H11232

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. RA-10-08-03

Registry No. H-11232

LOCALITY

State Alaska

General Locality SW Alaska Peninsula

Sublocality Lower Kuiukta Bay & Sweater Bay

2003

CHIEF OF PARTY
CDR J.W.Humphrey, NOAA

LIBRARY & ARCHIVES

DATE

NOAA FORM 77-28
(11-72)

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

REGISTER NO.

H11232

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-10-08-03

State: Alaska

General Locality: SW Alaska Peninsula

Sublocality: Lower Kuiukta Bay and Sweater Bay

Scale: 1:10,000 Date of Survey: 7/14/2003 - 8/10/2003

Instructions Date: 7/3/2003 Project No.: OPR-P182-RA-03

Vessel: NOAA Ship launches RA1, RA2, RA4, RA5, RA6

Chief of Party: CDR J.W. Humphrey, NOAA

Surveyed by: RAINIER Personnel

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

Graphic record scaled by: RAINIER Personnel

Graphic record checked by: RAINIER Personnel

Evaluation by: B. Taylor Automated plot by: HP Designjet 1050C

Verification by: Keith H. Toepfer, Elias Domingas

Soundings in: Fathoms and tenths at MLLW

REMARKS: Time in UTC. UTM Projection Zone 4

Revisions and annotations appearing as endnotes were generated during office processing.

All separates are filed with the hydrographic data.

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

Descriptive Report to Accompany Hydrographic Survey H11232

Project OPR-P182-RA-03
Southwest Alaska Peninsula, Alaska
Scale 1:10,000
July - August 2003
NOAA Ship RAINIER
Chief of Party: Commander John W. Humphrey, NOAA

A. AREA SURVEYED

This hydrographic survey was completed as specified by Hydrographic Survey Letter Instructions OPR-P182-RA-03, dated July 3, 2003, and the Draft Standing Project Instructions dated March 21, 2001. The survey area is Kuiukta Bay and the approaches, on the Gulf of Alaska side of the Alaska Peninsula and approximately 25 nautical miles SW of Castle Cape. This survey corresponds to sheet "AR" in the sheet layout provided with the Letter Instructions.

One hundred percent shallow-water multibeam (SWMB) coverage was obtained in the survey area in waters greater than 100 meters from shore and deeper than 8 meters. Additional coverage was acquired to obtain least depths over significant features or shoals in shore of this limit. Vertical-beam echo sounder (VBES) data were acquired in depths from 4 to 50 meters to define the four-meter curve and to aid in the planning of SWMB data acquisition.

Data acquisition was conducted from July 14 to August 10, 2003 (DN 195 to 222).[1]

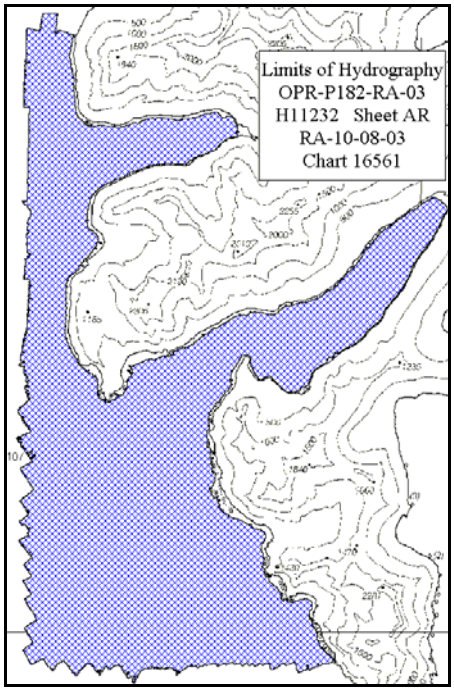

Figure 1. H11232 Survey Limits.

B. DATA ACQUISTION AND PROCESSING

A complete description of data acquisition and processing systems, survey vessels, quality control procedures and data processing methods can be found in the *OPR-P182-RA-03 Data Acquisition and Processing Report* (DAPR), submitted under separate cover[2]. Items specific to this survey, and any deviations from the aforementioned report, are discussed in the following sections.

B1. Equipment and Vessels

Data were acquired by RAINIER and her survey launches RA1, RA2, RA4, RA5, and RA6. Vessels RA4, RA5, & RA6 were used to acquire shallow-water multibeam (SWMB) soundings and sound velocity profiles. Vessels RA1 and RA2 were used to acquire vertical-beam echo soundings (VBES) and detached positions (DPs) for shoreline verification. Vessel RA1 was also used to collect bottom samples.

No unusual vessel configurations were used for data acquisition.

B2. Quality Control

Crosslines

Vertical Beam Echo Sounder (VBES) crosslines including buffer lines totaled 19.5 nautical miles, comprising 109% of mainscheme hydrography. Crosslines generally agreed within 1 meter of mainscheme hydrography.

Shallow-Water Multibeam (SWMB) crosslines totaled 27.07 nautical miles, comprising 17.74% of SWMB hydrography. The mainscheme bathymetry was manually compared to the XL nadir beams in CARIS subset mode and agreed well with differences averaging approximately 0.5 meter.

A statistical Quality Control Report has been conducted on representative data collected with each system used on this survey and is included in the *OPR-P182-RA-03 DAPR*. All systems collect data that meet IHO order 2 specifications.[3]

Through manual examination of the data and statistical analysis of data QC report accuracy standards for this survey have been met.[4]

Junctions

The following contemporary survey junctions with H11232:[5]

Registry #	Scale	Date	Junction side
H11230	1:10,000	2003	North
H11231	1:10,000	2003	West
H11233	1:10,000	2003	South

Surveys H11230, H11231 and H11233 all junction well with this survey, a cursory comparison indicates differences are generally less than one fathom.[6]

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

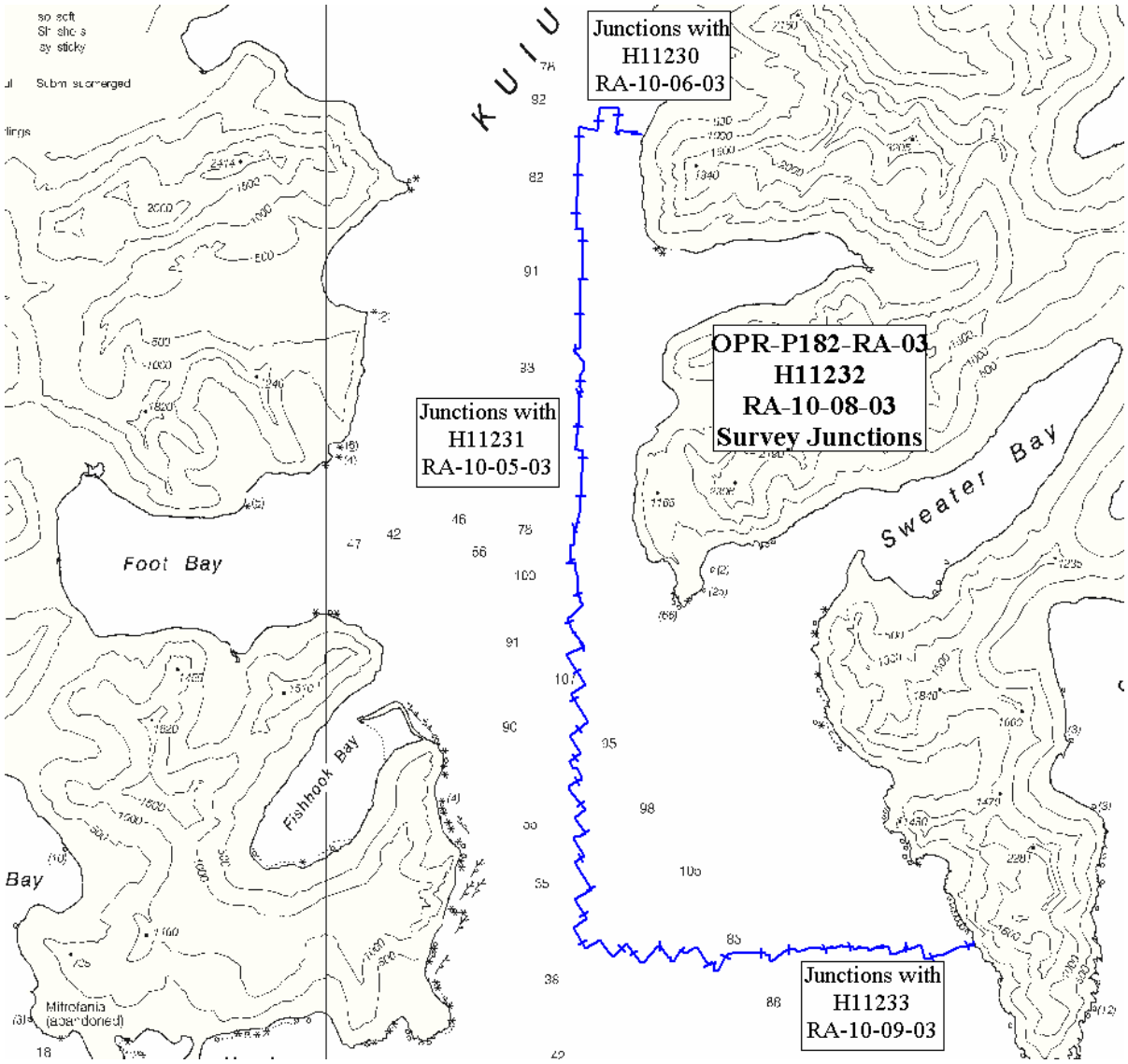

Figure 2. H11232 Junction Surveys.

Data Quality Factors

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

B3. Data Reduction

Data reduction procedures for survey H11232 conform to those detailed in the *OPR-P182-RA-03 DAPR.*

C. VERTICAL AND HORIZONTAL CONTROL

A complete description of vertical and horizontal control for survey H11232 can be found in the *OPR-P182-RA-03 Horizontal and Vertical Control Report*, submitted under separate cover[7]. A summary of horizontal and vertical control for this survey follows.

Horizontal Control

The horizontal datum for this project is the North American Datum of 1983 (NAD83). Differential GPS (DGPS) was the sole method of positioning. Differential corrections from U.S. Coast Guard beacon at Cold Bay (289 kHz) were utilized during this survey. Launch-to-launch DGPS performance checks using U.S. Coast Guard beacon Kodiak Island (313 kHz) as the check station were performed in accordance with Section 3.2 of the FPM. Copies of the performance checks are included in the *OPR-P182-RA-03 Horizontal and Vertical Control Report*.

Vertical Control

The vertical datum for this project is Mean Lower-Low Water (MLLW). The operating National Water Level Observation Network (NWLON) primary tide station at Sand Point, AK (945-9450) served as control for datum determination and as the primary source for water level reducers for survey H11232.

RAINIER personnel installed Sutron 8210 “bubbler” tide gauge at the following subordinate station to provide information for N/OPS1 to determine time and height correctors in accordance with the Project Instructions:

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Station Name	Station Number	Type of Gauge	Date of Installation	Date of Removal
Hump Island	945- 8964	30-day	July 09, 2003	August 11, 2003

All data were reduced to MLLW using unverified observed tides from station Sand Point, AK using the tide file 9459450.tid and time and height correctors using the zone corrector file P182RA2003CORP.zdf.

The Pacific Hydrographic Branch will apply final approved (smooth) tides to the survey data during final processing. A request for delivery of final approved (smooth) tides for survey H11232 was forwarded to N/OPS1 on August 13, 2003.[8] A copy of the request is included in Appendix IV.[9]

D. RESULTS AND RECOMMENDATIONS

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

No AWOIS items were located within the limits of H11232.[10]

D.2 Chart Comparison

Survey H11232 was compared with chart 16561 (1st Ed.; January 10, 2001, 1:80,000).[11] The soundings on chart 16561 are sparse within the sheet limits for H11232. The [12]soundings in the approaches to Kuiukta Bay are accurate within one fathom, with the exception of the most southern sounding, which is 10 fathoms shoaler than the depths collected during data acquisition from survey H11232.[13]

The Hydrographer has determined that data accuracy standards and bottom coverage requirements have been met and survey data are adequate to supersede charted data in their common areas.[14]

Final chart comparisons will be made at the Pacific Hydrographic Branch after the application of smooth tides.[15]

D.3 Shoreline

Shoreline Source

Vector photogrammetric project AK90902 was supplied by N/NGS3 in the form of a cartographic feature file (CFF). RAINIER conducted limited shoreline verification of the CFF. In addition, features shown on the current edition of chart 16561 that were not depicted on the shoreline source document were digitized in MapInfo by RAINIER personnel and displayed in Hypack for field verification.[16]

Shoreline Verification

Limited shoreline verification was conducted near predicted low water in accordance with the Standing Project Instructions and FPM sections 6.1 and 6.2. Detached positions (DPs) taken during shoreline verification were recorded in HYPACK and on DP forms, and processed in Pydro. These indicate revisions to features and features not found on the verified shoreline. In addition, annotations describing shoreline were recorded on hard copy plots of digital shoreline. DP forms are included in Section I of the *Separates to be Included with Survey Data.*

A detailed Detached Position and Bottom Sample plot[17], MapInfo format, is provided showing all detached positions and bottom samples with notes relating to each feature. The updated shoreline and features are also depicted on the final sounding plot. Verified CFF shoreline that did not require revision is in MapInfo table H11232_CFF_Shoreline and shown in black. New MLLW features and changes to the MLLW[18] shoreline, CFF or charted, are displayed in pink on the "H11232_Shoreline_Updates" Mapinfo table.[19] Charted shoreline, when used for reference purposes or when source data were not available, is depicted in the MapInfo table "H11232_Charted_Shoreline" and displayed in brown.

Source Shoreline Changes and New Features

The CFF rock at 56°02'15.799"N , 158°35'24.418"W (525538.46E , 6210353.94N) was visually found to be a charted (16561) islet centered at 56°02'15.392"N, 158°35'23.856"W

(525548.380E, 6210341.200N). The Hydrographer recommends charting the feature as the islet on chart 16561.[20]

The foul limits depicted in black in the "H11232_CFF_Shoreline" MapInfo table were extended in several areas, as depicted in pink in the MapInfo table "H11232_Shoreline_Updates" in the Detached Position and Bottom Sample Plot. The Hydrographer noted the foul areas during shoreline verification and the updated foul limits were based on the VBES buffer lines.[21]

In several areas near shore, eelgrass was evident and noted by the Hydrographer during shoreline verification. These areas are indicated in the "H11232_Shoreline_Notes" table in the Detached Position and Bottom Sample Plot.[22]

Recommendations

The Hydrographer recommends that the shoreline as depicted on the Detached Position and Bottom Sample and final sounding Mapinfo digital file supersede and complement shoreline information compiled on the CFF and charts as noted.[23] In addition, field notes made by the Hydrographer, including verification of source and charted features are submitted in the digital MapInfo file "H11232_Shoreline_Notes."

D.4 Dangers to Navigation

No dangers to navigation (DTONs) were found within the limits of H11232.[24]

D.5 Aids to Navigation

No aids to navigation (ATONs) are located within the limits of H11232.[25]

D.6 Miscellaneous

Bottom samples were collected and are depicted on the Detached Position and Bottom Sample Plot.[26] There are no historical bottom samples on chart 16561 to compare to the current Bottom Samples collected in the H11232 survey area.

In February 2004, the RAINIER was informed of a bug in CARIS SBEdit that incorrectly changes the Observed depths if the VBES data is processed in the following manner: SVP correct (at least once), followed by depth edits (includes accept/reject flagging), followed by an additional SVP correct and merge. By reconverting the raw VBES lines on survey H11232 and copying the SLRange, SLRangeLineSegments, SLRangeTmIdx files into the original processed line file folders, and re-merging, the errors from the Sbedit bug were removed. A comparison of the reconverted and original data in MapInfo shows that 51% of the soundings that were found to have the same latitude and longitude had depth differences greater than 0.1m with 24% of the soundings at the same positions having a difference greater than 0.2m. The range of differences was from 0.05m to 0.646m. The submitted HDCS_DATA for this survey includes the corrected VBES depths and meets requirements.[27]

E. APPROVAL

As Chief of Party, I have ensured that standard field surveying and processing procedures were followed in producing this survey in accordance with the Hydrographic Manual, Fourth Edition, Hydrographic Survey Guidelines, Field Procedures Manual and the NOS Hydrographic Surveys Specifications and Deliverables, as updated for 2003.

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

Survey H11232 is complete and adequate to supersede charted soundings[28] in their common areas. No additional work is required for this survey.[29]

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

Title	Date Sent	Office
Data Acquisition and Processing Report for OPR-P182-RA-03	12/09/03	N/CS34
Horizontal and Vertical Control Report for OPR-P182-RA-03	04/30/04	N/CS34
Tides and Water Levels Package for OPR-P182-RA-03	10/20/03	N/OPS1
Coast Pilot Report for OPR-P182-RA-03	12/28/04	N/CS26

Approved and Forwarded: John W. Humphrey
John W. Humphrey
Commander, NOAA
Commanding Officer

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

Survey Sheet Manager: Kaitlyn T. VanSant
Kaitlyn T. VanSant
Survey Technician, NOAA

Field Operations Officer:
Richard A. Fletcher
Lieutenant Commander, NOAA

Revisions Compiled During Office Processing and Certification

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[1] Concur.
[2] Filed with the project reports.
[3] Do not concur. As discussed in the PHB H11232 Survey Certification Memo (filed with the hydrographic records), data should conform to specifications set forth in the HSSDM requiring that the data meet IHO Order 1 specifications. After crossline comparison and examination of the standard deviation base surface, the reviewer concluded that H11232 met IHO Order 1 specifications. The data is acceptable for charting.
[4] Concur. H11232 is adequate to supersede all prior surveys and charted miscellaneous source data in the common areas except as noted in this report or the Hdrawing.
[5] Concur. In PHB processing, H11232 was also compared at its southeastern junction with LIDAR survey H11260 (OPR-P182-KRL-04). The comparison showed good correlation, generally to within 1 to 2 fathoms. MHWL revisions and features from LIDAR data have been applied to the Hdrawing in near-shore areas where H11232 multibeam or VBES data did not extend. Data from LIDAR source is found on Level 7 of the Hdrawing. All junction surveys have been considered in compiling the Hdrawing.
[6] Concur.
[7] Filed with the project reports.
[8] Approved Tide Note dated September 28, 2004 is attached.
[9] Filed with the hydrographic records.
[10] Concur.
[11] In PHB processing, H11232 was also compared with Chart 16561, 3rd Edition, continuous maintenance raster dated 3/3/06.
[12] Insert "charted".
[13] Concur with clarification. Charted soundings agree with survey soundings to within 2 fathoms (with the southernmost exception as noted).
[14] Concur.
[15] No changes to the chart comparison were noted after application of smooth tides, with the exception stated in Endnote 13.
[16] In addition, features from LIDAR survey 11260 have been compiled on the Hdrawing as warranted and are depicted on Level 7.
[17] Filed with the hydrographic records.
[18] Strikethrough ~~MLLW~~, replace with MHW.
[19] Concur with clarification. In three areas dotted pink lines on H11232_Shoreline_Updates, identified on the Legend as MLLW revisions, delineate depths of up to 10 fathoms. Their general vicinities are:

- Lat 56/2/34.9 and Lon 158/34/44.9
- Lat 56/2/44.8 and Lon 158/35/55.3
- Lat 56/5/22.4 and Lon 158/35/52.3

These areas are not explained on the DP plot, but are described on the field notes as *Foul*. Chart foul areas as depicted on the smooth sheet and Hdrawing.
[20] Concur.
[21] Concur with clarification. See endnote 19. Chart according to the smooth sheet.
[22] Concur.

[23] Concur with clarification. LIDAR data have also been compiled to the Hdrawing as warranted. Chart all areas according to the H11260 and H11232 smooth sheets and Hdrawing.
[24] Concur.
[25] Concur.
[26] Concur. Chart Bottom Samples according to the smooth sheet and Hdrawing.
[27] The corrected VBES data is acceptable for charting.
[28] Insert “and features”.
[29] Concur.

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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: September 28, 2004

HYDROGRAPHIC BRANCH: Pacific
HYDROGRAPHIC PROJECT: OPR-P182-RA-2003
HYDROGRAPHIC SHEET: H11232

LOCALITY: Lower Kuiukta Bay and Sweater Bay, AK
TIME PERIOD: July 14 - August 10, 2003

TIDE STATION USED: 945-8964 Hump Island, Alaska
Lat. 56° 06.8'N Lon. 158° 35.9'W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 2.174 meters

REMARKS: RECOMMENDED ZONING
Use zone(s) identified as: SWA169 & SWA169A.

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).

For ----------
CHIEF, REQUIREMENTS AND DEVELOPMENT DIVISION

Registry Number: H11232

State: Alaska

Locality: Kuiutka Bay

Sub-locality: Lower Kuiukta Bay and Sweater Bay

Project Number: OPR-P182-RA-03

Survey Date: 07/14/2003

Charts Affected

Number	Version	Date	Scale
16561	1st Ed.	01/20/01	1:80000
16013	28th Ed.	04/14/01	1:969761
16011	35th Ed.	12/02/00	1:1023188
16006	33rd Ed.	12/23/00	1:1534076
500	7th Ed.	06/01/96	1:3500000
530	30th Ed.	03/23/02	1:4860700
50	5th Ed.	07/30/94	1:10000000

Features

No.	Name	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	1195306	Sounding	39.99 m	56.04255804° N	158.52992195° W	---
1.2	2195143	Sounding	-0.25 m	56.04379345° N	158.57509125° W	---
1.3	2195977	Sounding	4.50 m	56.04489187° N	158.56840111° W	---

1.1) 1195306

Survey Summary

Survey Position: 56.04255804° N, 158.52992195° W

Least Depth: 39.99 m

Timestamp: 2003-195.19:35:34.000 (07/14/2003)

DP Dataset: h11232 / r1es_2003 / 2003-195 / dp1195

Profile/Beam: 1/1

Charts Affected: 16561_1, 16013_1, 16011_1, 16006_1, 500_1, 530_1, 50_1

Remarks:

1195306 Chd islet disproval; The charted (16561) islet was disproved after conducting a ten-minute visual search, a VBES star pattern search (RA1, Dn195) and obtaining 100% SWMB coverage. The sea conditions were calm and water visibility in this area was clear to a depth of seven meters with an average depth of 40 meters.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11232/r1es_2003/2003-195/dp1195	1/1	0.00	000.0	Primary

Hydrographer Recommendations

Remove charted (16561) islet as shown on the DPBS plot.

Cartographically-Rounded Depth (Affected Charts):

22fm (16561_1, 16013_1, 16011_1, 16006_1, 530_1)

40m (500_1, 50_1)

Office Notes

Concur with clarification. Replace "DPBS plot" with "smooth sheet".

1.2) 2195143

Survey Summary

Survey Position: 56.04379345° N, 158.57509125° W

Least Depth: -0.25 m

Timestamp: 2003-195.17:35:04.000 (07/14/2003)

DP Dataset: h11232 / r2ne_2003 / 2003-195 / dp2195

Profile/Beam: 2/1

Charts Affected: 16561_1, 16013_1, 16011_1, 16006_1, 500_1, 530_1, 50_1

Remarks:

2195143 CFF rk ext new ldg

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11232/r2ne_2003/2003-195/dp2195	2/1	0.00	000.0	Primary

Hydrographer Recommendations

Remove CFF rock and chart new ledge as shown on the DPBS plot.

Cartographically-Rounded Depth (Affected Charts):

0fm (16561_1, 16013_1, 16011_1, 16006_1, 530_1)

-.3m (500_1, 50_1)

Office Notes

Concur with clarification. Due to scale, chart rock at ledge position as depicted on the Hdrawing.

1.3) 2195977

Survey Summary

Survey Position: 56.04489187° N, 158.56840111° W

Least Depth: 4.50 m

Timestamp: 2003-195.23:51:10.000 (07/14/2003)

DP Dataset: h11232 / r2es_2003 / 2003-195 / dp2195

Profile/Beam: 1/1

Charts Affected: 16561_1, 16013_1, 16011_1, 16006_1, 500_1, 530_1, 50_1

Remarks:

2195977 Chd islet disproval; The charted (16561) islet was disproved after conducting a five minute visual search and a VBES star pattern search (RA2, Dn195). The sea conditions were calm and water visibility was clear to the bottom with an echo sounder depth of 4.46 meters.

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11232/r2es_2003/2003-195/dp2195	1/1	0.00	000.0	Primary

Hydrographer Recommendations

Remove charted (16561) islet as shown on the DPBS plot.

Cartographically-Rounded Depth (Affected Charts):

2 ½fm (16561_1, 16013_1, 16011_1, 16006_1, 530_1)

4.5m (500_1, 50_1)

Office Notes

Concur with clarification. Replace "DPBS plot" with "smooth sheet".

APPROVAL SHEET
H11232

Initial Approvals:

The survey and associated records have been inspected with regard to survey coverage, delineation of the depth curves, development of critical depths, cartographic symbolization, and verification or disproval of charted data. The survey records and digital data comply with NOS requirements except where noted in the Descriptive Report and are adequate to supersede prior surveys and nautical charts in the common area.

Bruce A. Olmstead Date: 11/8/2006
Bruce A. Olmstead
Cartographic Team
Pacific Hydrographic Branch

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

, CDR/NOAA Date: 13 Nov. 2006
Donald W. Haines
CDR, NOAA
Chief, Pacific Hydrographic Branch

Digitally signed by Kyle R. Ward
DN: cn=Kyle R. Ward, c=US, ou=HSD, email=Kyle.Ward@NOAA.GOV
Reason: AWOIS and Surf Check Completed
Date: 2006.12.05 08:19:18 -05'00'

NOAA FORM 75-96
(10-83)

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

MARINE CHART BRANCH

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H11232

INSTRUCTIONS

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

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

CHART	DATE	CARTOGRAPHER	REMARKS
16561	8/29/06	B. Taylor	[✓ Full] Part ~~Before After Marine Center Approval Signed~~ Via Application of
			~~Drawing No.~~ Soundings & features from
			Smooth sheet
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
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			Drawing No.

SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED.