H11607

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-10-15-06

Registry No. H11607

LOCALITY

State Alaska

General Locality Shumagin Islands and Vicinity

Sublocality East Bight to Larsen Bay

2006

CHIEF OF PARTY

Commander Guy T. Noll, NOAA

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DATE

NOAA FORM 77-28 (11-72)

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

REGISTER NO.

H11607

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-10-15-06

State: Alaska

General Locality: Shumagin Islands and Vicinity

Sublocality: East Bight to Larsen Bay

Scale: 1:10,000

Date of Survey: August 2, 2006 -August 25, 2006

Instructions Dated: 6/16/2006

Project No.: OPR-P183-RA-06

Vessel: RA-1 (1101), RA-2 (1103), RA-3 (1021), RA-4 (1016), RA-5 (1006), RA-6 (1015)

Chief of Party: Commander Guy T. Noll, NOAA

Surveyed by: RAINIER Personnel

Soundings taken by echo sounder: RESON 8101, RESON 8125, Elac 1180, Knudsen 320M

Graphic record scaled by: N/A

Graphic record checked by: N/A

Evaluation by: M. Herzog

Automated plot by: N/A

Verification by: M. Herzog, K. Reser

Soundings in: Fathoms and Feet at MLLW

REMARKS: Time in UTC. UTM Projection Zone 4

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

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

All separates are filed with the hydrographic data.

Descriptive Report to Accompany Hydrographic Survey H11607

Project OPR-P183-RA-06
Shumagin Islands, Alaska
East Bight to Larsen Bay
Scale 1:10,000
August 2006
NOAA Ship RAINIER (s221)
Chief of Party: Commander Guy T. Noll, NOAA

A. AREA SURVEYED

This hydrographic survey was completed as specified by Hydrographic Survey Letter Instructions OPR-P183-RA-06-Change 1 dated July 19, 2006 and all other applicable direction[1], with the exception of deviations noted in this report. The survey area is located in the Shumagin Islands, Alaska within East Bight and Larsen Bay of Nagai Island. This survey corresponds to sheet "P" in the sheet layout provided with the Letter Instructions. The purpose of OPR-P183-RA-06 is to update National Ocean Service (NOS) nautical charts and reduce the Critical Areas backlog. Current bathymetry is from 1913-1954 sonar and lead-line hydrographic surveys. The survey area contains two coast pilot recommended anchorages.

The inshore survey limit was the Navigable Area Limit Line, as defined in Hydrographic Surveys Technical Directive 2006-1[2]. Within these limits, 100% multi-beam echosounder (MBES) coverage was acquired in depths deeper than 8m. Areas between 8m and 4m deep were surveyed with a combination of vertical beam echosounder (VBES) and MBES at 25m line spacing with development of all indicated significant features. VBES was also used while conducting Shoreline Verification and for reconnaissance between 4 to 20 meters to aid in the planning of MBES data acquisition.

Along the shores of both Larsen Bay and East Bight the navigable area limit was up to 300 meters off the coast in depths of 6 to 15 meters due to extensive areas foul with kelp and rocks.

The head of Larsen Bay was surveyed with 25 meter spaced VBES running perpendicular to the shore in depths of 4 to 8m.

Limited Shoreline Verification was performed for the survey area.

[1] Standing Instructions for Hydrographic Surveys (May 2006), NOS Hydrographic Surveys Specifications and Deliverables (March 2003), OCS Field Procedures Manual for Hydrographic Surveying (May 2006), and all Hydrographic Surveys Technical Directives issued through August 31, 2006.
[2] The H11607 survey area is depicted on chart 16553 at 1:80,000 scale, but without soundings. Soundings for the area are depicted on chart 16540, but at 1:300,000 scale. The Chief of Party determined that the scale of chart 16553 (1:80,000) was more appropriate for setting the inshore limit of survey coverage.

Data Acquisition Type	#1101	#1103	#1021	#1016	#1006	#1015	Total
VBES (mainscheme) (nm)	-	14.5	-	-	-	-	**14.5**
MBES (mainscheme) (nm)	-	-	135.0	144.3	13.9	83.9	**377.1**
XL (MBES) (nm)	-	-	0.8	-	-	22.9	**23.7**
XL (VBES) (nm)	-	8.7	-	-	-	-	**8.7**
DEV (VBES +MBES) (nm)	-	-	-	-	-	-	**0**
Shoreline (nm)	4.7	16.8	-	-	-	-	**21.5**
Bottom Samples	-	11	-	1	-	-	**12**
Number of Items Investigated	3	15	-	-	-	-	**18**
Square Nautical Miles	-	-	-	-	-	-	**17.2**

Table 1. Statistics for survey H11607.

Data acquisition was conducted from August 2 through August 25, 2006 (DN 214 to DN237).

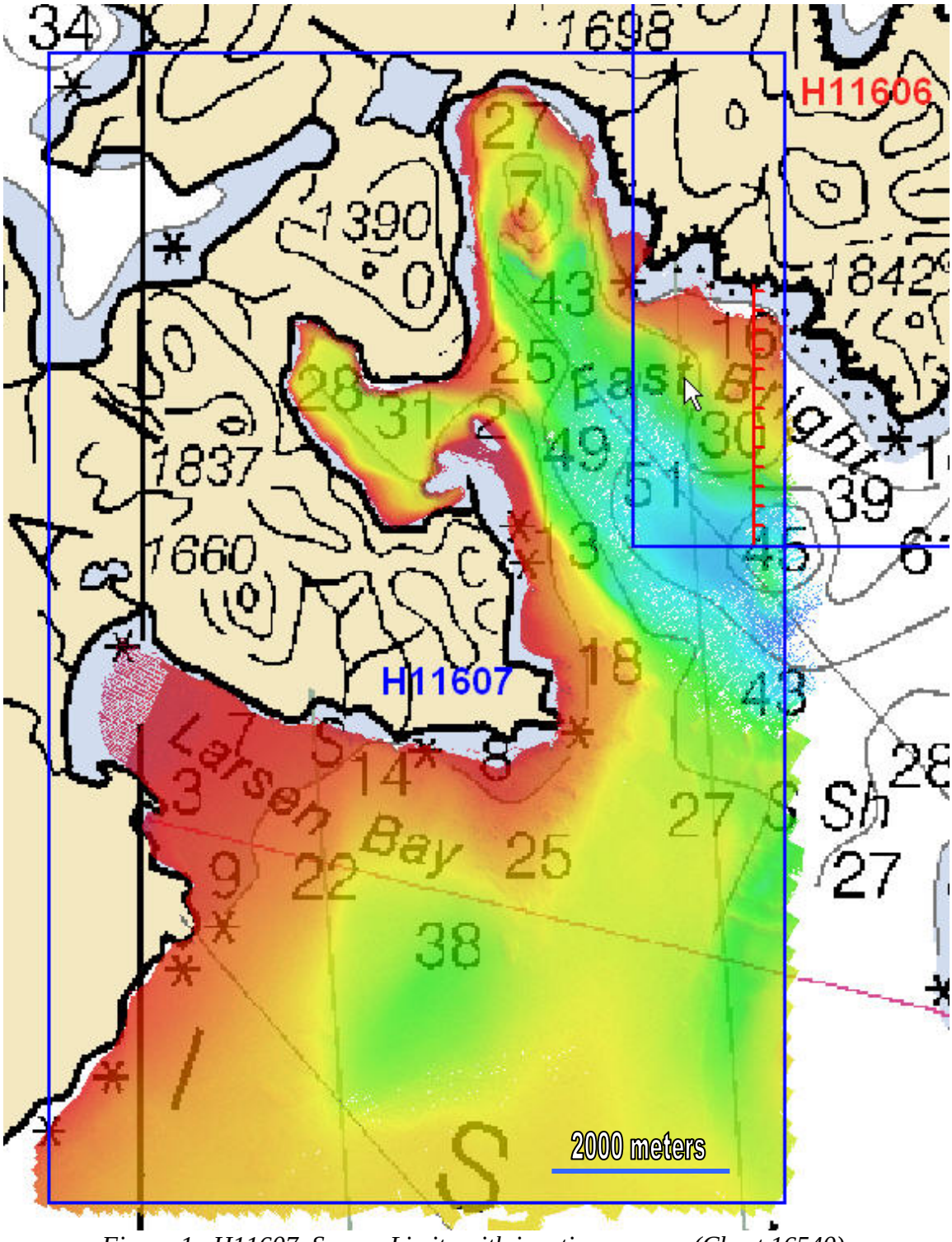

Figure 1. H11607 Survey Limits with junction surveys (Chart 16540).

B. DATA ACQUISITION AND PROCESSING

A complete description of data acquisition and processing systems, survey vessels, quality control procedures and data processing methods can be found in the *OPR-P183-RA-06 Data Acquisition and Processing Report* (DAPR)[1], submitted under separate cover. Items specific to this survey, and any deviations from the aforementioned report are discussed in the following sections.

Final Approved Water Levels have been applied to this survey.[2] See Section C. for additional information.

B1. Equipment and Vessels

Data for this survey were acquired by the following vessels:

Hull Number	Name	Acquisition Type
1101	RA-1	Vertical-Beam Echosounder Detached Positions
1103	RA-2	Vertical-Beam Echosounder Detached Positions Bottom Samples
1021	RA-3	Multi-Beam Echosounder
1016	RA-4	Multi-Beam Echosounder Bottom Samples
1006	RA-5	Multi-Beam Echosounder
1015	RA-6	Multi-Beam Echosounder

Table 2. Data Acquisition Vessels for H11607.

No unusual vessel configurations were used for data acquisition.

Sound speed profiles were measured with SEACAT SBE 19 and SEACAT SBE 19+ profilers in accordance with the Specifications and Deliverables.

B2. Quality Control

Crosslines

Multi-beam echosounder crosslines totaled 23.7 nautical miles, comprising 6.3% of SWMB mainscheme hydrography. The mainscheme bathymetry was manually compared to the cross-line nadir beams in CARIS subset mode and agreed well with differences no more than 0.75m in depth greater than 50m and averaged less than 0.3 meters in depths less than 50m.[3]

Vertical-beam echo sounder (VBES) lines were also run on the survey area. 14.5 nautical miles of 25 meter-spaced VBES were run in the northwest area of Larsen Bay. These lines are crossed by the nearshore VBES and by SWMB lines. Additional VBES crosslines, totaling 8.7 nautical miles, were also run. VBES crosslines generally agreed with

mainscheme SWMB within 0.5 meters.[4] There did not appear to be any systematic errors in the differences.[5]

A statistical Quality Control Report has been conducted on representative data acquired with each system used on this survey. Results of these tests are included in the updated 2006 Hydrographic System Readiness Review package submitted with this survey.[6]

Junctions[7]

The following contemporary surveys junctions with H11607 (See Figure 1):

Registry #	Scale	Date	Junction side
H11606	1:10,000	2006	Northeast

Survey H11607 junctions well with survey H11606. Soundings from H11607 were compared to those from contemporary survey H11606 using Caris HIPS subset editor. In the vicinity of the junction region, differences between the two surveys average less than 0.25 meters.[8]

Data Quality Factors

Elac TrueHeave

TrueHeave correctors were not applied to Elac data due to an irreconcilable offset between the time stamps on the TrueHeave data and the Elac data as converted in Caris Hips & Sips 6.0. There were only slight heave artifacts in the Elac data with apparent heave artifacts ranging up to approximately 0.25m in depths no shoaler than 37 m. Launch 1015 (RA-6) was the only vessel to acquire Elac data for this survey.[9]

Reson True Heave

TrueHeave data was not recorded by Launch 1016 (RA-4) for a number of survey lines off Larsen Bay. Launch 1021 (RA-3) also did not record TrueHeave data on several lines. Small heave artifacts, up to 0.4 meters in depths of 45m and greater, can be noticed on offshore lines in Larsen Bay if the BASE surface vertical exaggeration is increased. Heave artifacts, shown in figure 2, were found in data acquired from launch 1006 on day number 216 in line 305_1837. During the acquisition of this line, True Heave stopped logging for a short interval of time creating visible heave artifacts in the base surface. The artifacts ranged up to approximately 0.8 meters in depths of 35 meters. To resolve this problem True Heave was not applied and real time heave was retained.[10]

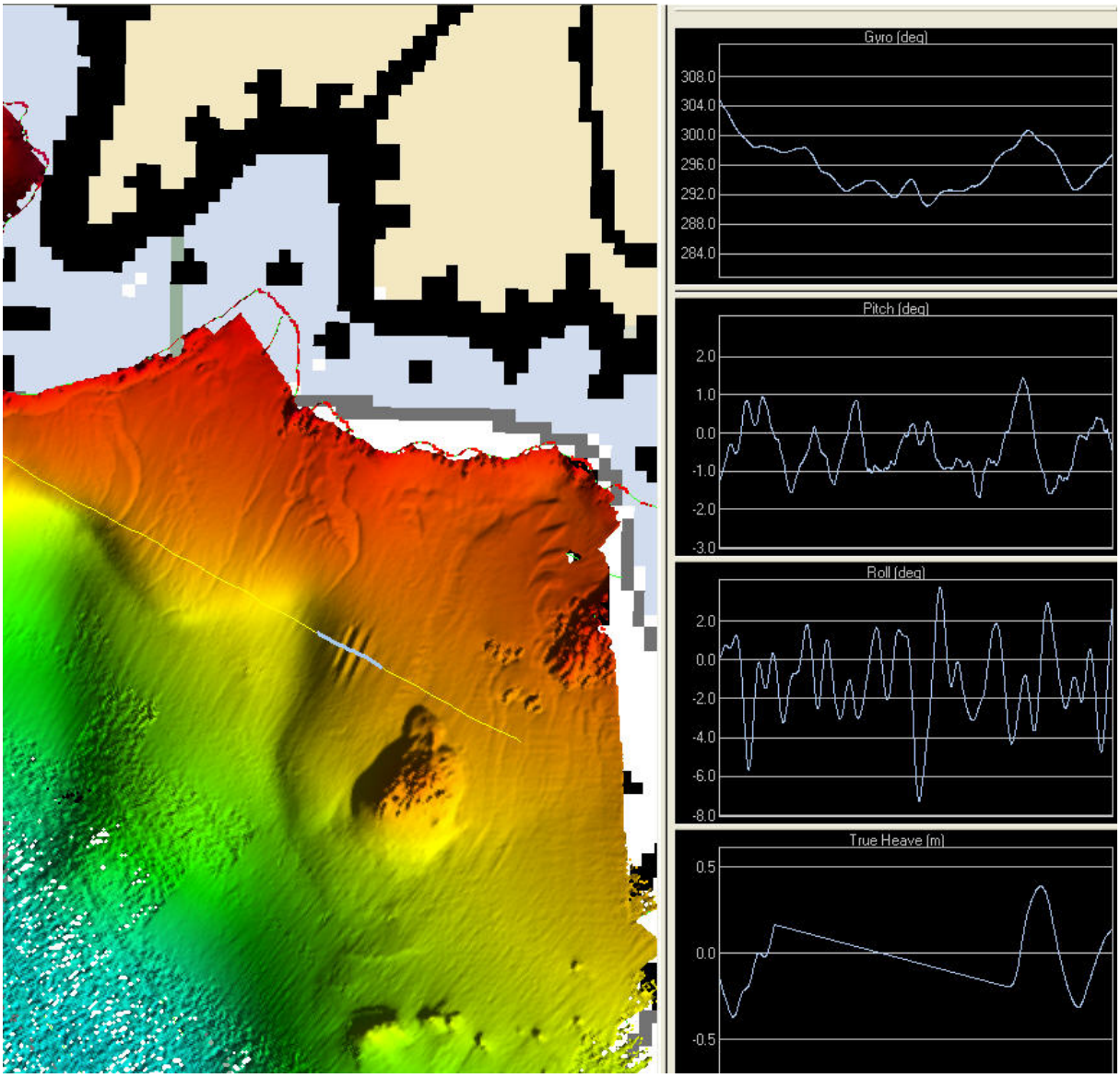

Figure 2: Artifacts in the BASE surface where True Heave temporarily stopped logging. Artifact has been removed by deleting TrueHeave files and applying real time heave files.

Sparse Elac Coverage

The data acquired by the Elac system on launch 1015 (RA-6) was generally too sparse to support the required resolution BASE surfaces. This issue is discussed in greater detail in the DAPR submitted for this project. For this survey, Elac data were only acquired in waters deeper than 37 meters. There was no indication of any features in these areas that required higher resolution survey data for charting purposes.[11]

Sound Speed

Survey data collected by Launch 1021 and 1015 on DN 229 and 230 appeared to have sound speed issues throughout Larsen Bay and portions of East Bight. The concatenated SVP file, containing corresponding launch casts for DN 229 and 230, was applied to the data. Applying individual day's casts to acquisition lines did not improve the artifacts; the full concatenated

SVP file was reapplied. The sound velocity artifacts are visible when viewing the data in CARIS Subset mode or when the vertical exaggeration is increased on the BASE surface (figure 3). The artifacts appear to cause depth measurement errors of approximately 0.25m in the BASE surface in approximately 30m of water.[12]

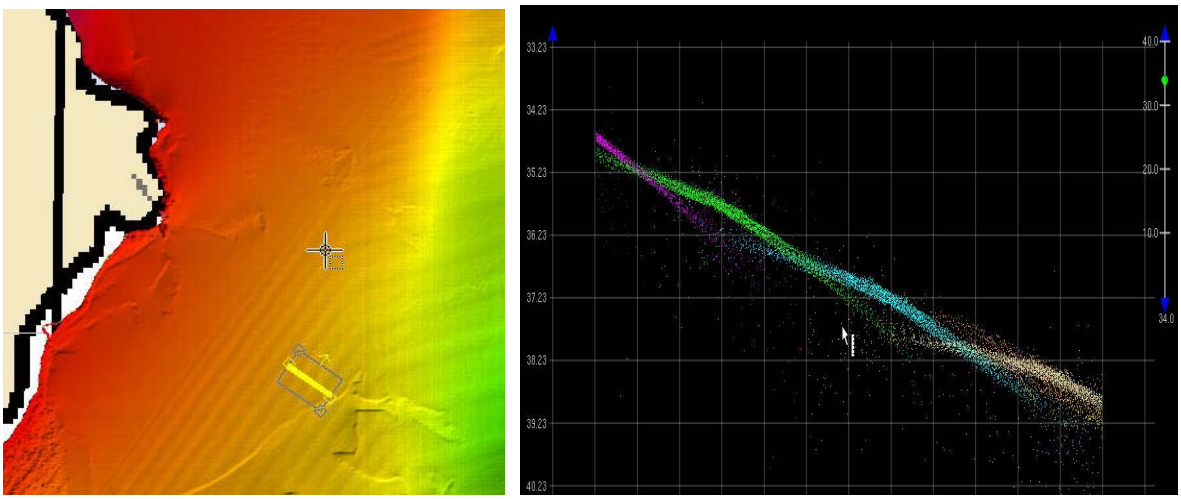

Figure 3: Launch 1021 SV errors in Larsen Bay. Base surface with vertical exaggeration set to 10 (left). Subset of data showing SV artifacts (right).

3. Data Reduction

Data reduction procedures for survey H11607 conform to those detailed in the *OPR-P183-RA-06 DAPR.*

B4. Data Representation

Many BASE surfaces were used to process H11607. Final BASE surface resolutions and depth ranges were set in accordance with the Field Procedures Manual, with base surfaces smaller than $25x10^6$ nodes. The submission Field Sheet structure and BASE Surface layout are shown in Figures 4, 5, 6 and 7. The five and ten meter BASE surfaces are contained in a field sheet that encompasses the entire survey area.

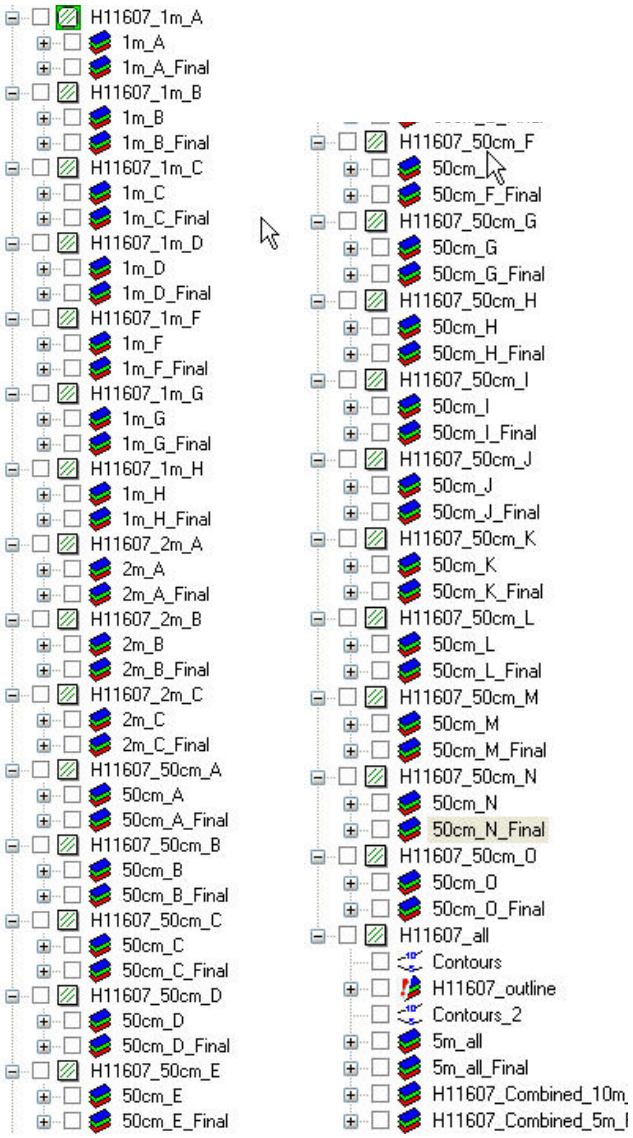

Figure 4: Field sheets and BASE surfaces submitted with H11607.

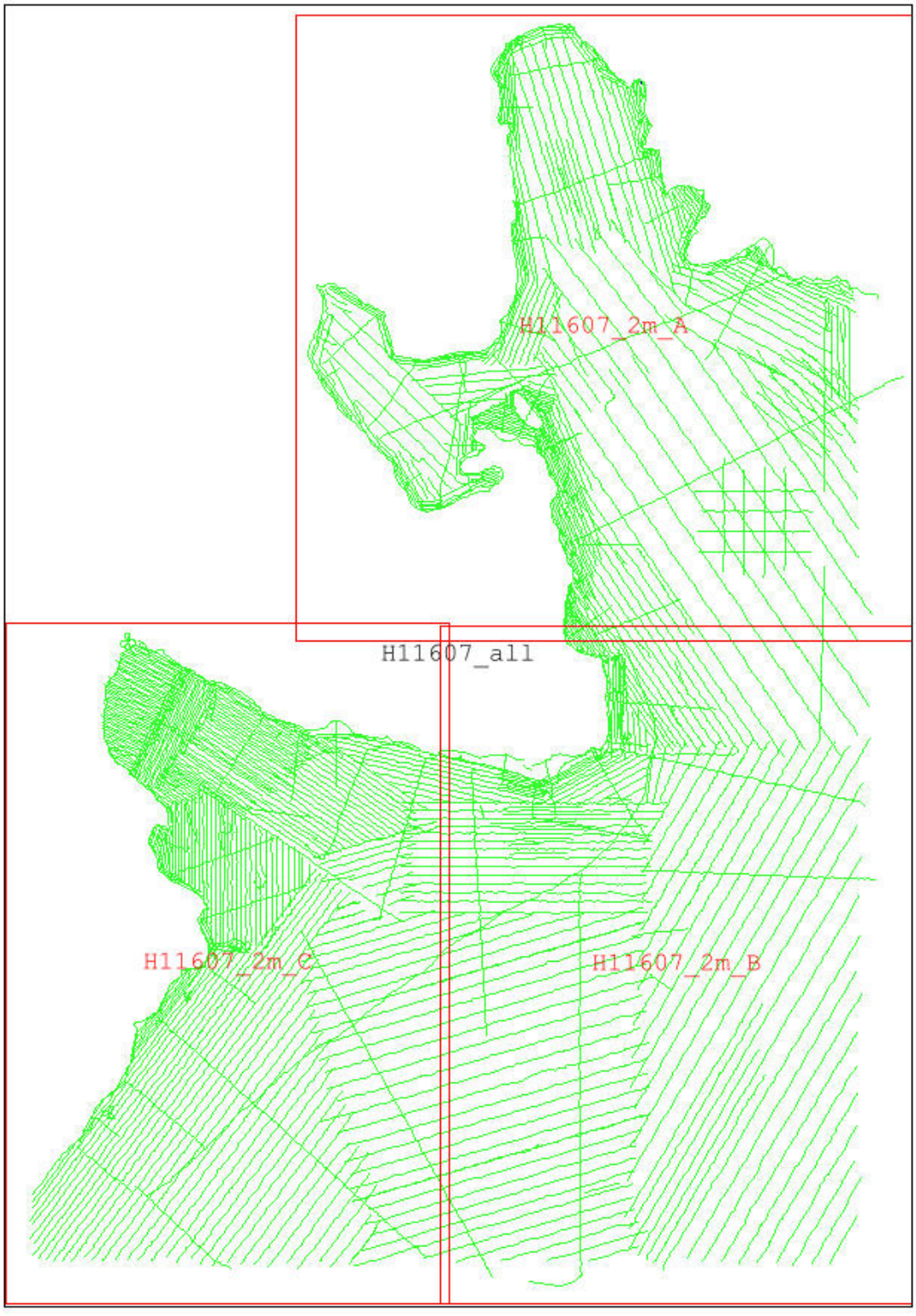

Figure 5: Layout of 5 meter and 2 meter resolution field sheets and BASE surfaces for H11607.

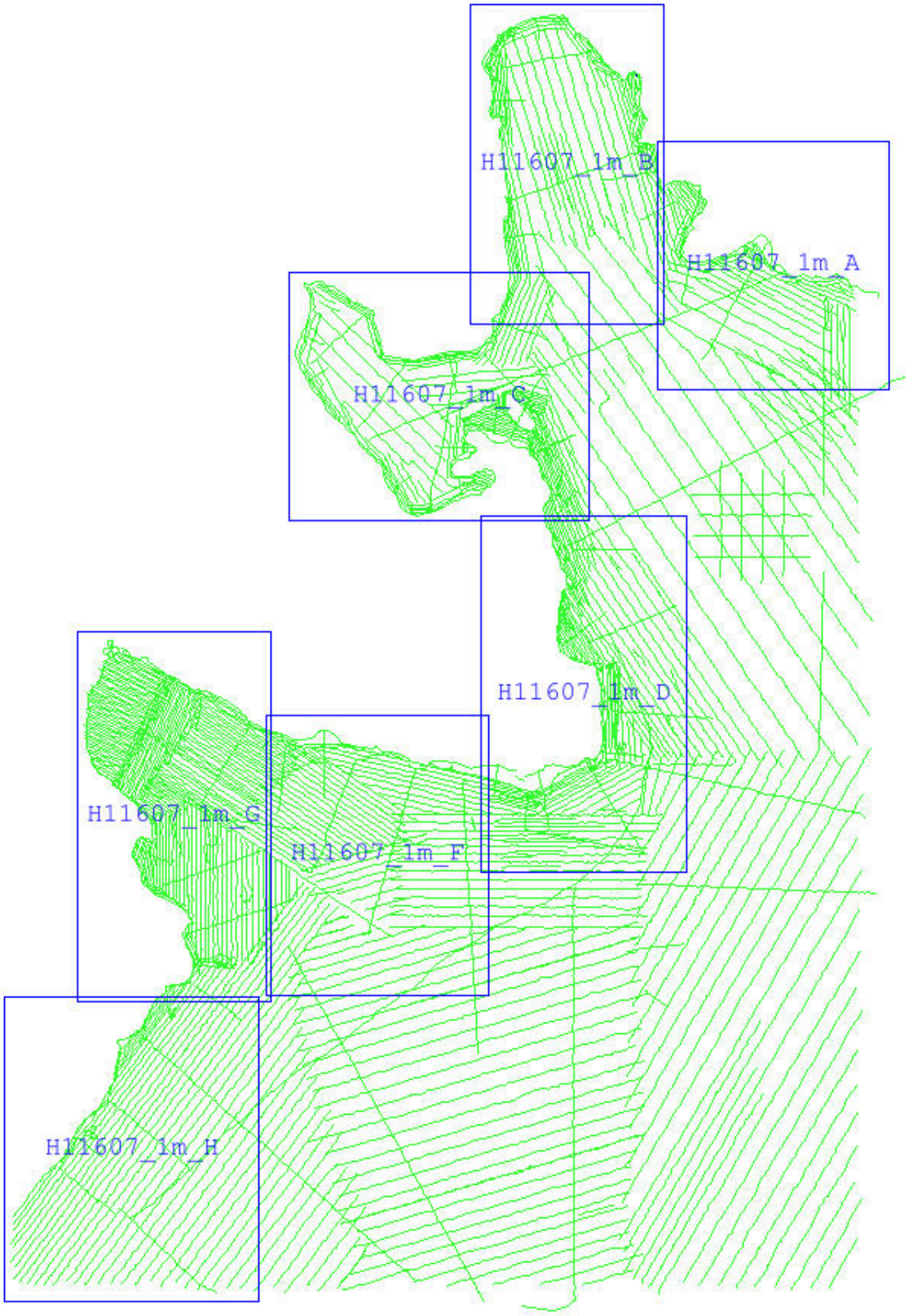

Figure 6: Layout of 1 meter resolution field sheets and BASE surfaces for H11607.

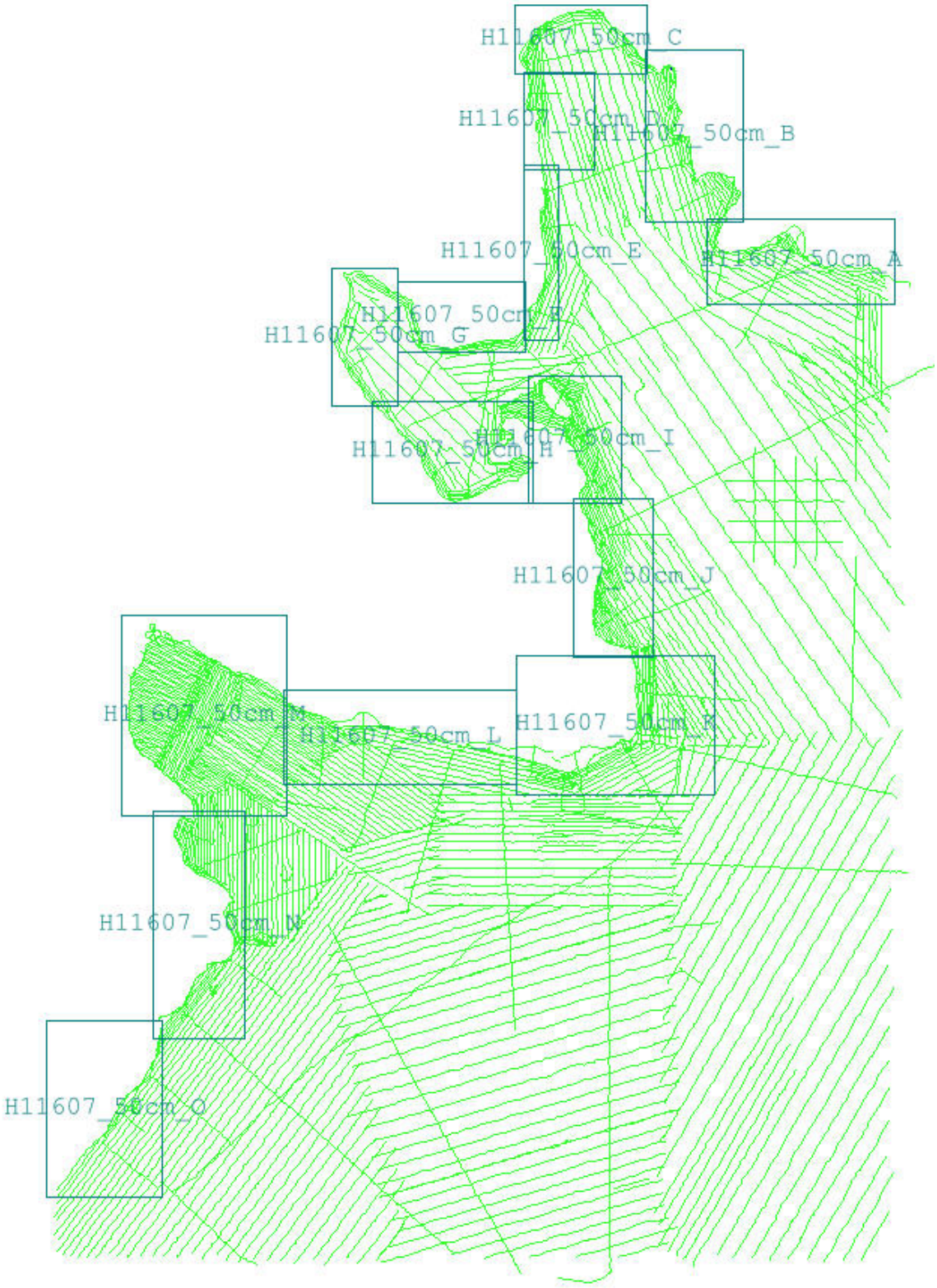

Figure 7: Layout of 0.50 meter resolution field sheets and BASE surfaces for H11607.

C. VERTICAL AND HORIZONTAL CONTROL

Project OPR-P183-RA-06 required neither static GPS observations nor other horizontal control work. All tide corrections were generated from CO-OPS maintained tide stations. No Horizontal and Vertical Control Report will be submitted.[13]

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. The differential corrector beacons utilized for this survey are given in Table 3.

Location	Frequency	Custodian	Range	Priority
Cold Bay	289 kHz	USCG	100 nm	Primary

Table 3: Differential Corrector Source for H11607.

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, Alaska (945-9450) served as control for datum determination and as the primary source for water level reducers for survey H11607.

No tertiary gauges were required.

All data were reduced to MLLW using **Final Approved Water Levels** from station Sand Point, Alaska (945-9450) using the tide file 9459450.tid and final time and height correctors using the zone corrector file P183RA2006CORP.zdf.

The request for Final Approved Water Levels for H11607 was submitted to CO-OPS on August 31, 2006, and the final tide note was received on September 8, 2006. This documentation is included in Appendix IV.[14]

D. RESULTS AND RECOMMENDATIONS

D.1. Chart Comparison

D.1.a. Survey Agreement with Chart

Survey H11607 was compared with the following charts:

Chart	Scale	Edition and Date	Latest Notice to Mariners Applied
16553[15]	1:80,000	5th Ed, Sep 2005	Cleared through 10/07/2006
16540	1:300,000	12th Ed; Jan 2005	Cleared through 10/07/2006

Table 4: Charts compared with H11607

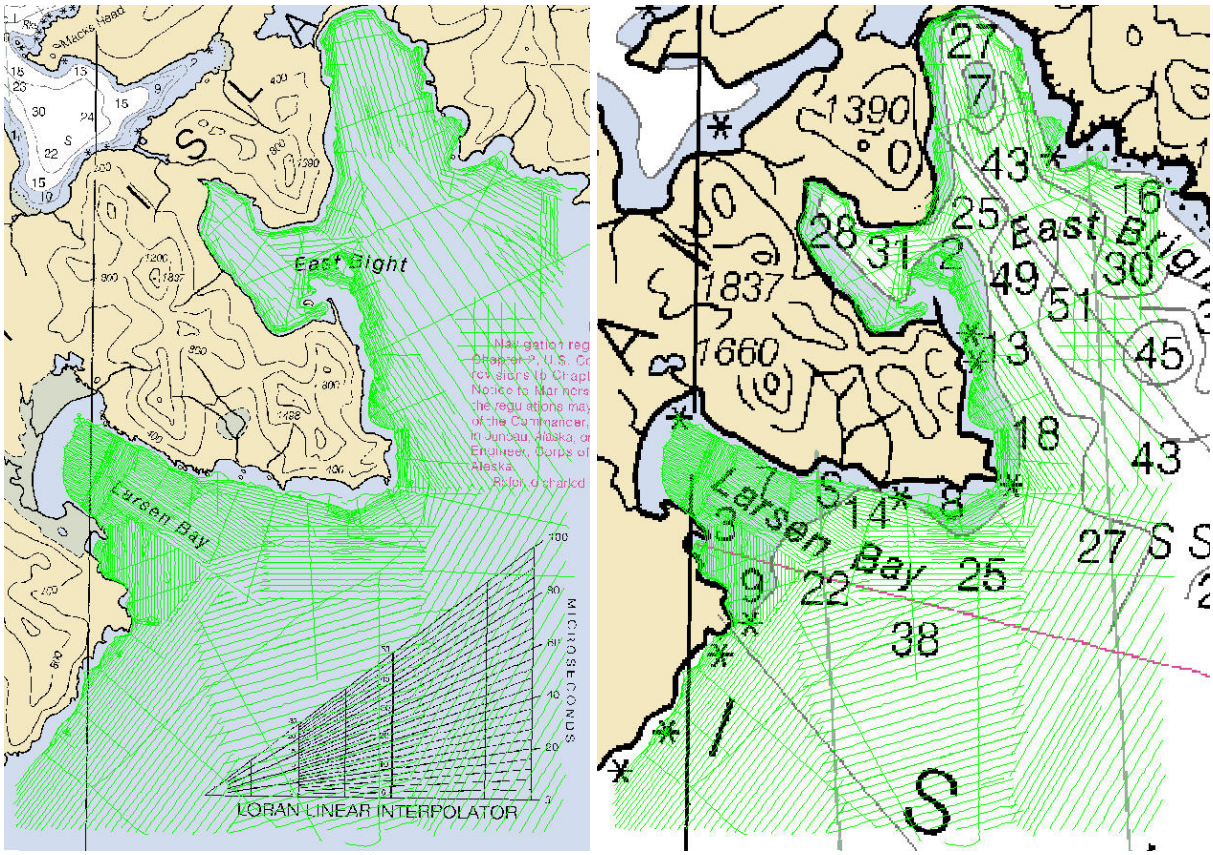

Figure 8: Chart 16553(left) and chart 16540 (right) with survey lines overlaid. Chart 16553 has more detailed shoreline, but no soundings.

Chart 16540

Chart 16540 is a small scale chart not intended for coastal navigation and contains few soundings in the survey area. The shoreline of this chart is mispositioned by up to 250m from the location of the actual shoreline. Soundings from survey H11607 generally did not agree with charted soundings. The charted soundings differ from actual soundings by up to 5 fathoms even after accounting for the general position offset.[16]

While charted depth curves and depths represent the trend of the sea floor, rather than actual measurements, there are several significant errors:

1. A 6 ¼ -fathom shoal in northernmost East Bight is charted at 7 fathom approximately 500m NNE of true position.[17]
2. The charted 10 fathom curve along the northeast shore of East Bight is charted inshore of true position by as much as 250 meters.[18]
3. The charted 10 fathom curve along the western shore of East Bight, and rounding the point into Larsen Bay, is charted offshore of true position by as much as 450 meters.[19]
4. A charted 18-fathom shoal area in approximate position 55°04’21” N 159°55’13” W is a rocky area with a surveyed least depth of 13 fathoms.[20]

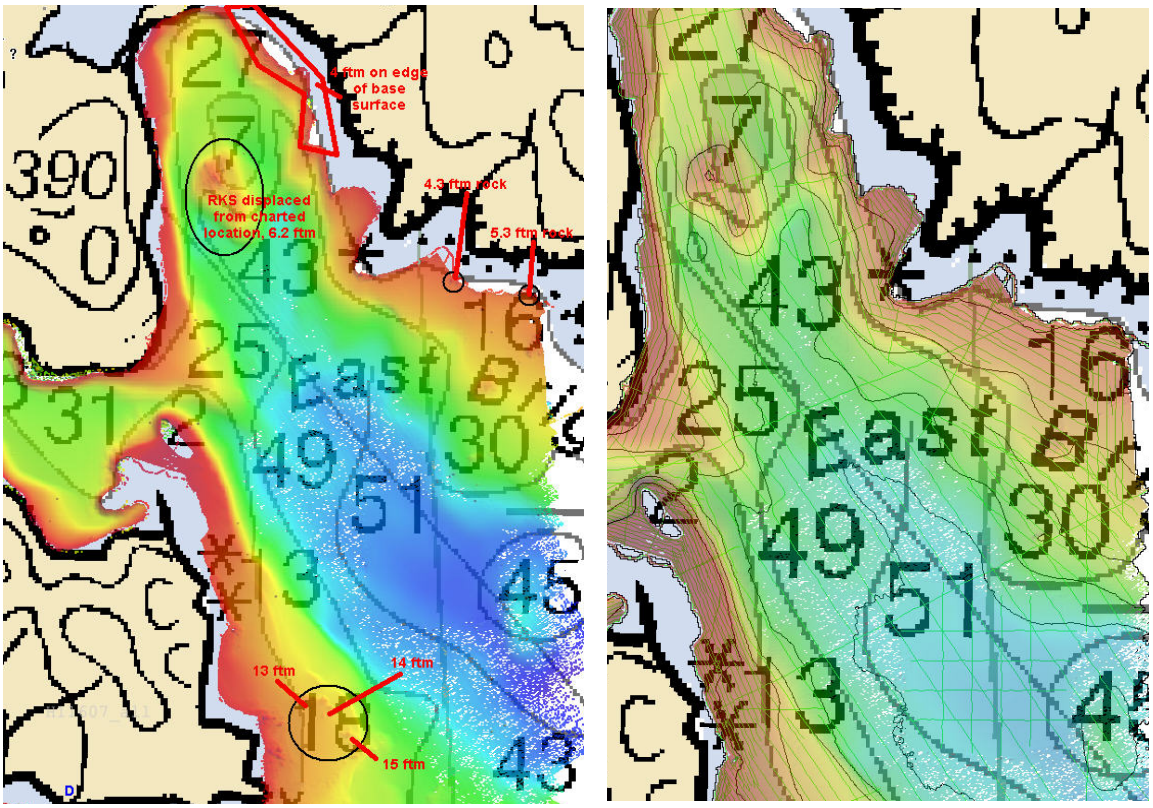

Figure 9: Charted discrepancies (16540). Left shows several poorly charted shoal features while right shows surveyed contours overlaid on chart.

Chart 16553

There are no soundings or features on chart 16553 other than the shoreline and islets. The charted shoreline closely follows the observed and CFF shoreline discussed in D.2.b. The only area showing significant discrepancy is the northeast shore of East Bight. Charted shoreline in this area appears shifted by as much as 100 meters to the NNW.[21]

D.1.b. Dangers to Navigation

No dangers to navigation (DTONs) were found in survey H11607.[22] Vessel traffic in East Bight is not expected to have a draft of greater than 36 feet.

D.1.c. Other Features

Automated Wreck and Obstruction Information System (AWOIS) Investigations

Nine (9) AWOIS items fall the within the survey limits of H11607 (figure 10). Eight were investigated fully and disproved; one was inaccessible and not navigationally significant. Descriptions of each AWOIS item investigation are included in the Survey Feature Report in Appendix II.[23]

Additional Items

Eighteen (18) additional features were investigated and are included in the Survey Feature Report in Appendix II.[24] These features were either new items not portrayed in any available

source, or were source (CFF) features requiring verification. They are also depicted in figure 10 below.

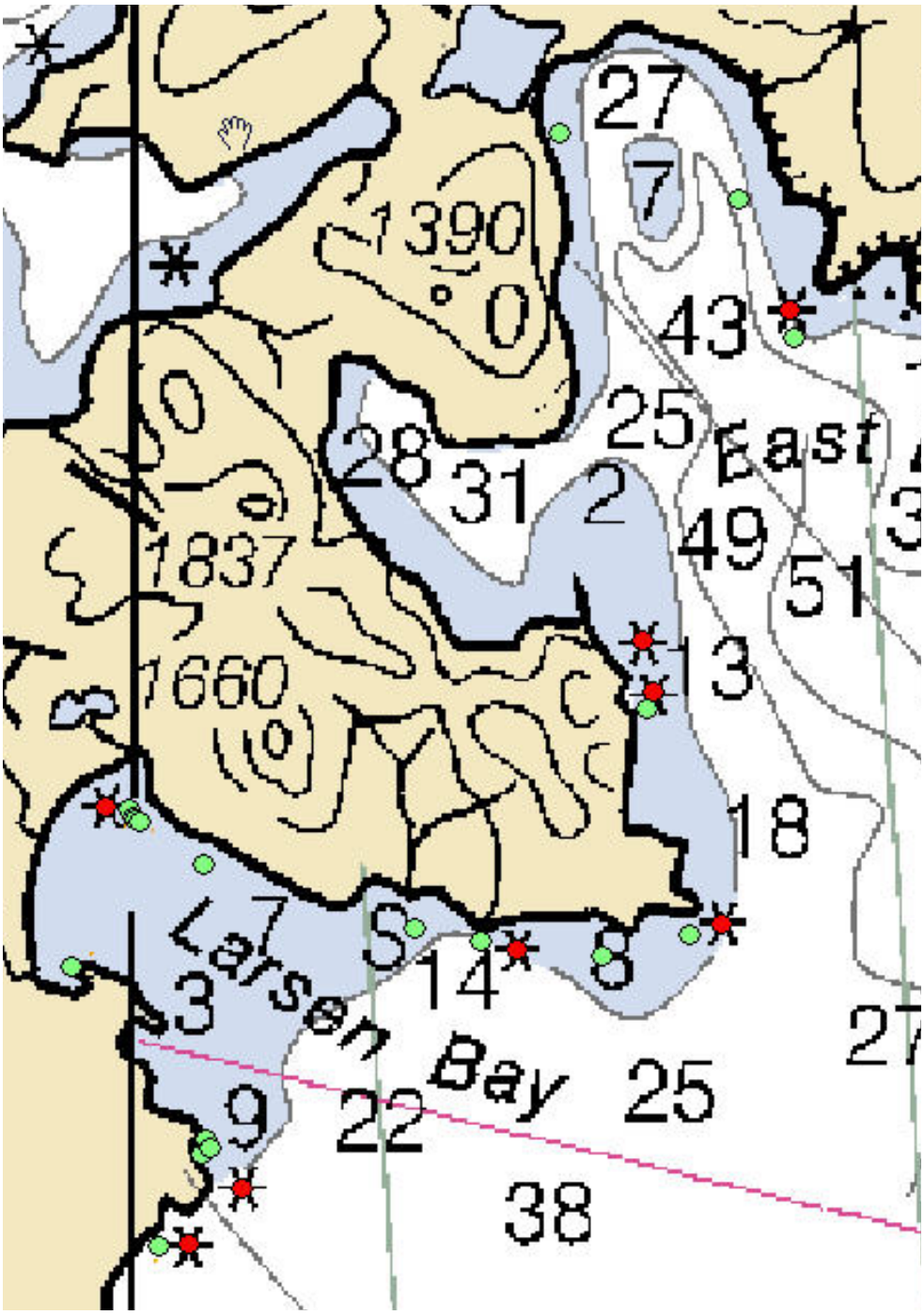

Figure 10: H11607 survey area depicting location of AWOIS items (red) and additional investigation items (green).

D.2. Additional Results

D.2.a. Prior Survey Comparison

Prior survey comparison was not performed.

D.2.b. Shoreline Verification

Shoreline Source

Vector photogrammetric project AK0505 was supplied by N/CS31 in the form of cartographic feature file GC-10588 (CFF). RAINIER performed limited shoreline verification of the CFF throughout the survey area. Items offshore of the defined navigable area limit line were fully investigated while those inshore were investigated visually to the extent possible. In addition, features shown on the current editions of chart 16540 that were not depicted on the shoreline source document were digitized in MapInfo by RAINIER personnel and displayed in Hypack for field verification.

Shoreline Verification

Limited shoreline verification was conducted near predicted low water in accordance with the Standing Project Instructions and FPM section 3.4.6. Detached positions (DPs) taken during shoreline verification were recorded in HYPACK, 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 the *Separates to be Included with Survey Data*.[25]

All shoreline data is compiled in Caris Notebook .hob files. The session H11607_notebook contains the following:

H11607_Original_Comp_Source.hob (original source data)
H11607_Field_Verified_Source.hob (depicts the shoreline as surveyed)
OPR-P183_RA-06_Reference (digitized AWOIS Items)
H11607_pydro_updates.hob (DPs, and bottom samples)
H11607_pydro_delete.hob (AWOIS and other disprovals of charted features)

Source Shoreline Changes and New Features

All items within survey area H11607, associated with a detached position, have been flagged "Report" in Pydro in H11607_PSS.pss. Remarks and recommendations for each item are listed in the corresponding Remarks and Recommendation tabs. These features are included in the Survey Feature Report in Appendix II.[26]

Detached positions (DPs) were acquired on new features found during limited shoreline verification and heights of correctly positioned source features. These detached positions for height were labeled as cartographic symbols in the Pydro session and were imported into the

H11607_pydro_updates.hob file. The heights of the items were entered by the hydrographer into the H11607_Field_Verified.hob file after receipt and application of final water levels.

Foul Areas

Foul areas such as kelp and rocks were delineated by running a VBES buffer line around the area and digitizing the foul area (S-57 object OBSTRN) in Notebook.[27] VBES star patterns were run to disprove AWOIS during feature investigations. One hundred percent SWMB was also run to disprove features in areas where depths and kelp permitted.

New Reef

A new reef was observed in the northern most corner of Larsen Bay at 55°04'26"N, 159°59'59"W. The reef is currently represented by two CFF rocks and on chart 16540 by an incorrectly located rock (AWOIS #53473).[28] Four detached positions were taken on the reef (figure 11). Two represent the northern and southern extents of the reef; high points on the reef are represented by the middle two DPs. Heights on CFF rocks, representing high points of reef, were updated in Pydro and Caris Notebook; no heights were recorded for reef extents. The reef was manually digitized (S-57 object SBDARE) in the H11607_Field_Verified.hob file using the DP's for the extents.

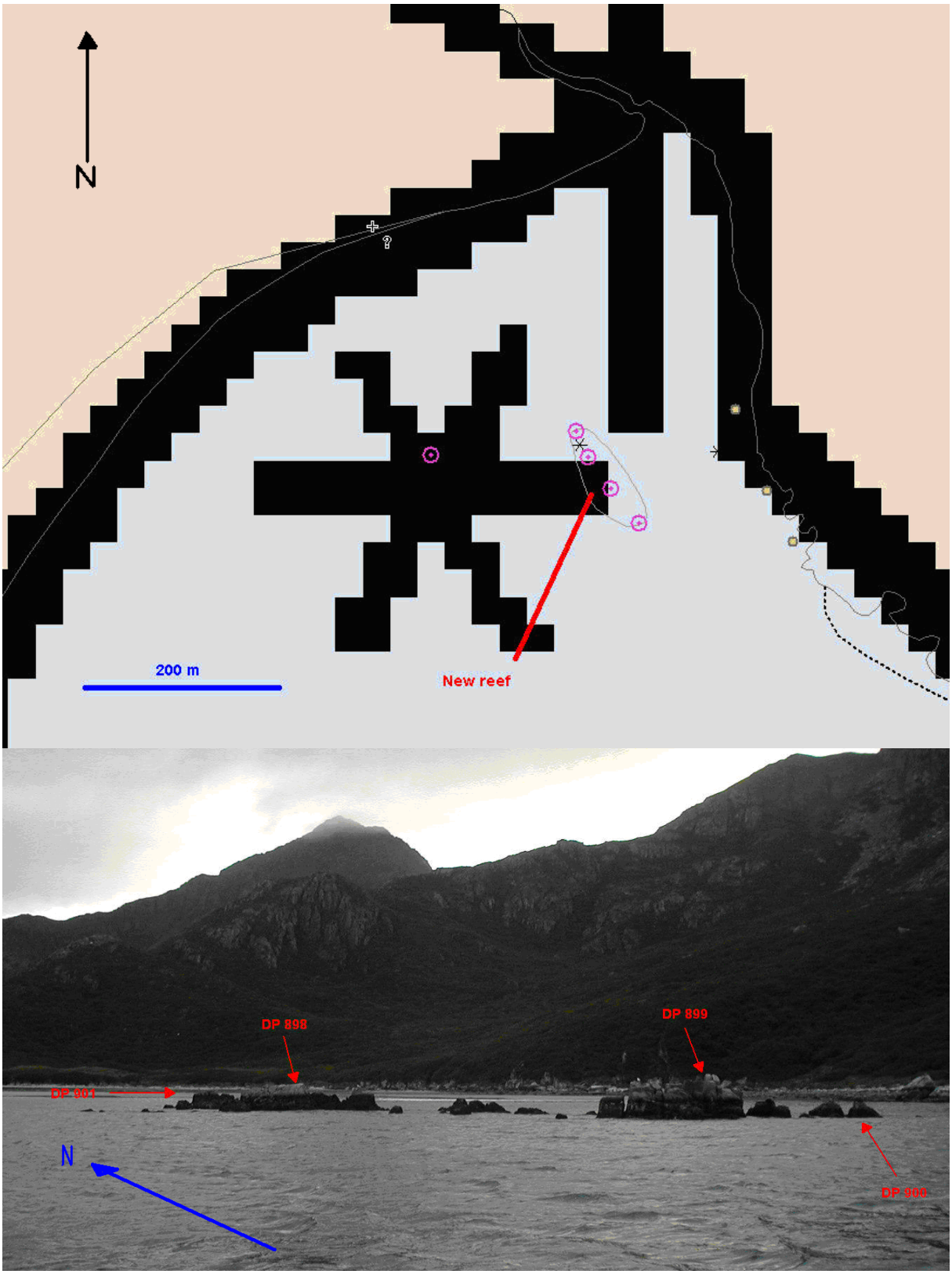

Figure 11: New reef on north side of Larsen Bay. Upper image shows new reef overlayed on chart 16540. Lower image is photo facing northeast.

Recommendations

The Hydrographer recommends that the shoreline as depicted by the combination of the H11607_Field_Verified.hob and the H11607_pydro_updates.hob files supersede and complement shoreline information compiled on the CFF and charts as noted.[29] In addition, field notes made by the Hydrographer, including verification of source features and charted features are submitted in the applicable field verified source .hob file.

D.2.c. Aids to Navigation

There are no Aids to Navigation within the limits of H11607.[30]

D.2.d. Overhead features

There are no overhead features in survey H11607.[31]

D.2.e. Submarine Cables and Pipelines

There are no submarine cables or pipelines in survey H11607.[32]

D.2.f. Ferry Routes

There are no ferry routes on H11607.[33]

D.2.g. Bottom Samples

A total of twelve bottom samples were collected within the limits of survey H11607.[34] The bottom samples were taken at approximately 2,000 meter spacing as specified by HSSD. There were two charted bottom characteristics that fell within the survey limits of H11607. Of these two samples, one agreed with previous data on the chart and one did not. Bottom sampling in Larsen Bay, a Coast Pilot recommended anchorage, agreed with a sandy bottom while deep water between Larsen Bay and East Bight appeared to be more shells, than the charted sand and shell.

Several anchorages were used by RAINIER during survey operations (figure 12). The Larsen Bay anchorage left the ship exposed to swells from the south and east with little protection from the weather, and the fine sand seabed provided poor holding ground. Similarly, RAINIER was unable to properly set an anchor in the western arm of East Bight due to the depth and soft muddy bottom. The eastern shore of East Bight offered good protection from north and east winds but left the ship exposed to southerly swells. A sticky muddy bottom gave a secure anchor hold. RAINIER also successfully anchored just north of the 7ftm shoal in the northern arm of East Bight during the passage of a low pressure system that brought 50–60 knot winds backing from the northeast through the southwest. This anchorage required

precise positioning of the anchor relative to the rocky shoal, and is not recommended for general use.

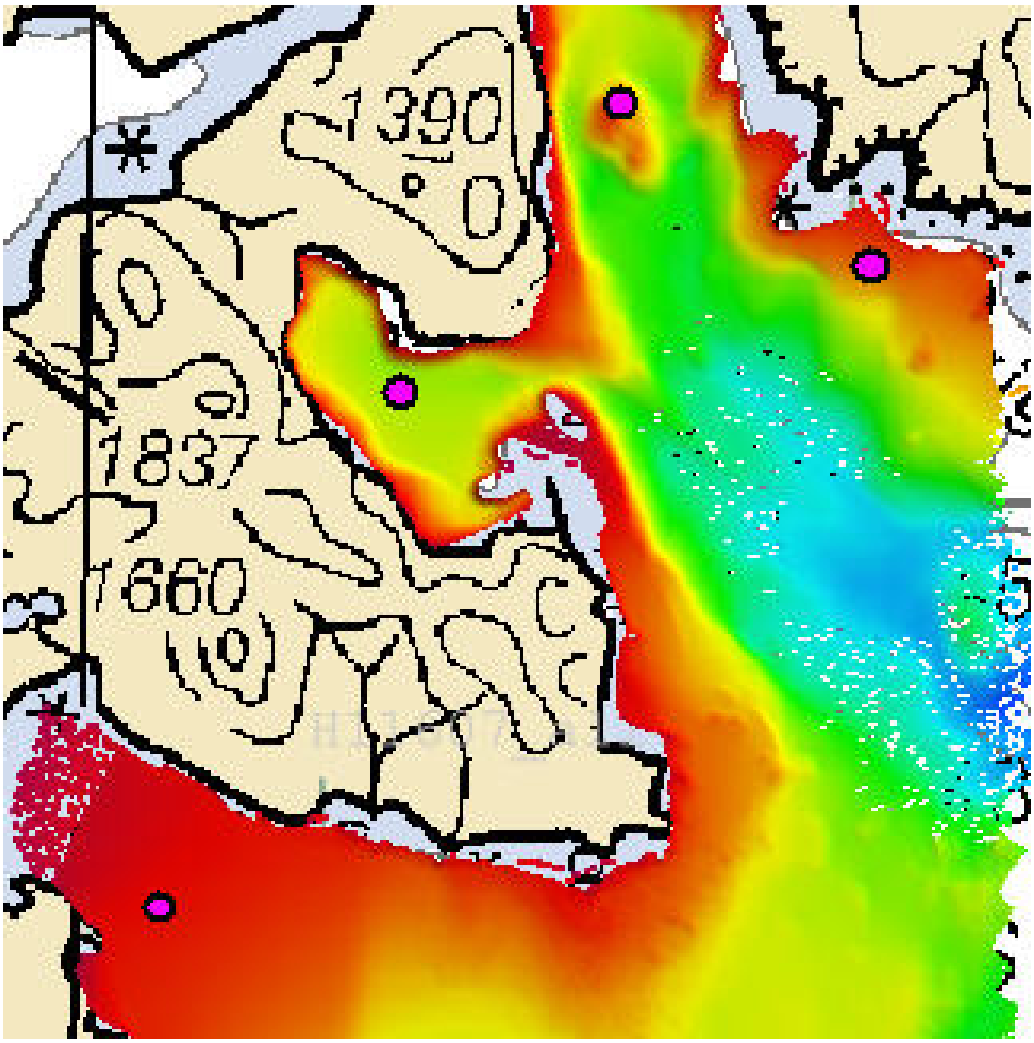

Figure 12: Anchorages used by RAINIER during survey operations

D.2.h Miscellaneous

Antenna

An antenna structure was observed on the shore of East Bight at approximate position 55°06'07"N, 159°57'41"W. Overall height was approximately 2 meters and the base was firmly buried into a concrete foundation. A small half-buried discharge hose was seen running from the structure down to the waters edge. The purpose of the structure was not determined. No identification markings were observed on the antenna and it does not appear to be maintained. The structure is not navigationally significant.

Chart Layout

The current chart layout for the area is insufficient for safe coastal navigation. Chart 16540, which has charted bathymetry, is at too small a scale (1:300,000), and has significant errors in the position of shoreline features as discussed in section D.1.a. Chart 16553 has no charted bathymetry. At a minimum, sounding data from this survey should be included on Chart 16553 at the current scale.[35] A harbor scale set of new charts covering Nagai Island and the surrounding coastal waters would also be beneficial, as many of the bays and inlets offer anchorages appropriate for small to medium size vessels. Furthermore, the shores have significant shoals and hazard areas that cannot be properly represented on charts at the scale of 16540. RAINIER recommends a series of 1:40,000 charts to encourage safe fishing vessel navigation and ecotourism.

Chart Misspelling

On chart 16540 East Bight is misspelled as "East Bright" (figure 12).[36]

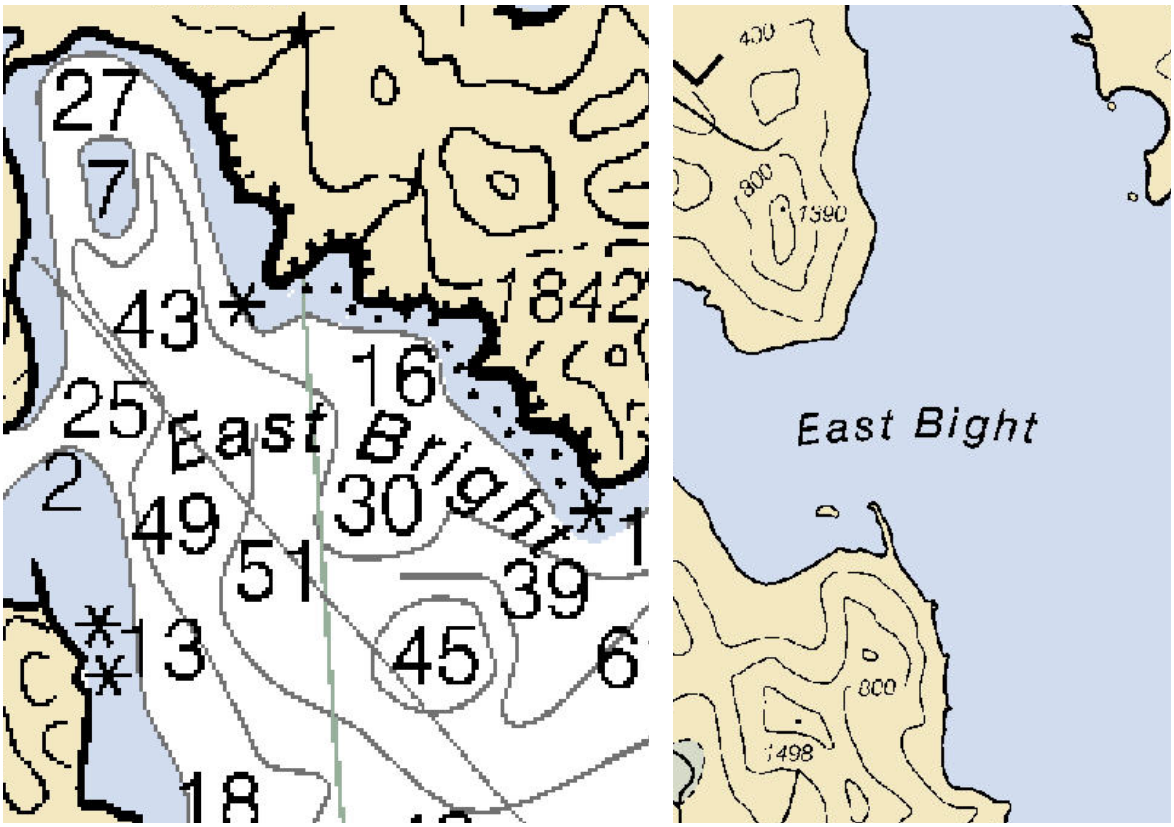

Figure 13: Chart 16540 misspelling (left) vs. correct spelling on chart 16553 (right).

Reference Surface

A reference surface grid was run with Reson 8101 at approximate position 55°05'08"N, 159°54'24"W (figure 14). This sounding data was included in survey H11607 bathymetry data.

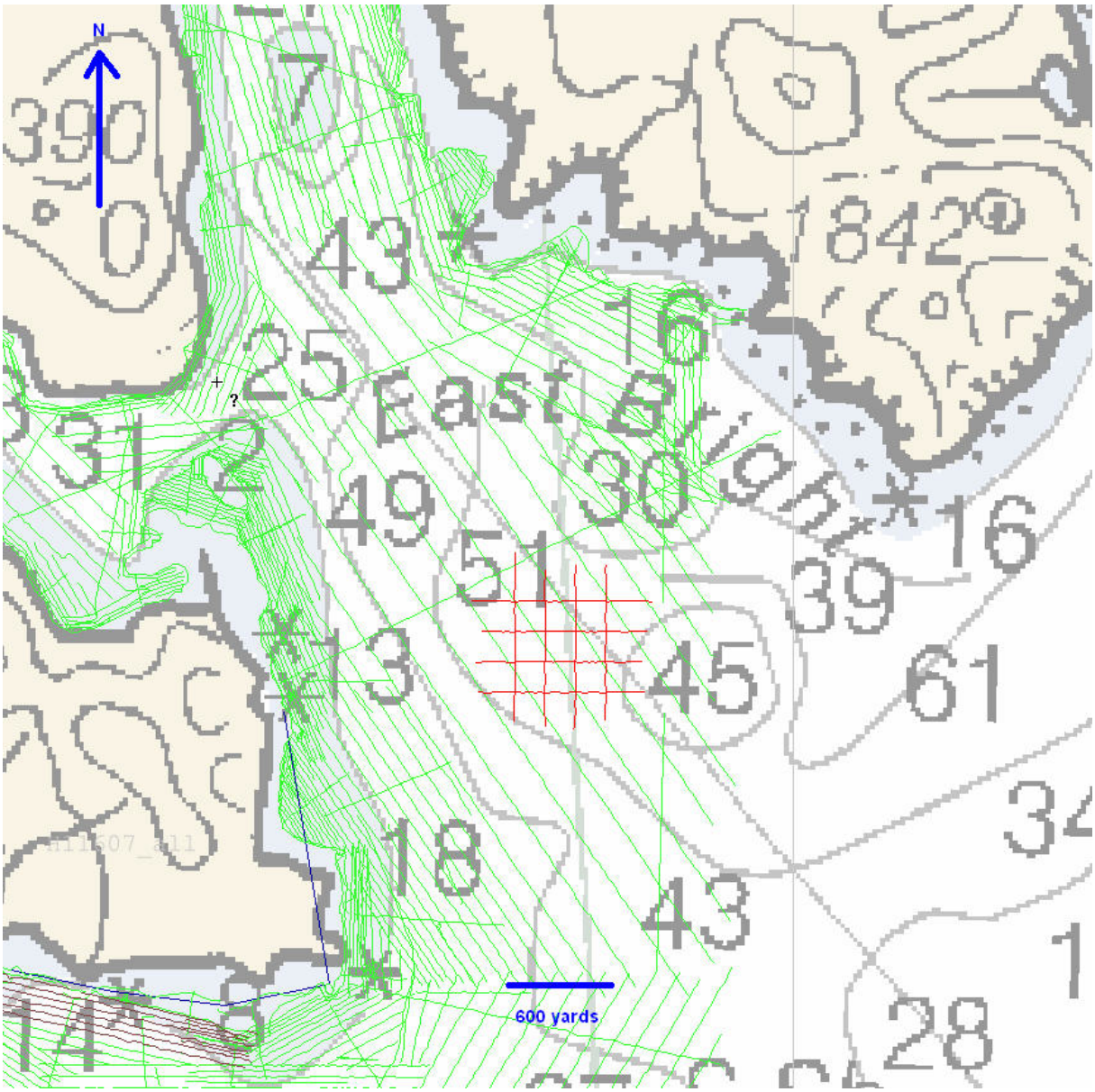

Figure 14: Red survey lines show reference surface grid run in East Bight.

E. APPROVAL

As Chief of Party, Field operations for hydrographic survey H11607 were conducted under my direct supervision, with frequent personal checks of progress and adequacy. I have reviewed the attached survey data and reports. The survey data meets or exceeds requirements as set forth in the NOS Hydrographic Surveys and Specifications Deliverables Manual (June 2006 edition), Field Procedures Manual (May 2006 edition), Standing and Letter Instructions, and all HSD Technical Directives issued through August 2007. 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/CS34, Pacific Hydrographic Branch.

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-P183-RA-06	February 2, 2007	N/CS34
Coast Pilot Report for OPR- P183-RA-06	March 2, 2007	N/CS26

Approved and Forwarded:

Guy Noll
I am approving this document
2007.03.27 12:44:53 -07'00'

Guy T. Noll
Commander, NOAA
Commanding Officer

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

Survey Sheet Manager:

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Date: 2007.03.26 15:16:16 Z

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Chief Survey Technician:

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2007.03.26 18:23:43 Z

James B. Jacobson
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Field Operations Officer:

LT Benjamin K. Evans, NOAA
I have reviewed this document
2007.03.27 16:19:26 Z

Benjamin K. Evans
Lieutenant, NOAA

Revisions Compiled During Office Processing and Certification

[1] Filed with project records.
[2] Concur.
[3] Concur.
[4] Concur.
[5] Concur.
[6] Filed with project records.
[7] This survey also junctions with H11848 from OPR-P183-FA-08. The junction between the surveys will be addressed when that survey is compiled.
[8] Concur.
[9] The data meets specifications despite the heave artifacts.
[10] After True Heave was removed, the data meets specifications.
[11] Concur.
[12] The data meets specifications despite the sound speed errors.
[13] Concur.
[14] See attached Tide Note dated September 8, 2006.
[15] The 6th edition of chart 16553 was used for compilation.
[16] Concur. Supersede charted data with HCell H11607.
[17] The 6fm 2ft depth is represented as a submerged rock in HCell H11607.
[18] Concur. Adjust charted contours based on H11607 survey data.
[19] Concur. Adjust charted contours based on H11607 survey data
[20] Concur. New 13 fathom and 15 fathom soundings are included in the HCell in the area surrounding the charted 18 fathom sounding.
[21] Recommend updating Chart 16553 with HCell H11607.
[22] Concur.
[23] See attached Feature Report.
[24] See attached Feature Report.
[25] Filed with hydrographic records.
[26] The bottom samples were removed from the Feature Report in the office, however all other features are still included in the report. See attached Feature Report.
[27] The new foul areas are included in HCell H11607.
[28] The new reef is included in HCell H11607 with one verified rock as the high point.
[29] Concur.
[30] Concur.
[31] Concur.
[32] Concur.
[33] Concur.
[34] All twelve bottom samples collected during H11607 are included in the HCell. No charted bottom samples were retained.
[35] Concur. HCell H11607 was compiled to a scale of 1:80,000 to support inclusion on Chart 16553, which is the largest scale chart covering the surveyed area.
[36] Recommend correcting the spelling of “East Bight” on Chart 16540.

H11607 Feature Report

Registry Number: H11607

State: Alaska

Locality: Shumagin Islands

Sub-locality: East Bight to Larsen Bay

Project Number: OPR-P183_RA-06

Survey Dates: 8/2/06 - 8/25/06

Charts Affected

Number	Version	Date	Scale
16553	5th Ed.	09/01/2005	1:80000
16540	12th Ed.	01/01/2005	1:300000
16011	36th Ed.	08/01/2004	1:1023188
16006	33rd Ed.	12/23/2000	1:1534076
500	8th Ed.	06/01/2003	1:3500000
530	31st Ed.	06/01/2005	1:4860700
50	6th Ed.	06/01/2003	1:10000000

Features

No.	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	Rock	0.36 m	055° 06' 27.967" N	159° 55' 02.034" W	---
1.2	Rock	0.18 m	055° 07' 04.212" N	159° 55' 28.016" W	---
1.3	Rock	0.26 m	055° 07' 20.516" N	159° 56' 48.595" W	---
1.4	Sounding	-0.69 m	055° 04' 52.150" N	159° 56' 07.538" W	---
1.5	Sounding	-6.33 m	055° 03' 54.150" N	159° 55' 49.200" W	---
1.6	Sounding	-0.99 m	055° 03' 49.340" N	159° 56' 28.409" W	---
1.7	Sounding	-0.49 m	055° 03' 53.315" N	159° 57' 22.648" W	---
1.8	Sounding	-4.54 m	055° 03' 56.568" N	159° 57' 50.106" W	---
1.9	Sounding	-1.92 m	055° 04' 27.036" N	159° 59' 59.623" W	---
1.10	Sounding	-2.90 m	055° 04' 15.081" N	159° 59' 22.441" W	---
1.11	Sounding	-2.42 m	055° 04' 25.939" N	159° 59' 58.208" W	---
1.12	Sounding	999.07 m	055° 04' 24.731" N	159° 59' 56.462" W	---

Generated by Pydro v7.1.0 (r1940) on Wed Sep 09 20:04:06 2009 [UTC]

1.13	Sounding	-0.39 m	055° 03' 01.902" N	159° 59' 25.358" W	---
1.14	Sounding	-0.61 m	055° 03' 45.803" N	160° 00' 21.507" W	---
1.15	Sounding	-3.11 m	055° 02' 59.442" N	159° 59' 26.772" W	---
1.16	Sounding	-2.13 m	055° 02' 59.094" N	159° 59' 20.766" W	---
1.17	Sounding	-7.20 m	055° 02' 34.669" N	159° 59' 50.196" W	---
1.18	Sounding	3.08 m	055° 04' 27.954" N	160° 00' 00.299" W	---
2.1	AWOIS	[no data]	[no data]	[no data]	---
2.2	AWOIS	[no data]	[no data]	[no data]	---
2.3	AWOIS	[no data]	[no data]	[no data]	---
2.4	AWOIS	[no data]	[no data]	[no data]	---
2.5	AWOIS	[no data]	[no data]	[no data]	---
2.6	AWOIS	[no data]	[no data]	[no data]	---
2.7	AWOIS	[no data]	[no data]	[no data]	---
2.8	AWOIS	[no data]	[no data]	[no data]	---
2.9	AWOIS	[no data]	[no data]	[no data]	---

1 - New Features

1.1) Profile/Beam - 1/1 from h11607 / 1101_nonechosounder_dp / 2006-220 / dp_1101_220

Survey Summary

Survey Position: 055° 06' 27.967" N, 159° 55' 02.034" W

Least Depth: 0.36 m

Timestamp: 2006-220.16:22:31.000 (08/08/2006)

DP Dataset: h11607 / 1101_nonechosounder_dp / 2006-220 / dp_1101_220

Profile/Beam: 1/1

Charts Affected: 16553_1, 16540_1, 16011_1, 16006_1, 500_1, 530_1, 50_1

Remarks:

New RK At Extent Of Foul Area

QUA: GPSmode=1, SVs=8, HDOP=1.00

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11607/1101_nonechosounder_dp/2006-220/dp_1101_220	1/1	0.00	000.0	Primary

Hydrographer Recommendations

Chart New Rock And Foul Area

Cartographically-Rounded Depth (Affected Charts):

0 ¼fm (16540_1, 16011_1, 16006_1, 530_1)

0fm 1ft (16553_1)

.3m (500_1, 50_1)

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)

Attributes: VALSOU - 0.361 m

WATLEV - 4:covers and uncovers

Office Notes

Concur.

Feature Images

Figure 1.1.1 Facing NE

1.2) Profile/Beam - 2/1 from h11607 / 1101_nonechosounder_dp / 2006-220 / dp_1101_220

Survey Summary

Survey Position: 055° 07' 04.212" N, 159° 55' 28.016" W

Least Depth: 0.18 m

Timestamp: 2006-220.16:36:23.000 (08/08/2006)

DP Dataset: h11607 / 1101_nonechosounder_dp / 2006-220 / dp_1101_220

Profile/Beam: 2/1

Charts Affected: 16553_1, 16540_1, 16011_1, 16006_1, 500_1, 530_1, 50_1

Remarks:

CFF RK DP For Height

QUA: GPSmode=1, SVs=8, HDOP=1.00

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11607/1101_nonechosounder_dp/2006-220/dp_1101_220	2/1	0.00	000.0	Primary

Hydrographer Recommendations

Modify Height Of CFF RK

S-57 Data

Geo object 1: Cartographic symbol ($CSYMB)

Office Notes

Concur with clarification. Update charted rock with least depth 0.197fm at 55-07-05.531N, 159-55-25.817W.

1.3) Profile/Beam - 3/1 from h11607 / 1101_nonechosounder_dp / 2006-220 / dp_1101_220

Survey Summary

Survey Position: 055° 07' 20.516" N, 159° 56' 48.595" W

Least Depth: 0.26 m

Timestamp: 2006-220.16:53:35.000 (08/08/2006)

DP Dataset: h11607 / 1101_nonechosounder_dp / 2006-220 / dp_1101_220

Profile/Beam: 3/1

Charts Affected: 16553_1, 16540_1, 16011_1, 16006_1, 500_1, 530_1, 50_1

Remarks:

New RK At Edge Of Foul Area

QUA: GPSmode=1, SVs=8, HDOP=1.10

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11607/1101_nonechosounder_dp/2006-220/dp_1101_220	3/1	0.00	000.0	Primary

Hydrographer Recommendations

Chart New Rock And Foul Area

Cartographically-Rounded Depth (Affected Charts):

0fm (16540_1, 16011_1, 16006_1, 530_1)

0fm 1ft (16553_1)

.2m (500_1, 50_1)

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)

Attributes: VALSOU - 0.259 m

WATLEV - 4:covers and uncovers

Office Notes

Concur.

Feature Images

Figure 1.3.1 Facing SW

1.4) Profile/Beam - 1/1 from h11607 / 1103_nonechosounder_dp / 2006-220 / dp_1103_dn220

Survey Summary

Survey Position: 055° 04' 52.150" N, 159° 56' 07.538" W

Least Depth: -0.69 m

Timestamp: 2006-220.18:57:57.000 (08/08/2006)

DP Dataset: h11607 / 1103_nonechosounder_dp / 2006-220 / dp_1103_dn220

Profile/Beam: 1/1

Charts Affected: 16553_1, 16540_1, 16011_1, 16006_1, 500_1, 530_1, 50_1

Remarks:

New RK Is EXT Foul

QUA: GPSmode=2, SVs=9, HDOP=0.90

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11607/1103_nonechosounder_dp/2006-220/dp_1103_dn220	1/1	0.00	000.0	Primary

Hydrographer Recommendations

Chart New RK And Foul.

Cartographically-Rounded Depth (Affected Charts):

0 ¼fm (16540_1, 16011_1, 16006_1, 530_1)

0fm 2ft (16553_1)

-.7m (500_1, 50_1)

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)

Attributes: VALSOU - -0.691 m

Office Notes

Concur.

Feature Images

Figure 1.4.1

1.5) Profile/Beam - 2/1 from h11607 / 1103_nonechosounder_dp / 2006-220 / dp_1103_dn220

Survey Summary

Survey Position: 055° 03' 54.150" N, 159° 55' 49.200" W

Least Depth: -6.33 m

Timestamp: 2006-220.19:20:21.000 (08/08/2006)

DP Dataset: h11607 / 1103_nonechosounder_dp / 2006-220 / dp_1103_dn220

Profile/Beam: 2/1

Charts Affected: 16553_1, 16540_1, 16011_1, 16006_1, 500_1, 530_1, 50_1

Remarks:

DP For HT On CFF Islet

QUA: GPSmode=2, SVs=9, HDOP=1.00

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11607/1103_nonechosounder_dp/2006-220/dp_1103_dn220	2/1	0.00	000.0	Primary

Hydrographer Recommendations

Modify Height Of CFF Islet

Cartographically-Rounded Depth (Affected Charts):

-3 ½fm (16540_1, 16011_1, 16006_1, 530_1)

-3fm 3ft (16553_1)

-6.4m (500_1, 50_1)

S-57 Data

Geo object 1: Cartographic symbol ($CSYMB)

Office Notes

Do not concur. Retain GC rock that covers and uncovers located at 55-03-58.936N, 159-55-25.374W.

Feature Images

Figure 1.5.1

1.6) Profile/Beam - 3/1 from h11607 / 1103_nonechosounder_dp / 2006-220 / dp_1103_dn220

Survey Summary

Survey Position: 055° 03' 49.340" N, 159° 56' 28.409" W

Least Depth: -0.99 m

Timestamp: 2006-220.19:29:27.000 (08/08/2006)

DP Dataset: h11607 / 1103_nonechosounder_dp / 2006-220 / dp_1103_dn220

Profile/Beam: 3/1

Charts Affected: 16553_1, 16540_1, 16011_1, 16006_1, 500_1, 530_1, 50_1

Remarks:

New RK Is EXT Foul

QUA: GPSmode=2, SVs=8, HDOP=1.10

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11607/1103_nonechosounder_dp/2006-220/dp_1103_dn220	3/1	0.00	000.0	Primary

Hydrographer Recommendations

Chart New RK And Foul.

Cartographically-Rounded Depth (Affected Charts):

0 ½fm (16540_1, 16011_1, 16006_1, 530_1)

0fm 3ft (16553_1)

-1.0m (500_1, 50_1)

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)

Attributes: VALSOU - -0.994 m

Office Notes

Concur.

1.7) Profile/Beam - 4/1 from h11607 / 1103_nonechosounder_dp / 2006-220 / dp_1103_dn220

Survey Summary

Survey Position: 055° 03' 53.315" N, 159° 57' 22.648" W

Least Depth: -0.49 m

Timestamp: 2006-220.19:39:21.000 (08/08/2006)

DP Dataset: h11607 / 1103_nonechosounder_dp / 2006-220 / dp_1103_dn220

Profile/Beam: 4/1

Charts Affected: 16553_1, 16540_1, 16011_1, 16006_1, 500_1, 530_1, 50_1

Remarks:

DP For HT On CFF RK (Awash)

QUA: GPSmode=2, SVs=8, HDOP=1.10

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11607/1103_nonechosounder_dp/2006-220/dp_1103_dn220	4/1	0.00	000.0	Primary

Hydrographer Recommendations

Modify Height Of CFF RK

Cartographically-Rounded Depth (Affected Charts):

0 ¼fm (16540_1, 16011_1, 16006_1, 530_1)

0fm 1ft (16553_1)

-.5m (500_1, 50_1)

S-57 Data

Geo object 1: Cartographic symbol ($CSYMB)

Office Notes

Concur with clarification. Chart rock awash at 55-03-53.291N, 159-57-22.709W with least depth -0.268fm.

Feature Images

Figure 1.7.1

1.8) Profile/Beam - 5/1 from h11607 / 1103_nonechosounder_dp / 2006-220 / dp_1103_dn220

Survey Summary

Survey Position: 055° 03' 56.568" N, 159° 57' 50.106" W

Least Depth: -4.54 m

Timestamp: 2006-220.19:44:20.000 (08/08/2006)

DP Dataset: h11607 / 1103_nonechosounder_dp / 2006-220 / dp_1103_dn220

Profile/Beam: 5/1

Charts Affected: 16553_1, 16540_1, 16011_1, 16006_1, 500_1, 530_1, 50_1

Remarks:

DP For HT Of CFF Islet

QUA: GPSmode=2, SVs=8, HDOP=1.10

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11607/1103_nonechosounder_dp/2006-220/dp_1103_dn220	5/1	0.00	000.0	Primary

Hydrographer Recommendations

Modify Height Of CFF Islet

Cartographically-Rounded Depth (Affected Charts):

-2 ½fm (16540_1, 16011_1, 16006_1, 530_1)

-2fm 3ft (16553_1)

-4.6m (500_1, 50_1)

S-57 Data

Geo object 1: Cartographic symbol ($CSYMB)

Office Notes

Concur with clarification. Chart Islet at 55-03-58.932N, 159-57-54.774 with a height of 14.764ft.

Feature Images

Figure 1.8.1

1.9) Profile/Beam - 2/1 from h11607 / 1103_nonechosounder_dp / 2006-232 / dp_1103_232

Survey Summary

Survey Position: 055° 04' 27.036" N, 159° 59' 59.623" W

Least Depth: -1.92 m

Timestamp: 2006-232.16:02:52.000 (08/20/2006)

DP Dataset: h11607 / 1103_nonechosounder_dp / 2006-232 / dp_1103_232

Profile/Beam: 2/1

Charts Affected: 16553_1, 16540_1, 16011_1, 16006_1, 500_1, 530_1, 50_1

Remarks:

DP For HT On CFF RK, CFF RK Is HP New Reef

QUA: GPSmode=2, SVs=7, HDOP=1.10

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11607/1103_nonechosounder_dp/2006-232/dp_1103_232	2/1	0.00	000.0	Primary

Hydrographer Recommendations

Update HT Only (CFF Position Is Correct).

Cartographically-Rounded Depth (Affected Charts):

-1fm (16540_1, 16011_1, 16006_1, 530_1)

-1fm 0ft (16553_1)

-1.9m (500_1, 50_1)

S-57 Data

Geo object 1: Cartographic symbol ($CSYMB)

Office Notes

Chart rock as high point of reef at 55-04-25.831N, 159-59-59.006W with least depth -1.323fm.

Feature Images

Figure 1.9.1 Facing NE

1.10) Profile/Beam - 1/1 from h11607 / 1103_nonechosounder_dp / 2006-232 / dp_1103_232

Survey Summary

Survey Position: 055° 04' 15.081" N, 159° 59' 22.441" W

Least Depth: -2.90 m

Timestamp: 2006-232.15:55:17.000 (08/20/2006)

DP Dataset: h11607 / 1103_nonechosounder_dp / 2006-232 / dp_1103_232

Profile/Beam: 1/1

Charts Affected: 16553_1, 16540_1, 16011_1, 16006_1, 500_1, 530_1, 50_1

Remarks:

DP For HT On CFF Islet

QUA: GPSmode=2, SVs=7, HDOP=1.20

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11607/1103_nonechosounder_dp/2006-232/dp_1103_232	1/1	0.00	000.0	Primary

Hydrographer Recommendations

Update HT Only (CFF Position Is Correct).

Cartographically-Rounded Depth (Affected Charts):

-1 ½fm (16540_1, 16011_1, 16006_1, 530_1)

-1fm 3ft (16553_1)

-2.9m (500_1, 50_1)

S-57 Data

Geo object 1: Cartographic symbol ($CSYMB)

Office Notes

Retain GC islet and add field verified height of 2.992ft at 55-04-15.001N, 159-59-22.479W.

1.11) Profile/Beam - 3/1 from h11607 / 1103_nonechosounder_dp / 2006-232 / dp_1103_232

Survey Summary

Survey Position: 055° 04' 25.939" N, 159° 59' 58.208" W

Least Depth: -2.42 m

Timestamp: 2006-232.16:05:04.000 (08/20/2006)

DP Dataset: h11607 / 1103_nonechosounder_dp / 2006-232 / dp_1103_232

Profile/Beam: 3/1

Charts Affected: 16553_1, 16540_1, 16011_1, 16006_1, 500_1, 530_1, 50_1

Remarks:

DP For HT On CFF RK, CFF RK Is HP New Reef.

QUA: GPSmode=2, SVs=8, HDOP=1.10

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11607/1103_nonechosounder_dp/2006-232/dp_1103_232	3/1	0.00	000.0	Primary

Hydrographer Recommendations

Do not concur.

Cartographically-Rounded Depth (Affected Charts):

-1 ¼fm (16540_1, 16011_1, 16006_1, 530_1)

-1fm 2ft (16553_1)

-2.4m (500_1, 50_1)

S-57 Data

Geo object 1: Cartographic symbol ($CSYMB)

Office Notes

Chart new reef with a high point rock at 55-04-25.831N, 159-59-59.006W with least depth -1.323fm.

1.12) Profile/Beam - 4/1 from h11607 / 1103_nonechosounder_dp / 2006-232 / dp_1103_232

Survey Summary

Survey Position: 055° 04' 24.731" N, 159° 59' 56.462" W

Least Depth: 999.07 m

Timestamp: 2006-232.16:09:22.000 (08/20/2006)

DP Dataset: h11607 / 1103_nonechosounder_dp / 2006-232 / dp_1103_232

Profile/Beam: 4/1

Charts Affected: 16553_1, 16540_1, 16011_1, 16006_1, 500_1, 530_1, 50_1

Remarks:

SE EXT New Reef (Bad Depth)

QUA: GPSmode=2, SVs=8, HDOP=1.10

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11607/1103_nonechosounder_dp/2006-232/dp_1103_232	4/1	0.00	000.0	Primary

Hydrographer Recommendations

Enclose Area With Reef Line.

Cartographically-Rounded Depth (Affected Charts):

546fm (16540_1, 16011_1, 16006_1, 530_1)

546fm (16553_1)

999m (500_1, 50_1)

S-57 Data

Geo object 1: Cartographic symbol ($CSYMB)

Office Notes

Chart new reef with a high point rock at 55-04-25.831N, 159-59-59.006W with least depth -1.323fm.

Feature Images

Figure 1.12.1 Facing NE

1.13) Profile/Beam - 6/1 from h11607 / 1103_nonechosounder_dp / 2006-232 / dp_1103_232

Survey Summary

Survey Position: 055° 03' 01.902" N, 159° 59' 25.358" W

Least Depth: -0.39 m

Timestamp: 2006-232.16:57:55.000 (08/20/2006)

DP Dataset: h11607 / 1103_nonechosounder_dp / 2006-232 / dp_1103_232

Profile/Beam: 6/1

Charts Affected: 16553_1, 16540_1, 16011_1, 16006_1, 500_1, 530_1, 50_1

Remarks:

New RK (Inside Foul)

QUA: GPSmode=2, SVs=9, HDOP=0.90

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11607/1103_nonechosounder_dp/2006-232/dp_1103_232	6/1	0.00	000.0	Primary

Hydrographer Recommendations

Chart New RK

Cartographically-Rounded Depth (Affected Charts):

0 ¼fm (16540_1, 16011_1, 16006_1, 530_1)

0fm 1ft (16553_1)

-.4m (500_1, 50_1)

S-57 Data

Geo object 1: Underwater rock / awash rock (UWTROC)

Attributes: VALSOU - -0.388 m

Office Notes

Concur with clarification. Chart new rock at this position with depth -0.213fm.

Feature Images

Figure 1.13.1 Facing N

1.14) Profile/Beam - 5/1 from h11607 / 1103_nonechosounder_dp / 2006-232 / dp_1103_232

Survey Summary

Survey Position: 055° 03' 45.803" N, 160° 00' 21.507" W

Least Depth: -0.61 m

Timestamp: 2006-232.16:34:05.000 (08/20/2006)

DP Dataset: h11607 / 1103_nonechosounder_dp / 2006-232 / dp_1103_232

Profile/Beam: 5/1

Charts Affected: 16553_1, 16540_1, 16011_1, 16006_1, 500_1, 530_1, 50_1

Remarks:

DP For HT On CFF Islet, CFF Islet Is RK

QUA: GPSmode=2, SVs=9, HDOP=0.90

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11607/1103_nonechosounder_dp/2006-232/dp_1103_232	5/1	0.00	000.0	Primary

Hydrographer Recommendations

Update HT And Feature Type Only (CFF Position Is Correct).

Cartographically-Rounded Depth (Affected Charts):

0 ¼fm (16540_1, 16011_1, 16006_1, 530_1)

0fm 2ft (16553_1)

-.6m (500_1, 50_1)

S-57 Data

Geo object 1: Cartographic symbol ($CSYMB)

Office Notes

Concur. Chart rock at 55-03-45.427N, 160-00-23.168W with least depth -0.612fm.

Feature Images

Figure 1.14.1 Facing SW

1.15) Profile/Beam - 7/1 from h11607 / 1103_nonechosounder_dp / 2006-232 / dp_1103_232

Survey Summary

Survey Position: 055° 02' 59.442" N, 159° 59' 26.772" W

Least Depth: -3.11 m

Timestamp: 2006-232.17:00:46.000 (08/20/2006)

DP Dataset: h11607 / 1103_nonechosounder_dp / 2006-232 / dp_1103_232

Profile/Beam: 7/1

Charts Affected: 16553_1, 16540_1, 16011_1, 16006_1, 500_1, 530_1, 50_1

Remarks:

DP for Ht on CFF Islet

QUA: GPSmode=2, SVs=8, HDOP=1.00

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11607/1103_nonechosounder_dp/2006-232/dp_1103_232	7/1	0.00	000.0	Primary

Hydrographer Recommendations

Update HT Only (CFF Position Is Correct).

Cartographically-Rounded Depth (Affected Charts):

-1 ¾fm (16540_1, 16011_1, 16006_1, 530_1)

-1fm 4ft (16553_1)

-3.1m (500_1, 50_1)

S-57 Data

Geo object 1: Cartographic symbol ($CSYMB)

Office Notes

Concur. Chart islet at 55-03-00.243N, 159-59-30.564W with a height of 6.890ft.

Feature Images

Figure 1.15.1 Facing NW

1.16) Profile/Beam - 8/1 from h11607 / 1103_nonechosounder_dp / 2006-232 / dp_1103_232

Survey Summary

Survey Position: 055° 02' 59.094" N, 159° 59' 20.766" W

Least Depth: -2.13 m

Timestamp: 2006-232.17:05:30.000 (08/20/2006)

DP Dataset: h11607 / 1103_nonechosounder_dp / 2006-232 / dp_1103_232

Profile/Beam: 8/1

Charts Affected: 16553_1, 16540_1, 16011_1, 16006_1, 500_1, 530_1, 50_1

Remarks:

DP For HT On CFF RK, CFF RK Is Islet

QUA: GPSmode=2, SVs=9, HDOP=1.00

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11607/1103_nonechosounder_dp/2006-232/dp_1103_232	8/1	0.00	000.0	Primary

Hydrographer Recommendations

Update HT And Feature Type Only (CFF Position Is Correct).

Cartographically-Rounded Depth (Affected Charts):

-1fm (16540_1, 16011_1, 16006_1, 530_1)

-1fm 1ft (16553_1)

-2.2m (500_1, 50_1)

S-57 Data

Geo object 1: Cartographic symbol ($CSYMB)

Office Notes

Do not concur. Chart islet at 55-03-00.243N, 159-59-30.564W with a height of 6.890ft.

Feature Images

Figure 1.16.1 Facing NW

1.17) Profile/Beam - 9/1 from h11607 / 1103_nonechosounder_dp / 2006-232 / dp_1103_232

Survey Summary

Survey Position: 055° 02' 34.669" N, 159° 59' 50.196" W

Least Depth: -7.20 m

Timestamp: 2006-232.17:15:36.000 (08/20/2006)

DP Dataset: h11607 / 1103_nonechosounder_dp / 2006-232 / dp_1103_232

Profile/Beam: 9/1

Charts Affected: 16553_1, 16540_1, 16011_1, 16006_1, 500_1, 530_1, 50_1

Remarks:

DP For HT On CFF RK, CFF RK Is Islet

QUA: GPSmode=2, SVs=8, HDOP=1.10

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11607/1103_nonechosounder_dp/2006-232/dp_1103_232	9/1	0.00	000.0	Primary

Hydrographer Recommendations

Update HT And Feature Type Only (CFF Position Is Correct).

Cartographically-Rounded Depth (Affected Charts):

-2fm (16540_1, 16011_1, 16006_1, 530_1)

-3fm 5ft (16553_1)

-7.2m (500_1, 50_1)

S-57 Data

Geo object 1: Cartographic symbol ($CSYMB)

Office Notes

Concur. Chart islet at 55-02-34.699N, 159-59-50.268W with a height of 23.622ft.

Feature Images

Figure 1.17.1 Facing NNE

1.18) Profile/Beam - 1/1 from h11607 / 1103_echosounder_dp / 2006-232 / dp_1103_232

Survey Summary

Survey Position: 055° 04' 27.954" N, 160° 00' 00.299" W

Least Depth: 3.08 m

Timestamp: 2006-232.16:13:31.000 (08/20/2006)

DP Dataset: h11607 / 1103_echosounder_dp / 2006-232 / dp_1103_232

Profile/Beam: 1/1

Charts Affected: 16553_1, 16540_1, 16011_1, 16006_1, 500_1, 530_1, 50_1

Remarks:

NW EXT New Reef

QUA: GPSmode=2, SVs=9, HDOP=1.00

Feature Correlation

Address	Feature	Range	Azimuth	Status
h11607/1103_echosounder_dp/2006-232/dp_1103_232	1/1	0.00	000.0	Primary

Hydrographer Recommendations

Enclose Area With Reef Line.

Cartographically-Rounded Depth (Affected Charts):

1 ½fm (16540_1, 16011_1, 16006_1, 530_1)

1fm 4ft (16553_1)

3.1m (500_1, 50_1)

S-57 Data

Geo object 1: Cartographic symbol ($CSYMB)

Office Notes

Concur with clarification. Chart new reef with a high point rock at 55-04-25.831N, 159-59-59.006W with least depth -1.323fm.

2 - AWOIS Features

2.1) AWOIS #53469 - OBSTRUCTION

No Primary Survey Feature for this AWOIS Item

Search Position: 055° 05' 08.880" N, 159° 56' 09.600" W

Historical Depth: [None]

Search Radius: 60

Search Technique: VS, VBES, MBES, S2

Technique Notes: Conduct search within the limits of the survey.

History Notes:

Probable source H03806, 1915; Charted position LAT. 55/05/08.88 N LONG. 159/56/09.6 W (NAD83) of rock awash is offset from source position. Conduct search to verify or disprove charted rock. (Entered by KRW, 07/19/2006)

Survey Summary

Charts Affected: 16553_1, 16540_1, 16011_1, 16006_1, 500_1, 530_1, 50_1

Remarks:

AWOIS #53469, CHD (16540)RK Disproved w/ 100% MB.

Feature Correlation

Address	Feature	Range	Azimuth	Status
OPR-P183-RA-06Additional	AWOIS # 53469	0.00	000.0	Primary

Hydrographer Recommendations

Remove CHD (16540) RK

S-57 Data

Geo object 1: Cartographic symbol ($CSYMB)

Office Notes

Do not concur. Retain GC rock that covers and uncovers at 55-05-04.650N, 159-56-18.600W.

2.2) AWOIS #53470 - OBSTRUCTION

No Primary Survey Feature for this AWOIS Item

Search Position: 055° 04' 55.620" N, 159° 56' 05.210" W

Historical Depth: [None]

Search Radius: 60

Search Technique: VS, VBES, MBES, S2

Technique Notes: Conduct search within the limits of the survey.

History Notes:

Probable source H03806, 1915; Charted position LAT. 55/04/55.62 N LONG. 159/56/05.21 W (NAD83) of rock awash is offset from source position. Conduct search to verify or disprove charted rock. (Entered by KRW, 07/19/2006)

Survey Summary

Charts Affected: 16553_1, 16540_1, 16011_1, 16006_1, 500_1, 530_1, 50_1

Remarks:

AWOIS #53470, CHD (16540) RK Disproved w/ 100% MB.

Feature Correlation

Address	Feature	Range	Azimuth	Status
OPR-P183-RA-06Additional	AWOIS # 53470	0.00	000.0	Primary

Hydrographer Recommendations

Remove CHD (16540) RK

S-57 Data

Geo object 1: Cartographic symbol ($CSYMB)

Office Notes

Concur with clarification. Relocate and update Chd (16540) rock with new rock at 55-04-52.150N, 159-56-07.538W with least depth -0.377fm.

2.3) AWOIS #53471 - OBSTRUCTION

No Primary Survey Feature for this AWOIS Item

Search Position: 055° 03' 57.300" N, 159° 55' 33.880" W

Historical Depth: [None]

Search Radius: 60

Search Technique: VS, VBES, MBES, S2

Technique Notes: Conduct search within the limits of the survey.

History Notes:

Probable source H03806, 1915; Charted position LAT. 55/03/57.3 N LONG. 159/55/33.88 W (NAD83) of rock awash is offset from source position. Conduct search to verify or disprove charted rock. (Entered by KRW, 07/19/2006)

Survey Summary

Charts Affected: 16553_1, 16540_1, 16011_1, 16006_1, 500_1, 530_1, 50_1

Remarks:

AWOIS #53471, CHD (16540) RK Disproved w/ 100% MB.

Feature Correlation

Address	Feature	Range	Azimuth	Status
OPR-P183-RA-06Additional	AWOIS # 53471	0.00	000.0	Primary

Hydrographer Recommendations

Remove CHD (16540) RK

S-57 Data

Geo object 1: Cartographic symbol ($CSYMB)

Office Notes

Concur with clarification. Relocate and update Chd (16540) rock with new submerged rock at 55-04-01.393N, 159-55-38.181W with least depth 8.795fm.

2.4) AWOIS #53472 - OBSTRUCTION

No Primary Survey Feature for this AWOIS Item

Search Position: 055° 03' 50.190" N, 159° 57' 04.900" W

Historical Depth: [None]

Search Radius: 60

Search Technique: VS, VBES, MBES, S2

Technique Notes: Conduct search within the limits of the survey.

History Notes:

Probable source H03806, 1915; Charted position LAT. 55/03/50.19 N LONG. 159/57/04.9 W (NAD83) of rock awash is offset from source position. Conduct search to verify or disprove charted rock. (Entered by KRW, 07/19/2006)

Survey Summary

Charts Affected: 16553_1, 16540_1, 16011_1, 16006_1, 500_1, 530_1, 50_1

Remarks:

AWOIS #53472, CHD (16540) RK Disproved w/ 100% MB.

Feature Correlation

Address	Feature	Range	Azimuth	Status
OPR-P183-RA-06Additional	AWOIS # 53472	0.00	000.0	Primary

Hydrographer Recommendations

Remove CHD (16540) RK

S-57 Data

Geo object 1: Cartographic symbol ($CSYMB)

Office Notes

Concur with clarification. Chart foul area and relocate and update Chd (16540) rock to 55-03-53.291N, 159-57-22.709W with least depth -0.268fm.

2.5) AWOIS #53473 - OBSTRUCTION

No Primary Survey Feature for this AWOIS Item

Search Position: 055° 04' 27.120" N, 160° 00' 09.280" W

Historical Depth: [None]

Search Radius: 60

Search Technique: VS, VBES, MBES, S2

Technique Notes: Conduct search within the limits of the survey.

History Notes:

Probable source H03806, 1915; Charted position LAT. 55/04/27.12 N LONG. 160/00/09.28 W (NAD83) of rock awash is offset from source position. Conduct search to verify or disprove charted rock. (Entered by KRW, 07/19/2006)

Survey Summary

Charts Affected: 16553_1, 16540_1, 16011_1, 16006_1, 500_1, 530_1, 50_1

Remarks:

AWOIS 53473. VBES Star Pattern disproval Of CHD (16540) RK. CHD (16540) RK Is New Reef 150m East. See DPs 1103_232_898 To 901 For Extents And Heights Of Reef.

Feature Correlation

Address	Feature	Range	Azimuth	Status
OPR-P183-RA-06Additional	AWOIS # 53473	0.00	000.0	Primary

Hydrographer Recommendations

Remove CHD (16540) RK.

S-57 Data

Geo object 1: Cartographic symbol ($CSYMB)

Office Notes

Concur. Replace Chd (16540) rock with 1.074fm sounding found by VBES.

2.6) AWOIS #53474 - OBSTRUCTION

No Primary Survey Feature for this AWOIS Item

Search Position: 055° 02' 49.290" N, 159° 59' 08.360" W

Historical Depth: [None]

Search Radius: 60

Search Technique: VS, VBES, MBES, S2

Technique Notes: Conduct search within the limits of the survey.

History Notes:

Probable source H03806, 1915; Charted position LAT. 55/02/49.29 N LONG. 159/59/08.36 W (NAD83) of rock awash is offset from source position. Conduct search to verify or disprove charted rock. (Entered by KRW, 07/19/2006)

Survey Summary

Charts Affected: 16553_1, 16540_1, 16011_1, 16006_1, 500_1, 530_1, 50_1

Remarks:

AWOIS #53474, CHD (16540) RK Disproved w/ 100% MB.

Feature Correlation

Address	Feature	Range	Azimuth	Status
OPR-P183-RA-06Additional	AWOIS # 53474	0.00	000.0	Primary

Hydrographer Recommendations

Remove CHD (16540) RK.

S-57 Data

Geo object 1: Cartographic symbol ($CSYMB)

Office Notes

Concur. Chart new foul area to the west.

2.7) AWOIS #53475 - OBSTRUCTION

No Primary Survey Feature for this AWOIS Item

Search Position: 055° 02' 34.330" N, 159° 59' 33.210" W

Historical Depth: [None]

Search Radius: 60

Search Technique: VS, VBES, MBES, S2

Technique Notes: Conduct search within the limits of the survey.

History Notes:

Probable source H03806, 1915; Charted position LAT. 55/02/34.33 N LONG. 159/59/33.21 W (NAD83) of rock awash is offset from source position. Conduct search to verify or disprove charted rock. (Entered by KRW, 07/19/2006)

Survey Summary

Charts Affected: 16553_1, 16540_1, 16011_1, 16006_1, 500_1, 530_1, 50_1

Remarks:

AWOIS #53475, CHD (16540) RK Disproved w/ 100% MB.

Feature Correlation

Address	Feature	Range	Azimuth	Status
OPR-P183-RA-06Additional	AWOIS # 53475	0.00	000.0	Primary

Hydrographer Recommendations

Remove CHD (16540) RK.

S-57 Data

Geo object 1: Cartographic symbol ($CSYMB)

Office Notes

Concur. Replace with 10.607fm sounding and chart new foul area to the west.

2.8) AWOIS #53476 - OBSTRUCTION

No Primary Survey Feature for this AWOIS Item

Search Position: 055° 01' 56.840" N, 160° 00' 15.700" W

Historical Depth: [None]

Search Radius: 60

Search Technique: VS, VBES, MBES, S2

Technique Notes: Conduct search within the limits of the survey.

History Notes:

Probable source GC10558, 1999; Charted position LAT. 55/01/56.84 N LONG. 160/00/15.7 W (NAD83) of rock awash is offset from source position. Conduct search to verify or disprove charted rock. (Entered by KRW, 07/19/2006)

Survey Summary

Charts Affected: 16553_1, 16540_1, 16011_1, 16006_1, 500_1, 530_1, 50_1

Remarks:

AWOIS #53476, CHD (16540) RK Disproved w/ 100% MB.

Feature Correlation

Address	Feature	Range	Azimuth	Status
OPR-P183-RA-06Additional	AWOIS # 53476	0.00	000.0	Primary

Hydrographer Recommendations

Remove CHD (16540) RK.

S-57 Data

Geo object 1: Cartographic symbol ($CSYMB)

Office Notes

Concur. Replace with 9.592fm sounding and chart new foul area to the west.

2.9) AWOIS #53477 - OBSTRUCTION

No Primary Survey Feature for this AWOIS Item

Search Position: 055° 01' 37.950" N, 160° 00' 53.390" W

Historical Depth: [None]

Search Radius: 60

Search Technique: VS, VBES, MBES, S2

Technique Notes: Conduct search within the limits of the survey.

History Notes:

Probable source GC10558, 1999; Charted position LAT. 55/01/37.95 N LONG. 160/00/53.39 W (NAD83) of rock awash is offset from source position. Conduct search to verify or disprove charted rock. (Entered by KRW, 07/19/2006)

Survey Summary

Charts Affected: 16553_1, 16540_1, 16011_1, 16006_1, 500_1, 530_1, 50_1

Remarks:

Not Seen, But Inaccesible For VBES Due To Kelp.

Feature Correlation

Address	Feature	Range	Azimuth	Status
OPR-P183-RA-06Additional	AWOIS # 53477	0.00	000.0	Primary

Hydrographer Recommendations

Retain as Charted

S-57 Data

Geo object 1: Cartographic symbol ($CSYMB)

Office Notes

Concur.

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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE : September 8, 2006

HYDROGRAPHIC BRANCH: Pacific
HYDROGRAPHIC PROJECT: OPR-P183-RA-2006
HYDROGRAPHIC SHEET: H11607

LOCALITY: East Bight to Larsen Bay, Shumagin Islands, AK
TIME PERIOD: August 2 - 25, 2006

TIDE STATION USED: 945-9450 Sand Point, AK
Lat. 55° 19.9'N Long. 160° 30.3' W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 1.988 meters

REMARKS: RECOMMENDED ZONING

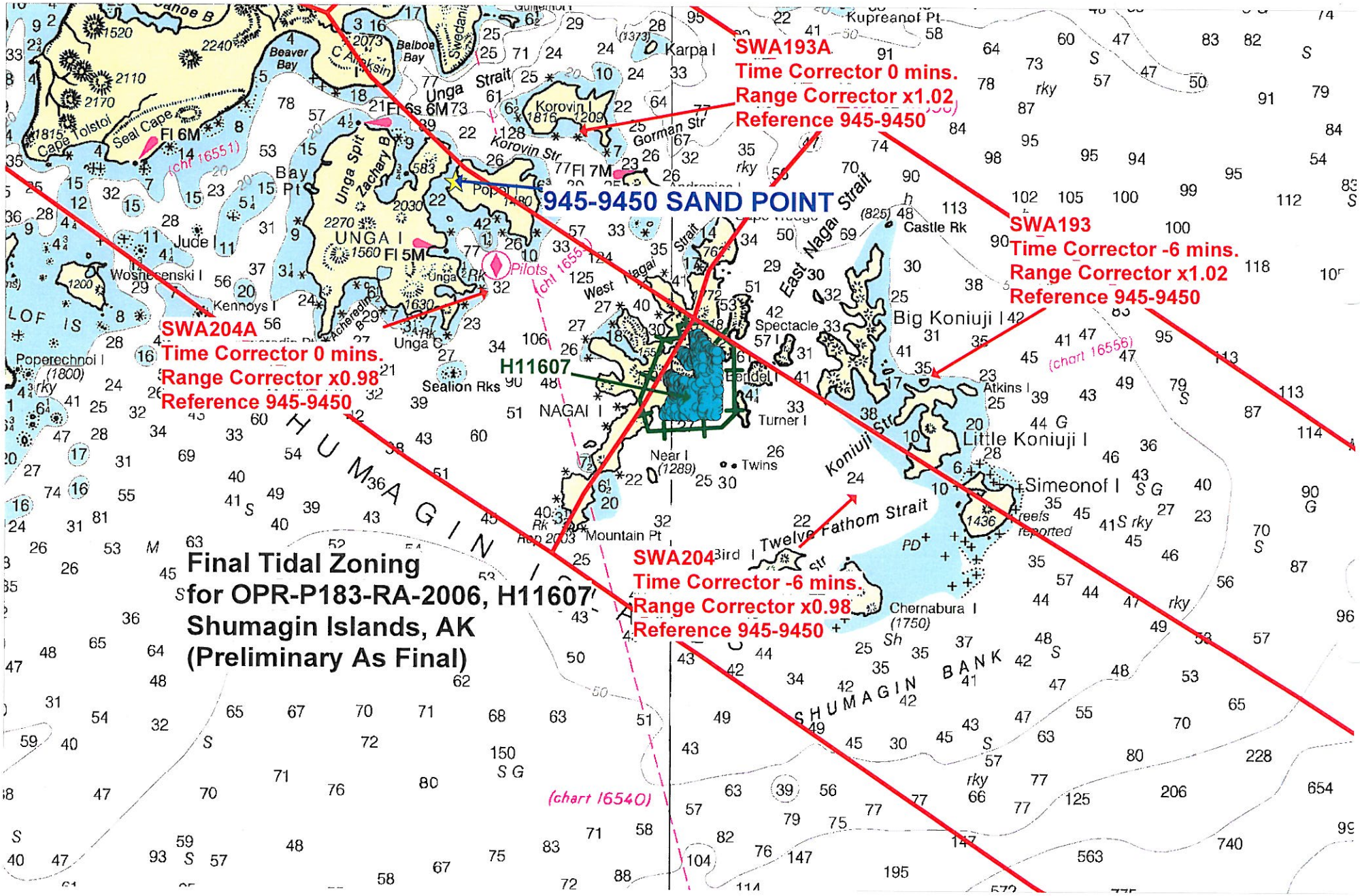
Preliminary zoning is accepted as the final zoning for project OPR-P183-RA-2006, H11607, during the time period between August 2 to August 25, 2006.

Please use the zoning file "P183RA2006CORP" submitted with the project instructions for Shumagin Islands, AK. Zone SWA204 is the applicable zone for H11607.

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).

CHIEF, PRODUCT AND SERVICES DIVISION


SWA193A
Time Corrector 0 mins.
Range Corrector x1.02
Reference 945-9450
945-9450 SAND POINT
SWA193
Time Corrector -6 mins.
Range Corrector x1.02
Reference 945-9450
SWA204A
Time Corrector 0 mins.
Range Corrector x0.98
Reference 945-9450
H11607
SWA204
Time Corrector -6 mins.
Range Corrector x0.98
Reference 945-9450
Final Tidal Zoning
for OPR-P183-RA-2006, H11607
Shumagin Islands, AK
(Preliminary As Final)
SHUMAGIN ISLANDS
SHUMAGIN BANK
Unga Strait
Gorman Str
Korovin Str
Nagai Strait
East Nagai Strait
West Nagai Strait
Koniuji Str
Twelve Fathom Strait
Unga Spit
Zachary Bay
Balboa Bay
Beaver Bay
Seal Cape
Cape Tolstoi
Bay Pt
Jude I
Kennoys I
Poperechnoi I
Sealion Rks
NAGAI I
Near I
Twins
Turner I
Spectacle
Big Koniuji I
Little Koniuji I
Simeonof I
Atkins I
Castle Rk
Kupreanof Pt
Karpa I
Korovin I
Mountain Pt
Bird I
Chernabura I
Pilots
(chart 16551)
(chart 16556)
(chart 16540)

H11607 HCell Report

Katie Reser, Physical Scientist
Pacific Hydrographic Branch

Introduction

The primary purpose of the HCell is to provide new survey information in International Hydrographic Organization (IHO) format S-57 to update the largest scale ENCs and RNCs in the region: NOAA ENC US4AK57M and NOAA RNCs 16553 and 16540.

HCell compilation of survey H11607 used Office of Coast Survey HCell Specifications Version 3.0 and HCell Reference Guide Version 1.0.

1. Compilation Scale

Depths for HCell H11607 were compiled to the largest scale chart in the region, 16553, 1:80,000. The density and distribution of soundings from H11607 were selected to emulate the distribution on chart. Non-bathymetric features have been generalized to chart scale.

2. Soundings

A survey-scale sounding (SOUNDG) feature object layer was built from the 5-meter combined surface, **H11607_Final_Combined_5m**, in CARIS BASE Editor. A shoal-biased selection was made at 1:10,000 scale for the main chart area using a Radius Table file with values shown in the table, below. The resultant sounding layer contains depths ranging from 0.9 to 138.9 meters.

Upper limit (m)	Lower limit (m)	Radius (mm)
0	10	3
10	20	4
20	50	4.5
50	150	5

In CARIS BASE Editor soundings were manually selected from the high density sounding layers and imported into a new layer created to accommodate chart density depths. Manual selection was used to accomplish a density and distribution that closely represents the seafloor morphology.

3. Depth Areas and Depth Contours

3.1 Depth Areas

The extents of the highest resolution BASE Surface together with the extents of the soundings layer were used to digitize the hydrographic extents, which were then used to

create the single, all encompassing depth area (DEPARE). One depth range, from 0 to 150 meters, was used for the depth area object. Upon conversion to NOAA charting units, the depth range is 0 to 82.02 fathoms.

3.2 Depth 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. The generalized metric and fathom equivalent contour values are shown in the table below.

Chart Contours in Fathoms	Metric Equivalent of Chart Contours	Metric Equivalent of Chart Contours NOAA Rounded	Actual Value of Chart Contours
0	0.00	0.2286	0.00
5	9.144	9.3726	5.125
10	18.288	18.5166	10.125
20	36.576	37.9476	20.750
50	91.44	92.8116	50.750
100	182.88	184.2516	100.750

Contours delivered in the *_SS file have not been deconflicted against shoreline features, soundings and hydrography as all other features in the *_CS file and soundings in the *_SS have been. This results in conflicts between the *_SS file contours and HCell features at or near the survey limits. Conflicts with M_COVR, M_QUAL, DEPARE and COALNE, should be expected. HCell features should be honored over *_SS.000 file contours in all cases where conflicts are found.

4. Meta Areas

The following Meta object areas are included in HCell 11607:

M_QUAL
M_COVR

Meta area objects were constructed on the basis of the limits of the hydrography. (See 3.1 *Depth Areas*.)

5. Features

Shoreline features for H11607 were delivered from the field in three hob files defining new features, modification to GC or charted features, disprovals and LIDAR investigations. All of these were deconflicted against GC shoreline, the chart and hydrography during office processing.

There were no DTONs reported from survey H11607.

There were nine AWOIS items in the limits of H11607. Eight were fully investigated during the survey. The final item was not fully investigated because it was inaccessible and deemed not navigationally significant.

Twelve bottom samples were collected during H11607 and all twelve bottom samples are included in the HCell. No charted bottom samples were retained.

The source of all features included in the H11607 HCell can be determined by the SORIND field.

6. S-57 Objects and Attributes

The *_CS HCell contains the following Objects:

SOUNDG	Chart scale soundings
DEPARE	All-encompassing depth area
DEPCNT	Zero-meter contour defining intertidal areas
COALNE	GC and charted MHW line
LNDARE	Islet features
LNDELV	Height features for islets
UWTROC	Rock features
OBSTRN	Foul areas
SBDARE	Bottom samples, reefs, ledges and rocky seabed areas
M_COVR	Data coverage Meta object
M_QUAL	Data quality Meta object
$CSYMB	Blue notes

The *_SS HCell contains the following Objects:

SOUNDG	Soundings at the survey scale density
DEPCNT	NOAA rounded contours at chart scale intervals

All S-57 Feature Objects in the *_CS HCell have been attributed as fully as possible based on information provided by the Hydrographer and in accordance with current guidance and the OCS HCell Specifications.

7. Blue Notes

Notes to the RNC and ENC chart compilers are included in the HCell as $CSYMB features with the Blue Note information located in the INFORM field. The NINFOM field is populated with the charting disposition

8. Spatial Framework

8.1 Coordinate System

All spatial map and base cell file deliverables are in an LLDG geographic coordinate system, with WGS84 horizontal, MHW vertical, and MLLW (1983-2001 NTDE) sounding datums.

8.2 Horizontal and Vertical Units

DUNI, HUNI and PUNI are used to define units for depth, height and horizontal position in the chart units HCell, as shown below.

Chart Unit Base Cell Units:

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

During creation of the HCell in CARIS BASE Editor and CARIS S-57 Composer, 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, and therefore have lower precision. Units and precision are shown below.

BASE Editor and S-57 Composer Units:

Sounding Units:	Meters rounded to the nearest millimeter
Spot Height Units:	Meters rounded to the nearest decimeter

Conversion to charting units and application of NOAA rounding is completed in the same step, at the end of the HCell compilation process.

Conversion to fathoms and feet charting units with NOAA rounding ensures that:

- All depths deeper or equal to 11 fathoms display as whole fathoms.
- All depth units between 0 fathoms (MLLW) and 11 fathoms display as fathoms and whole feet.
- All depth units above MLLW (0 fathoms) to 2.0 feet above MHW display in feet for values that round to 5 feet or less, and in fathoms and feet above that.
- All height units (HUNI) which have been converted to charting units, and that are 2.0 feet above MHW and greater, are shown in feet.

In an ENC viewer fathoms and feet depth units (DUNI) display in the format X.YZZZ, where X is fathoms, Y is feet, and ZZZ is decimals of the foot. In an ENC viewer, heights (HUNI) display as whole feet.

9. Data Processing Notes

9.1 Junctions

H11607 junctions with surveys H11606 and H11848. H11606 has been applied to some charts and ENCs, but not all, so the junction made during compilation address changes to be made to the data from that HCell for application to the other charts. The junction with H11848 will be made when the survey is compiled.

9.2 Conflicts between Shoreline and Hydrography

There are instances of GC shoreline in conflict with hydrography. These were examined using the highest resolution Surfaces. Conflicts were resolved making modifications to the GC shoreline.

10. QA/QC and ENC Validation Checks

H11607 was subjected to QA checks in S-57 Composer prior to exporting to the HCell base cell (000) file. The millimeter precision metric S-57 HCell was converted to a chart units and NOAA rounding applied. dKart Inspector was then used to further check the data set for conformity with the S-58 ver. 2 standard (formerly Appendix B.1 Annex C of the S-57 standard). All tests were run and warnings and errors investigated and corrected unless they have been approved by MCD as inherent to and acceptable for HCells.

11. Products

11.1 HSD, MCD and CGTP Deliverables

- H11607 Base Cell File, Chart Units, Soundings compiled to 1:80,000
- H11607 Base Cell File, Chart Units, Soundings compiled to 1:10,000
- H11607 Base Cell File, Metric Units, Features compiled to 1:10,000
- H11607 Descriptive Report including end notes compiled during office processing and certification, the HCell Report, and supplemental items
- H11607 Survey Outline to populate SURDEX

11.2 File Naming Conventions

- Chart units base cell file, chart scale soundings — H11607_CS.000
- Chart units base cell file, survey scale soundings — H11607_SS.000
- Metric base cell file, survey scale features — H11607_Features.000
- Descriptive Report package — H11607_DR.pdf
- Survey outline — H11607_Outline.gml & *xsd

11.3 Software

CARIS HIPS Ver. 6.1	Inspection of Combined BASE Surfaces
CARIS BASE Editor Ver. 2.2	Creation of soundings and bathy-derived features, creation of the depth area, meta area objects, and Blue Notes; Survey evaluation and verification; Initial HCell assembly.
CARIS S-57 Composer Ver. 2.0	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.
CARIS HOM Ver. 3.3	Perform conversion of the metric HCell to NOAA charting units with NOAA rounding.
HydroService AS, dKart Inspector Ver. 5.1	Validation of the base cell file.
Newport Systems, Inc., Fugawi View ENC Ver.1.0.0.3	Independent inspection of final HCells using a COTS viewer.

12. Contacts

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

Katie Reser, Physical Scientist, PHB, Seattle, WA; 206-526-6864;
Katie.Reser@noaa.gov.

APPROVAL SHEET
H11607

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

Katie J. Reser

Katie Reser
2009.09.25
08:51:06 -07'00'

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.

Charles R. Davies

Digitally signed by Charles R. Davies
DN: cn=Charles R. Davies, o=Pacific Hydrographic Branch, ou=NOAA,NOS,OCS, email=Russ.Davies@NOAA.GOV, c=US
Date: 2009.09.25 12:31:19 -07'00'

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.

Gary C. Nelson

Gary C. Nelson
2009.09.25
13:25:05 -07'00'

Megan Greenaway

AWOIS and SURF Check
2009.09.29 16:49:39
-04'00'