIS. Fixed files were assigned an additional *.fixed suffix. This was performed for the Launch 1018 on November 11, 2009 (DN 315).

SOUND VELOCITY
The positioning of cast 093152016 from Launch 1018 was corrected from 58/09/51.4 to 58/06/51.4. The original latitude placed the cast far outside the survey limit where the boats did not survey. All sound velocity files were corrected with the new position and the concatenated file was reapplied to the data.

DESIGNATED SOUNDINGS
Designation of soundings followed procedures as outlined in section 5.1.1.3 of the NOS Hydrographic Surveys Specifications and Deliverables (HSSDM) dated April 2009. Survey F00575 contains one designated sounding made to preseve a shoal depth.

UNUSUAL CONDITIONS

Two suspected underwater man-made linear features have been identified within the limits of survey F00575 (Figure 3). They are both rounded and range from 0.5 to one meter in height. One is located on the NE portion of the survey coverage area, running roughly in a north-south direction from location 58°6'52.60"N, 134°45'27.99"W to 58°6'25.08"N, 134°45'44.79"W (Figure 4). The second is east-west oriented in the narrowest portion of the survey coverage from location 58°6'4.60"N, 134°46'32.08"W to 58°6'4.46"N, 134°46'25.48"W (Figure 5).[2] These are discussed further in Section D.6 of this report.

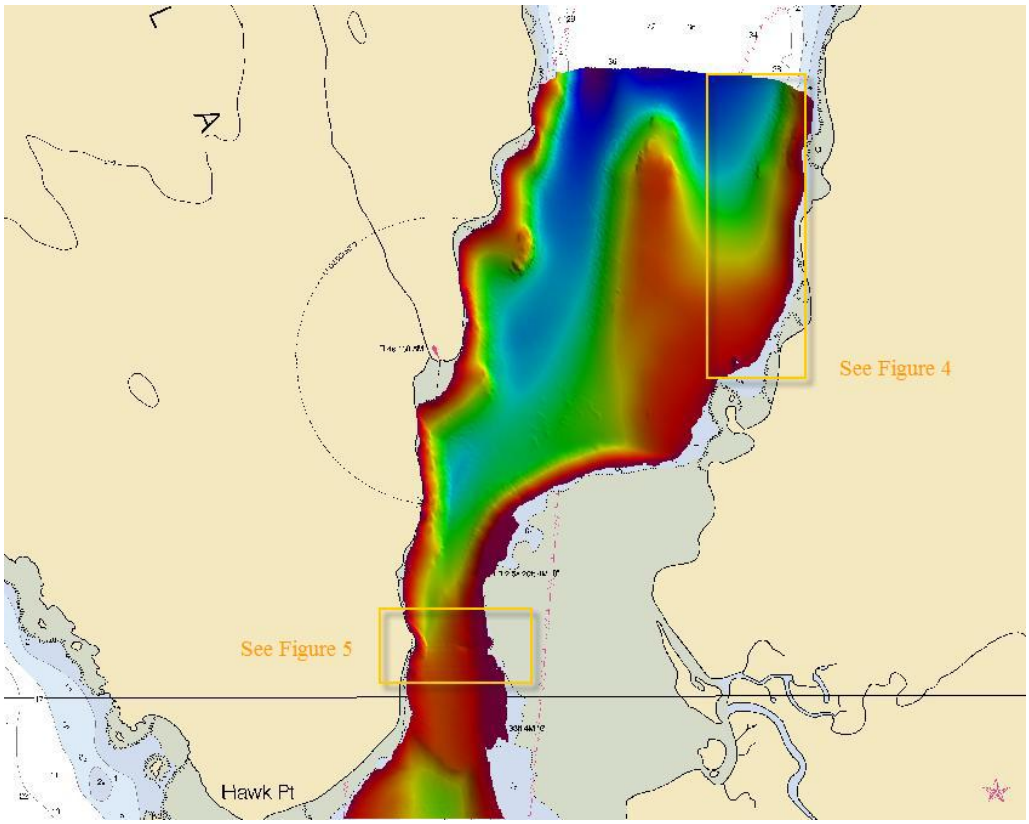


Figure 3: Suspected underwater man-made linear features outlined in gold.

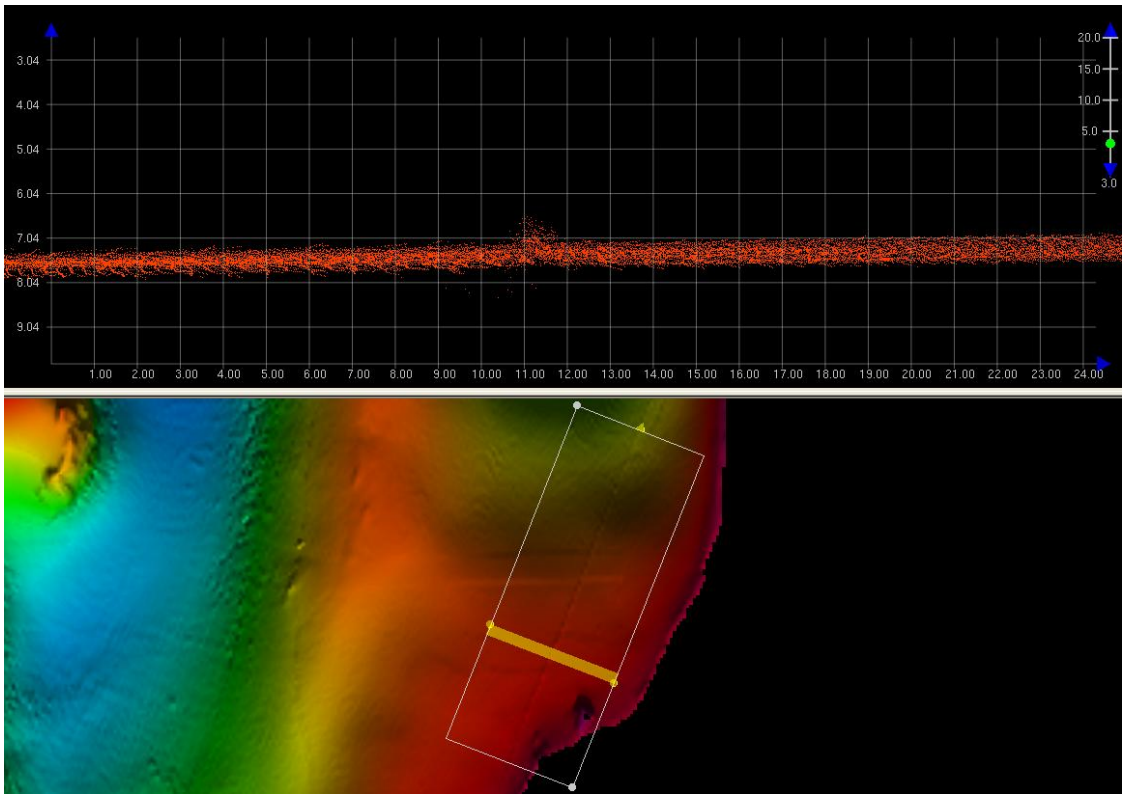


Figure 4: Suspected underwater man-made linear features outlined in white, also shown in subset.

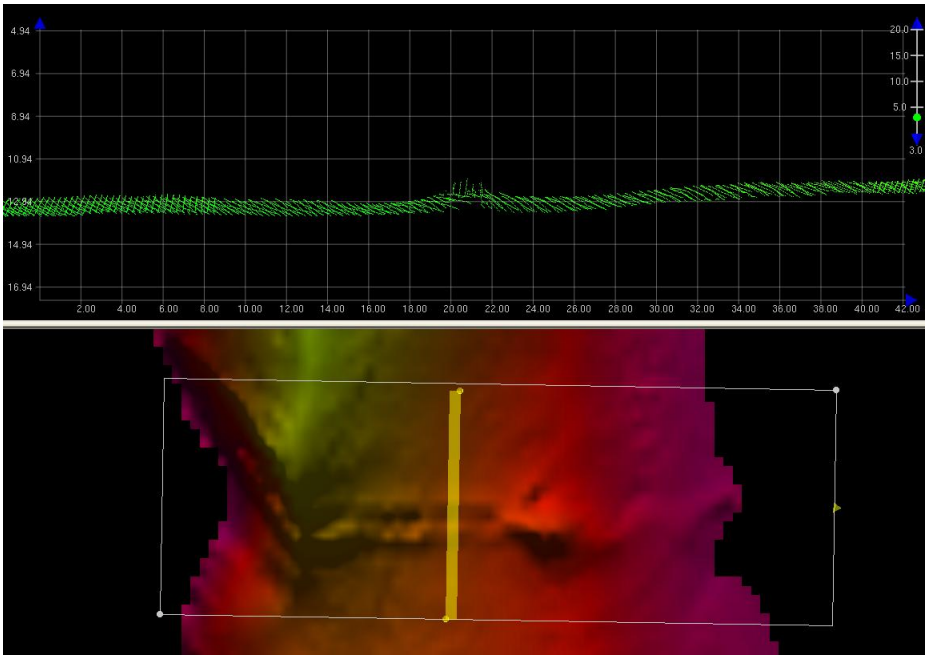


Figure 5: Suspected underwater man-made linear features outlined in white, also shown in subset.

B.2.5. Accuracy Standards

All data meet the data accuracy specifications as stated in the HSSDM.

Based on user-defined IHO Order 1 layers in CARIS HIPS, the majority of nodes in a combined 4-meter grid meet or exceed IHO Order 1 specifications for all depths. See Figure 6.

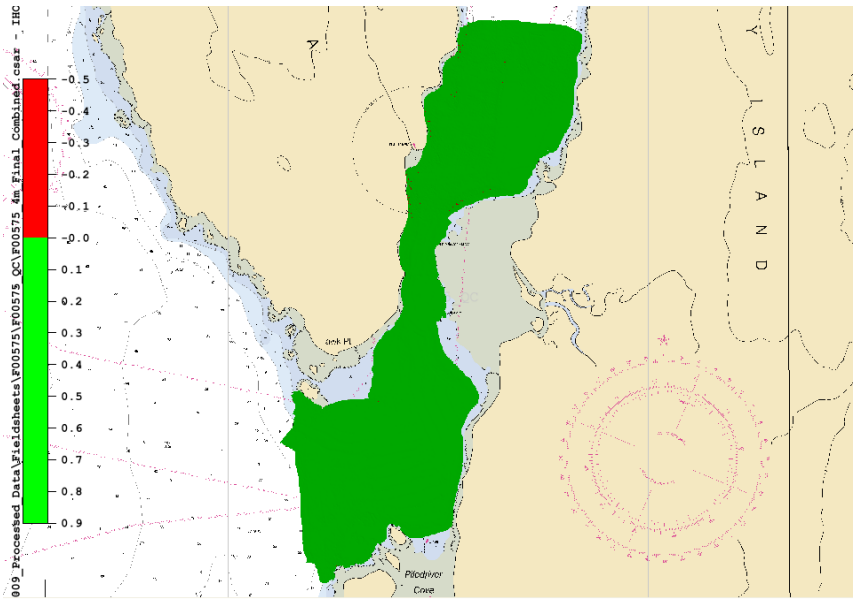


Figure 6: IHO Order 1 Pass (green) or Fail (red)

B.3. Corrections to Echo Soundings

Data reduction procedures for survey F00575 conform to those detailed in the DAPR.

B.4. Data Processing

Initial data acquisition and processing notes are included in the acquisition and processing logs. Additional processing such as final tides and sound velocity application is most accurately tracked in the survey-wide query in the Reviewer_Qry tab of the F00575_Data_Log spreadsheet. All of the logs are included in the digital Separates I folder.

Data processing procedures for survey F00575 conform to those detailed in the DAPR. Data were processed initially using CARIS HIPS & SIPS v7.0, Hotfix 5. During the course of finalizing data for submission, *Fairweather*'s processing software was updated to CARIS HIPS & SIPS 7.0, Service Pack 1, Hotfix 4. Additional processing details regarding Total Propagated Uncertainty (TPU/TPE) and CUBE (Combined Uncertainty and Bathymetry Estimator) Surfaces and Parameters utilized, along with any deviations from the processing procedures outlined in the DAPR are discussed below.

TPE VALUES:
The survey specific parameters used to compute TPE in CARIS for F00575 are listed in Table 3.

Tide values:	Measured	0 m	Zoning	0.06 m
Reson 8101 Sound Speed Values:	Measured	1.00 m/s	Surface	1.00 m/s

Reson 7125 Sound Speed Values:	Measured	1.00 m/s	Surface	0.50 m/s

Table 3: Survey Specific CARIS TPE Parameters

CUBE SURFACES:
The CARIS HIPS BASE (Bathymetry Associated with Statistical Error) surfaces created and their associated resolutions are listed below in Table 4.[3]

The CUBE parameters utilized for creating CUBE surfaces are included in Table 4. The CUBE parameters .xml file is included with digital data in the vessel configuration folder.

Fieldsheet Name	Surface Name	Depth Ranges (m)	Resolution (m)	CUBE Parameters
F00575_QC	F00575_1m	All	1	NOAA_1m
	F00575_2m	All	2	NOAA_2m
	F00575_4m	All	4	NOAA_4m
	F00575_1m_neg15to23_Final	0-23	1	
	F00575_2m_18to40_Final	18-40	2	
	F00575_4m_ 35to80_Final	35-80	4	
	F00575_4m_Final_Combined	0-80	4	

Table 4: Depth Ranges, Resolutions, and CUBE Parameters

SURFACE FILTERING:
The Surface Filtering function was not utilized in CARIS HIPS & SIPS.

C. HORIZONTAL AND VERTICAL CONTROL

A report of horizontal and vertical control was not required or submitted for *S-O927-FA-09*. A summary of horizontal and vertical control for this survey follows.

C.1. Horizontal Control

The horizontal datum for this project is the North American Datum of 1983 (NAD83). Differential Global Positioning System (DGPS) was the sole method of positioning. Differential corrections from the U.S. Coast Guard beacon at Gustavus, AK (288 kHz) were used.

C.2. Vertical Control

The vertical datum for this project is Mean Lower Low Water (MLLW) as specified in the Project Instructions. The operating National Water Level Observation Network (NWLON) primary tide station at Juneau, AK (945-2210) served as control for datum determination and as the primary source for water level correctors for survey F00575.

A request for delivery of final approved (smooth) tides for survey F00575 was forwarded to N/OPS1 on November 11, 2009 in accordance with the Field Procedures Manual (FPM), dated April 2009. A copy of the request is included in Appendix IV.

As per the Project Instructions, all data were reduced to MLLW using the final approved water levels (smooth tides) from the Juneau, AK station (945-2210) by applying tide file 9452210.tid and time and height correctors through the zone corrector file O927FA2009CORP.[4] **It will not be necessary for the Atlantic Hydrographic Branch to reapply the final approved water levels (smooth tides) to the survey data during final processing.**[5]

D. RESULTS AND RECOMMENDATIONS

D.1. Chart Comparison

Chart comparison procedures were followed as outlined in section 4.5 of the FPM and section 8.1.3-D.1 of the HSSDM, utilizing CARIS HIPS & SIPS and Notebook software programs.

Survey F00575 was compared with chart 17312, second edition, dated November 1, 2005. This is the largest scale chart for the area (1:10,000) and updated with Notice to Mariners through October 31, 2009 (42/09). There were no major changes within the survey area. Numerous cable areas are located within the survey limits, but are not apparent in their respective charted positions in MBES data. It is the recommendation of the Hydrographer that as-builts for the area be investigated for charting purposes.[6]

A preliminary Electronic Navigational Chart (ENC) cell was provided, US5AK34E, and not used for comparison purposes.

D.1.1. Chart 17312

Soundings from survey F00575 generally agree within one to two fathoms with depths on chart 17312.

D.1.2. Chart Comparison Recommendations

The Hydrographer has determined that bottom coverage requirements have been met and data accuracy meets requirements specified by the *HSSDM*. **The surveyed soundings are adequate to supersede prior surveys in their common areas.**

D.2. Automated Wreck and Obstruction Information System (AWOIS) Investigations

1. There were a total of 6 AWOIS items located within the limits of F00575. Four were assigned for background information only, and two were provided to update maritime boundary claims. All AWOIS items were addressed and are included in the F00575 Tabulated Feature Listing in Appendix II.[7]

D.3. Dangers to Navigation

There were no dangers to navigation found within the survey limits.

D.3.1. Shoreline Source

A composite source file (CSF) in .000 format from HSD's Operations Branch was provided with the Project Instructions. The original file was imported into CARIS Notebook, converted to a .hob file, clipped to the sheet limits, and named F00575_Original_Composite_Source.hob to be included with the deliverables. This file was copied and named F00575_Feature_File.hob to be utilized during field verification. Shoreline sources that were included in the composite source file for survey F00575 included charted features from chart 17312 and prior survey H10087, see Table 5.

An AWOIS feature hob file separated out from the project reference file (PRF) was used in the field for investigation purposes during shoreline verification. This survey addressed the following AWOIS Items: 53816, 53817, 53818, 52348, 52349, 50471.

D.3.2. Shoreline Verification

Fairweather personnel were unable to conduct limited shoreline verification at times near predicted low water, as directed in the Project Instructions and section 3.5.5.3 of the FPM. Areas that required feature investigations were visited at the lowest stage of tide that was available which corresponded to approximately 3 feet of tide on Dn #315. Detached positions (DPs) were acquired and edits to the field F00575_Final_Feature_File.hob were recorded in CARIS Notebook and on paper DP forms. Scanned copies of the DP forms are included in the digital Separates I folder. Field annotations were collected and transferred to the F00575_Final_Feature_File.hob, though original boat sheets were not scanned and are not included for this survey.

Chart 17312 (1:10,000) was the largest scale chart for the project area. A Mean High Water (MHW) Buffer line, offset 8 meters (0.8 mm at scale of 1:10,000) from the composite source MHW, was used during shoreline verification to determine the Navigable Area Limit Line (NALL). The NALL, that defines the inshore limit of multibeam acquisition, was determined in the field as the farthest off-shore of either the MHW buffer listed above, the 4-meter depth contour, or the inshore limit of safe navigation. Areas inshore of the 4-meter depth contour were investigated frequently in this survey due to navigational significance and maritime industry operations in the vicinity. Negative depths were developed in some locations.

D.3.3. Shoreline Data Processing

Acquired and edited positions during shoreline verification operations were processed in CARIS Notebook. Features that required tide correction were processed using the Load Tide function in CARIS Notebook. Approved water levels were applied to tide correct features where appropriate.

New features and features requiring revision were given S-57 attribution. As outlined in section 4.4.10 of the FPM, features were delineated, attributed and placed on either the survey edited F00575_Final_Feature_File.hob or F00575_Disprovals.hob.

Source features collected or edited by the field have source indication (SORIND) and source date (SORDAT) attribute fields populated to reflect the survey number (US,US,graph,F00575) and final survey date (20091111), respectively. Unmodified source shoreline features were left with their original SORIND and SORDAT values. The SORIND/SORDAT information for shoreline features included in the final Notebook .hob files is included in Table 5.

Shoreline Source	SORIND	SORDAT
Chart	US,US,graph,Chart 17312	20051100
Survey	US,US,graph,survey H10087	19830000
Survey	US,US,graph,F00575	20091111

Table 5: SORIND/SORDAT Shoreline Features

D.4. Source Shoreline Changes, New Features and Charted Features

In accordance with section 4.4.10 of the FPM, field notes made by the Hydrographer were provided in the Remarks field for features and when appropriate, recommendations to the cartographer were included in the Recommendations field.

Items disproved by the Hydrographer and deemed to not be included in the F00575_Final_Feature_File.hob file were moved to the F00575_Disprovals .hob file.

Numerous extents of sections of the shorline (ledges) are in conflict with hydrography. After discussion with representatives from both the Pacific Hydrographic Branch and the Atlantic Hydrographic Branch, it has been decided to leave the ledge area features intact for shore side personnel to manage.[8] In areas assigned for investigation, disprovals were moved to the F00575_Disprovals.hob, and the existing features modifed in the F00575_Final_Feature_File.hob file.

D.4.1. Shoreline Recommendations

The Hydrographer recommends that the shoreline depicted in the CARIS Notebook files and final sounding files supersede and complement shoreline information compiled on the CSF and charts.

D.5. Aids to Navigation

No detached positions were taken of Aids to Navigation (ATON) during the course of survey F00575. All existing ATONs were found to be charted correctly and serving their intended purposes.[9]

D.6. Miscellaneous

Discussed in B.2.4 there were 2 suspected underwater man-made linear features. The Hydrographer recommends that records, deeds and as-built information for the area be investigated to confirm the location and nature of these constructions and of the numerous other charted cables within the survey area.[10]

D.6.1. Bottom Samples

Nine total bottom samples were collected on November 11, 2009 (DN315) and are included as seabed classifications along with the other S-57 features in the Notebook F00575_Final_Feature_File .hob file.[11]

D.7. Supplemental Reports

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

Title	Date Sent	Office
Hydrographic Systems Readiness Review 2009	May 15, 2009	N/CS33
Data Acquisition and Processing Report 2009	December 21, 2009	N/CS33

Revisions Compiled During Office Processing and Certification

[1] Per Project Instructions, Change No. 1, dated September 23, 2009, this area was to be surveyed at a scale of 1:5,000.
[2] The possible cable areas were digitized by the compiler as $LINES over the linear features. They are contained in the CS file. This compiler recommends that MCD look into records to determine if the linear features are submarine cables.
[3] A 4 meter Combined BASE surface was used for HCell compilation
[4] The Final Tide Note is appended to this report.
[5] F00575 was submitted to the Pacific Hydrographic Branch for review and compilation.
[6] See endnote 2.
[7] The AWOIS Report is appended to this report. The AWOIS items are included in the HCell.
[8] Ledges and intertidal areas are included in the HCell.
[9] Chart navigational aids per the latest ATONIS information.
[10] See endnote 2.
[11] The nine new bottom samples are included in the HCell. None of the ten previously charted bottom samples were retained.

AWOIS Report

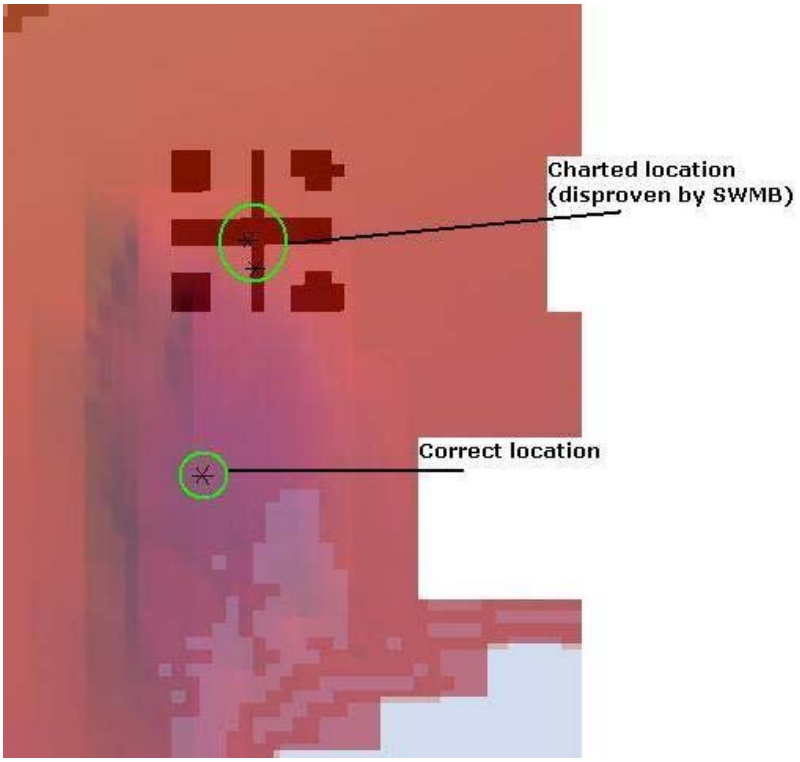
The purpose of this document is to provide the compiler with additional information in regards to the AWOIS items assigned to survey F00575. The information delivered by the field was not sufficient for updating the AWOIS database. This document shall be appended to the final DR during HCell compilation.

AWOIS Item #53816

Information assigned to the field:

History: Rock awash at charted position: 58/06/32.1 - 134/45/36.4 in approximately 2 fathoms of water. Investigate with 100% swmb object detection. (PTT 7/29/09)
Location: 58-06-31.49N, 134-45-36.64W
Item Status: Assigned
Search Type: Information
Radius: 50m
Technique: SWMB
Technique Note: NULL

Remarks: 100% multibeam coverage was obtained over the charted position disproving the rock at that location. It appears from the SWMB that the awash rock is located approximately 18.7m from the currently charted location on a line of bearing of 192-47-09.



New location AWOIS 53816

Recommendations: Remove the disproven charted rock and chart the rock awash at the corrected location from SWMB located in file F00575_Final_Feature_File.

Office Notes: Concur with clarification; remove charted rock at 58-06-32.08N, 134-45-36.38W. Chart southerly adjacent reef and rock at 58-06-31.49N, 134-45-36.64W as depicted in F00575_CS.000.

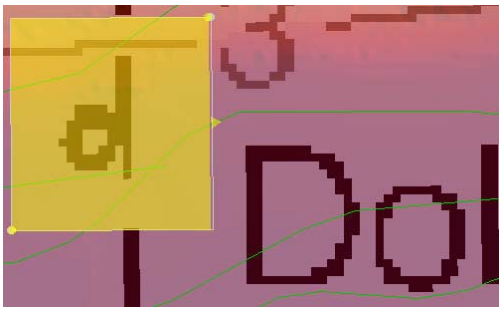
AWOIS Item #50471

Information assigned to the field:

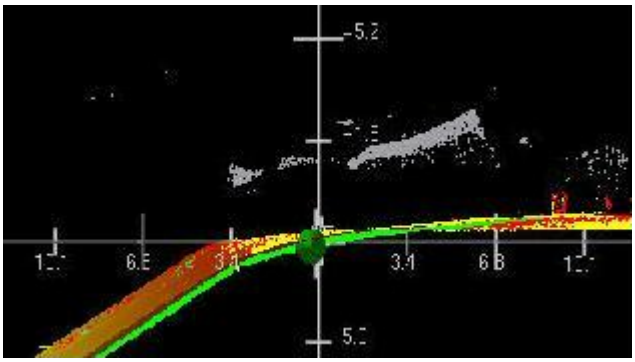
History: CL660/58--COE ENGINEERING DRAWING; DOLPHIN AT POS.58-05-08.6N, 134-46-18.83W (COMPUTED FROM R. BEARING TO TRIANG. STATION CALM). CONSISTS OF 3 PILES 35.6 FT ABOVE MLLW. 24 SINGLE PILES LOCATED THROUGHOUT CENTER OF TWO ISLAND COVE
CL1825/76--COAST PILOT REPORT; 2 FISH TRAP RUINS AND 6 STUB PILES REMAIN.
H10087/83--OPR-0362-FA-83; OBSTR, DOLPHIN (UNCOVERS 1FT AT MLLW) WAS LOCATED AT LAT 58-05-11.05N, LONG 134-46-21.35W. REFERENCE AWOIS ITEM 50081. (UPDATED 9/85 RWD)
H10746/97--DOL (UNCOVERS 1FT AT MLLW), POSITION GIVEN IN LAT 58/05/09.28N, LONG 134/46/28.45W. (PTT 7/29/09)
Location: 58-05-08.6N, 134-46-18.83W
Item Status: Assigned
Search Type: Information
Radius: 100m
Technique: SWMB
Technique Note: NULL

Remarks: 100% multibeam coverage was obtained over the charted position disproving the obstruction (dolphin) at that location (see screengrabs below).

Recommendations: Remove the disproven dolphin (symbol and label) from the chart.



AWOIS 50471 subset location



3-D Subset cross-section

Office Notes: Concur with field recommendations, remove charted dolphin.

AWOIS Item #52348

Information assigned to the field:

History: H10087/83-- 3 FT SUBM ROCK (ESTIMATED DEPTH), POSITION GIVEN IN ì
LAT 58-05-10N, LONG 134-46-41W (NAD27). (ENTERED 4/97 RWD)
H10746/97-- 4 FT SUBM ROCK (0.7FM) FOUND, POSITION GIVEN IN LAT ì
58/05/07.88N, LONG 134/46/47.59W (NAD83), investigate with 100% swmb. (PTT 7/29/08
Location: 58-05-07.96N, 134-46-47.68W
Item Status: Assigned
Search Type: Information
Radius: 100m
Technique: SWMB
Technique Note: NULL

Remarks: Rock with least depth of 4.2ft (1.290m) located at specified coordinates by means of 100% SWMB. Rock is 2.22m away on line of bearing 298° from disproven charted 0.4m rock.

Recommendations: Remove disproven charted rock 0.4fm rock and chart new 0.7fm (1.29m) rock at the corrected location from SWMB located in file F00575_Final_Feature_File.

New 0.7fm rock and disproven charted 0.4fm rock.

NOTE: Units on figure text should read 0.4fm and 0.7fm (1.29m).

Office Notes: Concur with field recommendations, remove charted rock, chart surveyed rock per F00575_CS.000.

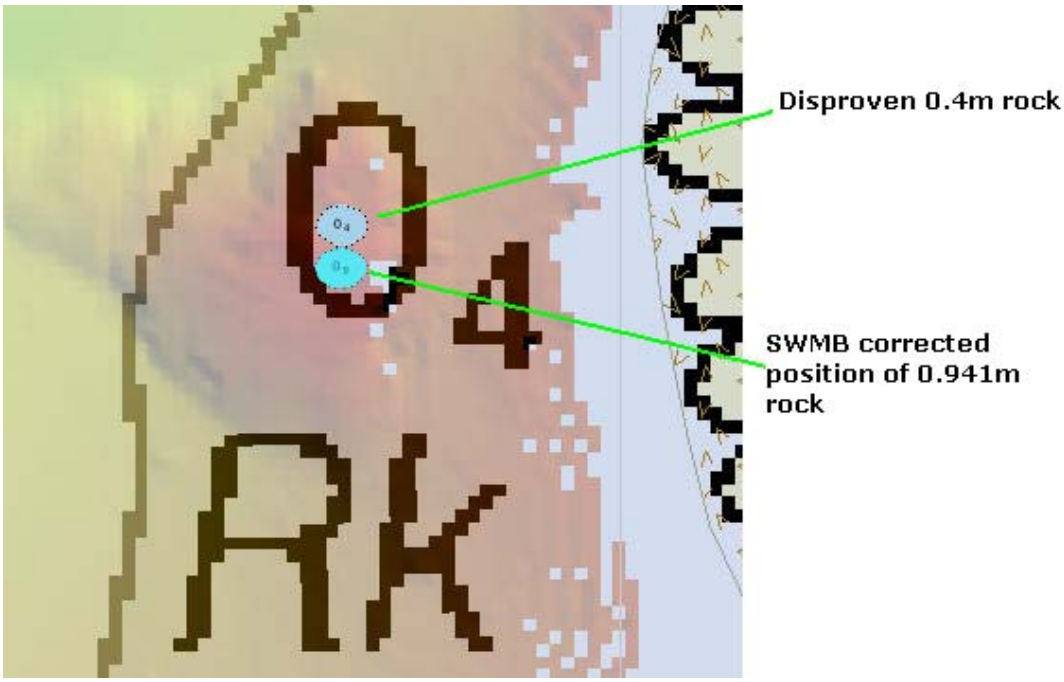
AWOIS Item #52349

Information assigned to the field:

History: H10087/83-- 5 FT SUBM ROCK (ESTIMATED DEPTH), POSITION GIVEN IN ì
LAT 58-05-10.7N, LONG 134-46-37W (NAD27). (ENTERED 4/97 RWD)
H10746/97-- 4 FT SUBM ROCK (0.7FM), POSITION GIVEN IN LAT ì
58/05/09.72N, LONG 134/46/43.35W (NAD83), investigate with 100% swmb.(PTT 7/29/09)
Location: 58-05-09.72N 134-46-43.29W
Item Status: Assigned
Search Type: Information
Radius: 100m
Technique: SWMB
Technique Note: NULL

Remarks: Shoalest point (0.4fm) of charted rock disproved at this location. Shoalest depth over rock in SWMB is 0.5fm (0.941m) located 3.4m south of current charted position. (see image below)

Recommendations: Remove disproven charted rock and chart 0.5fm (0.941m) rock at the corrected location from SWMB located in file F00575_Final_Feature_File.



New 0.5fm (0.941m) rock and disproven charted 0.4fm rock.

NOTE: The units on the figure text should read 0.4fm and 0.5fm (0.941m).

Office Notes: Concur with field recommendations, remove charted rock, chart surveyed rock per F00575_CS.000.

AWOIS Item #53817

Information assigned to the field:

History: A bay closing line connecting low water extensions of the mainland was originally drawn at the request of EPA, verify and delineated extent of low water line at the entrance to Hawk Inlet in order to update the Maritime Boundary Claim. The point referenced in this AWOIS item is the Northern most of the two points. (PTT, 8/24/09)

Location: 58-05-36.04N *to* 58-05-39.0N, 134-47-05.48W *to* 134-47-12.9W

Item Status: Assigned

Search Type: Full

Radius: 50m

Technique: SWMB

Technique Note: NULL.

Remarks: The referenced area is located along the southerly seaward boundary of a charted ledge. This survey revised that portion of the seaward extents of the ledge from that depicted on the chart, by means of SWMB and detached positions. (NOTE: A rock shown near the southern extremity of the ledge, with height found by leveling, and identified in Figure A, is listed incorrectly on the Features tab of F00575_Tabulated_Feature_Listing as being a part of this AWOIS item. The reviewer footnoted this error in red on the Features tab in red and struck through the AWOIS number in the *remrks* column.) The DPs, shown in Figure A below, appear to correspond to the two Obstruction objects submitted in the Disprovals file rather than having been deleted by the field.

Recommendations: Revise ledge extents as defined by SBDARE object in file F00575_Final_Feature_File.

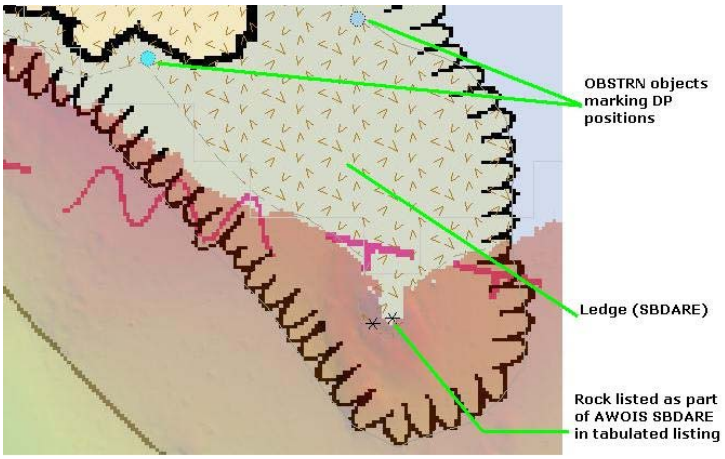


Figure A: Overview of revised changed portion of AWOIS item.

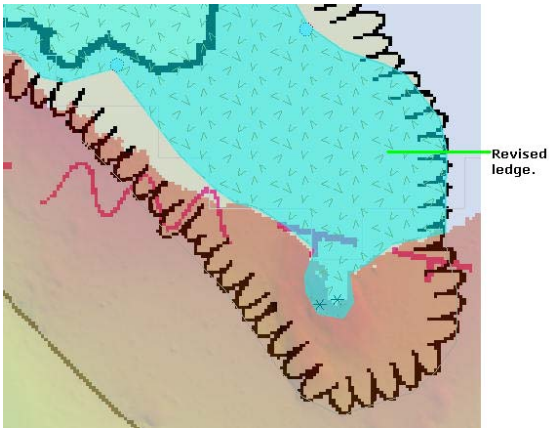


Figure B: Ledge showing new extents.

Office Notes: Post office processing recommends updating maritime boundary claim to the southernmost point of the surveyed ledge MLLW at position 58-05-35.93N, 134-47-07.63W.

AWOIS Item #53818

Information assigned to the field:

History: A bay closing line connecting low water extensions of the mainland was originally drawn at the request of EPA, verify and delineate extent of low water line at the entrance to Hawk Inlet in order to update the Maritime Boundary Claim. The point referenced in this AWOIS item is the Southern most of the two points. (PTT, 8/24/09)
Location: 58-05-00.06N *to* 58-05-02.9N, 134-46-54.44W to 134-47-02.99W
Item Status: Assigned
Search Type: Full
Radius: 50m
Technique: SWMB
Technique Note: NULL

Remarks: The referenced area is located along the northern portion of a northerly boundary of a charted ledge. The survey revised that portion of the seaward extents of the ledge from that depicted on the chart, by means of SWMB and a detached position. (NOTE: A new rock shown near the western extremity of the revised portion of the ledge, with no height given, identified in Figure C, is listed incorrectly on the Features tab of F00575_Tabulated_Feature_Listing as being a part of this AWOIS item. The reviewer footnoted this error in red on the Features tab in red and struck through the AWOIS number in the *remrks* column.)

Recommendations: Revise ledge extents as defined by SBDARE object in file F00575_Final_Feature_File.

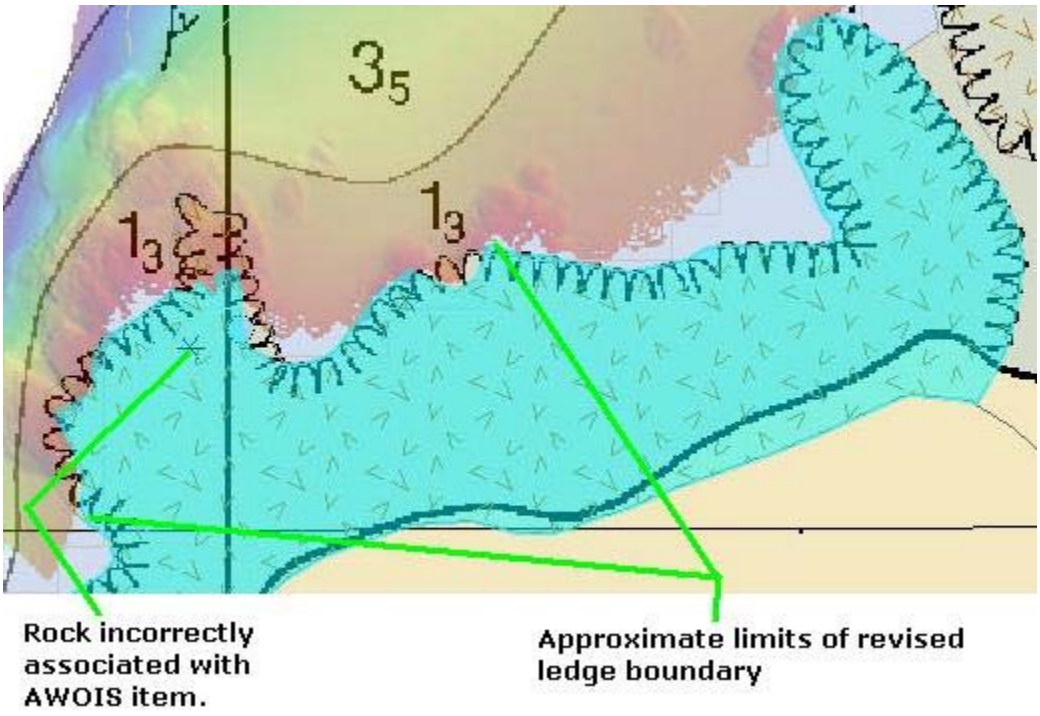


Figure C: Revised area of charted ledge

Office Notes: Post office processing recommends updating maritime boundary claim to the northernmost points of the surveyed ledge MLLW at positions 58-05-03.14N, 134-46-59.94W and 58-05-03.24N, 134-46-54.57W.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NOAA Marine and Aviation Operations
NOAA Ship FAIRWEATHER S-220
1010 Stedman Street
Ketchikan, AK 99901

May 24, 2010

MEMORANDUM FOR: LCDR Richard T. Brennan, NOAA
Chief, Atlantic Hydrographic Branch

FROM: CAPT David O. Neander, NOAA
Commanding Officer

David O. Neander
2010.05.25
13:19:25 -07'00'

TITLE: Approval of Hydrographic Survey F00575,
S-O927-FA-09

As Chief of Party, I have ensured that standard field surveying and processing procedures were adhered to during acquisition and processing of hydrographic survey F00575 in accordance with the Hydrographic Manual, Fourth Edition; Field Procedures Manual, May 2009; and the NOS Hydrographic Surveys Specifications and Deliverables, as updated for April 2009. Additional guidance was provided by applicable Hydrographic Technical Directives. These data are adequate to supersede charted data in their common areas. This survey is complete and no additional work is required. All data and reports are respectfully submitted to N/CS33, Atlantic Hydrographic Branch.

I acknowledge that all of the information contained in this report is complete and accurate to the best of my knowledge.

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

ENS Steven Loy
2010.05.24 17:29:07 Z

ENS Steven Loy
Survey Manager

Briana Welton
I attest to the accuracy and integrity
of this document
2010.05.25 15:12:41 Z

LT Briana Welton
Field Operations Officer

Digitally signed by Lynnette
Morgan
Date: 2010.05.24 20:04:57 -08'00'

CST Lynnette V. Morgan
Chief Survey Technician

Attachment

UNITED STATES DEPARMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Service
Silver Spring, Maryland 20910

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE : December 4, 2009

HYDROGRAPHIC BRANCH: Atlantic
HYDROGRAPHIC PROJECT: S-O927-FA-2009
HYDROGRAPHIC SHEET: F00575

LOCALITY: Hawk Inlet, Chatham Strait, AK
TIME PERIOD: November 11, 2009

TIDE STATION USED: 945-2210 Juneau, AK
Lat. 58° 17.9'N Long. 134° 24.6' W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 4.676 meters

REMARKS: RECOMMENDED ZONING

Preliminary zoning is accepted as the final zoning for project S-O927-FA-2009, F00575 on November 11, 2009.

Please use the zoning file "O927FA2009CORP" submitted with the project instructions for S-O927-TJ-2009. Zone SEA62 is the applicable zone for F00575.

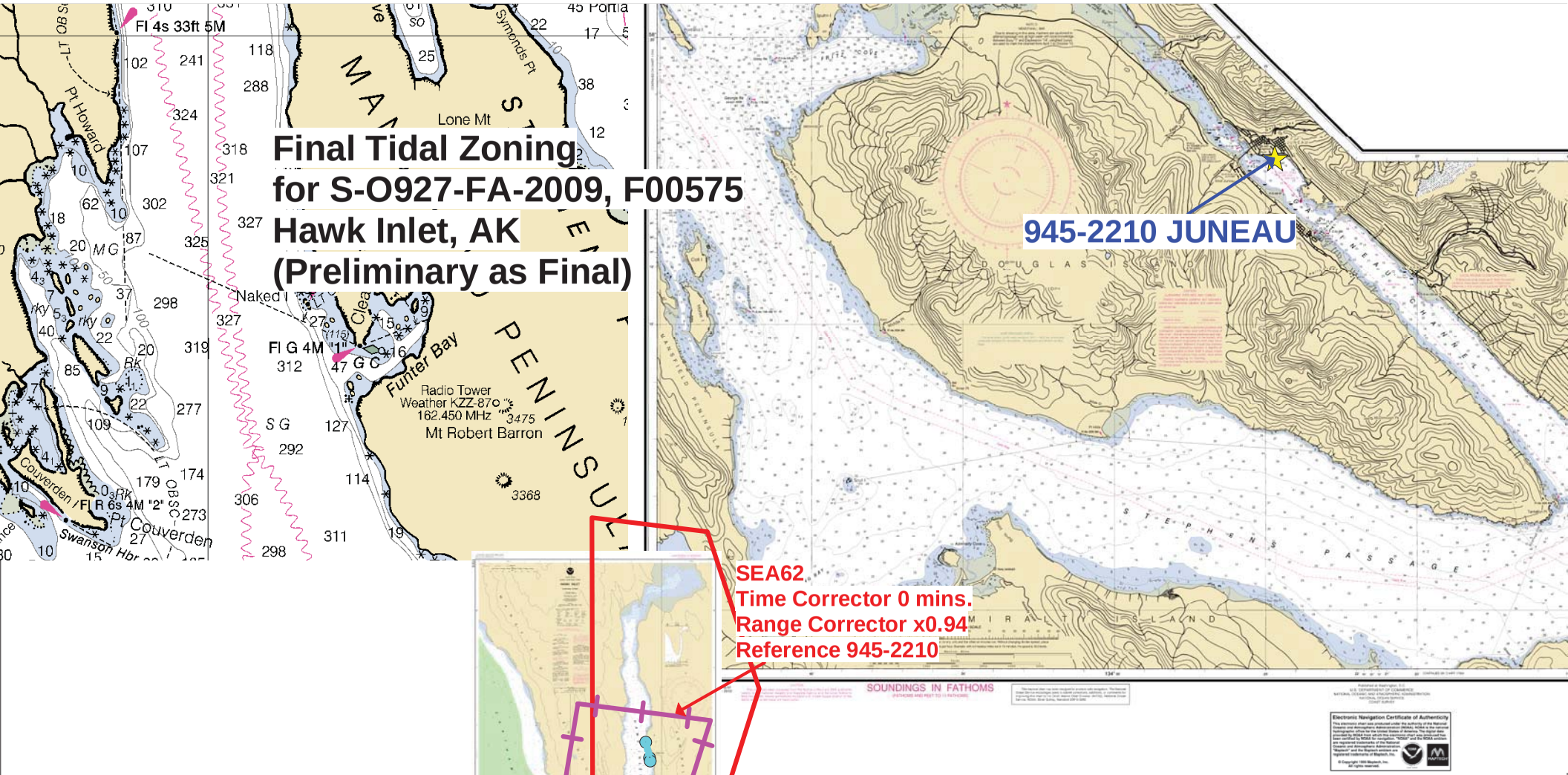
Refer to attachments for zoning information.

Note 1: Provided time series data are tabulated in metric units (meters), relative to MLLW and on Greenwich Mean Time on the 1983-2001 National Tidal Datum Epoch (NTDE).

Peter J. Stone

Digitally signed by Peter J. Stone
DN: cn=Peter J. Stone, o=CO-OPS, ou=NOAA/NOS, email=peter.stone@noaa.gov, c=US
Date: 2009.12.11 14:16:33 -05'00'

CHIEF, OCEANOGRAPHIC DIVISION


Final Tidal Zoning
for S-O927-FA-2009, F00575
Hawk Inlet, AK
(Preliminary as Final)
945-2210 JUNEAU
SEA62
Time Corrector 0 mins.
Range Corrector x0.94
Reference 945-2210
Fl 4s 33ft 5M
Pt Howard
Lone Mt
Naked I
Fl G 4M "1"
Funter Bay
Radio Tower
Weather KZZ-87
162.450 MHz
Mt Robert Barron
3475
3368
Couverden
Fl R 6s 4M "2"
Pt Couverden
Swanson Hbr
Symonds Pt
Port a
PENINSULA
MAIN
STEPHENS PASSAGE
SOUNDINGS IN FATHOMS

PHB Compilation Log

General Survey Info

Survey Number	F00575	Field Unit	NOAA Ship Fairweather	State	AK	UTM Zone	8N
Project Number	S-O927-FA-09	Project Name (Locality)	Chatham Straits, Alaska				
Start Date	11/11/2009	Sublocality	Hawk Inlet				
End Date	11/11/2009	Survey Scale	1:5,000	Compilation Scale	1:10,000		

Affected Raster Charts

Chart	KAPP	Scale	Edition	Date	NTM Date
17312	2986	1:10,000	2nd	11/01/2005	10/01/2011

Add Chart | Remove Chart

Affected Electronic Charts

ENC	Scale
US3AK3AM	1:209,978

Add ENC | Remove ENC

Spatial Reference

Horizontal Datum	NAD83
Coordinate System	LLDG
Sounding Datum	MLLW
Vertical Datum	MHW

Junction Surveys

Survey Number	Survey Date	Location Relative to Current Survey
N/A		(NE, SW, NNW, ect.)

Add Survey | Remove Survey

HCell Compiler	Kay MacDonald	QC Reviewer	Martha Herzog	SAR Reviewer	Keith Toepfer

Source Surfaces

Resolution	File Name
4m	F00575_4m_Office_Final_Combined

Add Surface | Remove Surface

Supporting Documents

Name	Version
Specs and Deliverables	April 2009
HCell Specs	6.1
FPM	2009

Add Doc | Remove Doc

PHB Compilation Log

PHB Compilation Log

Processing Info

Software Used		
Software	Version, HF	Used For
CARIS HIPS	7.0 SP2 HF3	SAR Review. Inspection of Combined BASE Surfaces.
Pydro	11.8	SAR Review. Generation of Features Reports.
CARIS BASE Editor	3.2 HF5	Creation of soundings and bathy-derived features, meta area object, and Blue Notes; Survey evaluation and verification; Initial HCell assembly.
CARIS S-57 Composer	2.2 HF4	Final compilation of the HCell, correct geometry and build topology, apply final attributes, export the HCell, and QA.
CARIS GIS	4.4a	Setting the sounding rounding variable for conversion of the metric HCell to NOAA charting units with NOAA rounding. (For Fathoms and Feet chart units only.)
CARIS HOM	3.3 SP3 HF8	Perform conversion of the metric HCell to NOAA charting units with NOAA rounding. (For Fathom and Feet chart units only)
CARIS Plot Composer	5.1 SP 1	Generate plots of CARIS Session files used for QC.
HydroService, dKart Inspector	5.1	Validation check of the base cell file.
Fugawi View ENC	1.0.0.3	Independent inspection of final HCells using COTS viewer.

Product Info

Deliverables	
Chart Scale HCell	F00575_CS.000
Survey Scale HCell	F00575_SS.000
HCell Report for MCD	F00575_HR.pdf
Feature Listing	F00575_FL.txt
Descriptive Report	F00575_DR.pdf
Survey Outline	F00575_Outline.gml and .xsd

Horizontal and Vertical Units

During creation of the HCell all soundings and features are maintained in metric units with as high precision as possible. Depth units for soundings measured with sonar maintain millimeter precision. Depths on rocks above MLLW and heights on islets above MHW are typically measured with range finder, so precision is less.

Depth Units (DUNI)	Fathoms and Feet
Height Units (HUNI)	Feet
Positional Units (PUNI)	Meters

Radius Setting

A survey-scale sounding (SOUNDG) feature object layer was built from the Combined Surface in CARIS BASE Editor. A shoal-biased selection was made at survey scale using a Radius Table file with values shown below.

Radius (mm)	Min. Depth (m)	Max Depth (m)
3	0	10
4	10	20
4.5	20	50
5	50	500

Contours

Depth contours at the intervals on the largest scale chart are included in the SS HCell for MCD raster charting division to use for guidance in creating chart contours. With the exception of the zero contours included in the *_CS file, contours have not been deconflicted against shoreline features, soundings and hydrography.

Charted Contours	Metric Equivalent	Metric- NOAA Rounded	Chart Contours - NOAA Rounded
0 fm	0 m	.2286 m	0.125 fm
3 fm	5.4864 m	5.715 m	3.125 fm
10 fm	18.288 m	18.5166 m	10.125 fm
20 fm	36.576 m	37.9476 m	20.75 fm

Add Contour | Remove Contour

PHB Compilation Log

Additional Info

Contact Information

Inquiries regarding this HCell content or construction should be directed to:

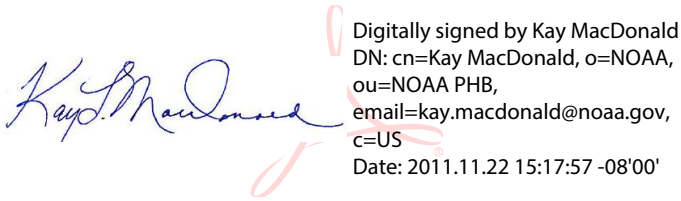
HCell Compiler	Kay MacDonald
Phone Number	206-526-6883
Email	kay.macdonald@noaa.gov

Compilation Comments

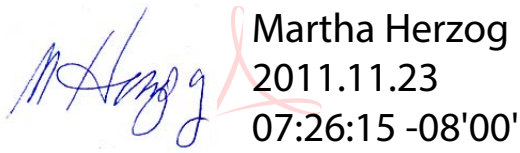
APPROVAL SHEET
F00575

Initial Approvals:

The survey evaluation and verification has been conducted according to branch processing procedures and the HCell compiled per the latest OCS HCell Specifications.



The survey and associated records have been inspected with regard to survey coverage, delineation of the depth curves, development of critical depths, S-57 classification and attribution of soundings and features, cartographic characterization, and verification or disproval of charted data within the survey limits. The survey records and digital data comply with OCS requirements except where noted in the Descriptive Report and are adequate to supersede prior surveys and nautical charts in the common area.



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