U.S. Department of Commerce			
National Oceanic and Atmospheric Administration			
	DESCRIPTIVE REPORT		
Type of Survey:	Navigable Area		
Registry Number:	H12750		
	LOCALITY		
State(s):	Alaska		
General Locality:	Chatham Strait, AK		
Sub-locality:	Security Bay		
	2015		
	CHIEF OF PARTY		
Edward J. Van Den Ameele, CDR/NOAA			
	LIBRARY & ARCHIVES		
Deter			
Date:			

U.S. DEPARTMENT OF COMMERCE REGISTRY NUMBER: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION						
HYDROGRAPHIC TITLE SHEETH12750						
INSTRUCTIONS: The Hydrog	INSTRUCTIONS: The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.					
State(s):	Alaska					
General Locality:	Chatham Strait, AK					
Sub-Locality:	Security Bay					
Scale:	20000					
Dates of Survey:	05/02/2015 to 05/25/2015					
Instructions Dated:	04/13/2015					
Project Number:	OPR-0322-RA-15					
Field Unit:	NOAA Ship Rainier					
Chief of Party:	Edward J. Van Den Ameele, CDR/NOAA					
Soundings by:	Multibeam Echo Sounder					
Imagery by:	Multibeam Echo Sounder Backscatter					
Verification by:	Pacific Hydrographic Branch					
oundings Acquired in: meters at Mean Lower Low Water						

Remarks:

The purpose of this survey is to provide contemporary surveys to update National Ocean Service (NOS) nautical charts. All separates are filed with the hydrographic data. Any revisions to the Descriptive Report (DR) generated during office processing are shown in bold red italic text. The processing branch maintains the DR as a field unit product, therefore, all information and recommendations within the body of the DR are considered preliminary unless otherwise noted. The final disposition of surveyed features is represented in the OCS nautical chart update products. All pertinent records for this survey, including the DR, are archived at the National Centers for Envitronmental Information (NCEI) and can be retrieved via http:// www.ncei.noaa.gov/.

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Descriptive Report to Accompany Survey H12750

Project: OPR-O322-RA-15 Locality: Chatham Strait, AK Sublocality: Security Bay Scale: 1:20000 May 2015 - May 2015

NOAA Ship Rainier

Chief of Party: Edward J. Van Den Ameele, CDR/NOAA

A. Area Surveyed

The survey area is referred to as Sheet 1: "Security Bay" within the Project Instructions. The area encompasses approximately 12.3 square nautical miles of Security Bay, Frederick Sound, and Chatham Strait.

A.1 Survey Limits

Data were acquired within the following survey limits:

Northwest Limit	Southeast Limit
56° 56' 5.93" N	56° 48' 23.4" N
134° 27' 15.67" W	134° 17' 15.6" W

Table 1: Survey Limits



Figure 1: Overlay of H12750 sheet limits (blue) and the acquired survey coverage (red) on Chart 17320. Multibeam coverage did not reach the survey limits due to the unnavigable nature of shoreline areas.

Data were acquired within survey limits set forth by the Project Instructions and the HSSD.

A.2 Survey Purpose

The purpose of this project is to provide contemporary surveys to update National Ocean Service (NOS) nautical charting products. Vessels such as cruise liners, ferries, USCG cutters, US Navy vessels, tugs, and barges use the waterway on a regular basis as do larger ships when avoiding storms in the Gulf of Alaska.

A.3 Survey Quality

The entire survey is adequate to supersede previous data.

Data acquired on survey H12750 met complete multibeam echosounder (MBES) coverage requirements outlined in Section 5.2.2.2 of the HSSD, including data density requirements. Overall, the required data density was achieved in 99.97% of nodes. This was determined using the Pydro Finalized CSAR Surface Density Tool.

0.7

0.69

0.5%



H12750_MB_2m_MLLW_Final_12to40_MLLW.csar: >99.9% nodes pass (2824760/2824855) min=1, 5%=42, mode=48, 25%=88, median=160, 75%=281, 95%=563, max=5442

0.6

0.59 0.4% 400 500 600

300

400

H12750_MB_1m_MLLW_Final_0to20_MLLW.csar: >99.9% nodes pass (14421775/14425975) min=1, 5%=39, mode=74, 25%=76, median=121, 75%=196, 95%=383, max=9110

Figure 2: Density statistics for H12750

A.4 Survey Coverage

Soundings per node

The following table lists the coverage requirements for this survey as assigned in the project instructions:

Water Depth	Coverage Required
Water Depth	coverage nequirea

Complete multibeam echosounder (MBES) coverage was achieved within the limits of hydrography as specified in the Project Instructions with the following exceptions:

Survey coverage did not meet the sheet limits along many portions near the shoreline and islets; these areas were considered unnavigable due to fouling with kelp and rocks (Figure 4). These areas are delineated and attributed in the Final Feature File.

Additional Holidays: Five small holidays resulting from inadequate line spacing exist in H12750 survey coverage. An overview of these holidays is shown in Figures 5-9. The largest holiday measures approximately 4 x 12 meters. All holidays were examined to ensure that no navigationally significant features were evident in the surrounding data.



Figure 3: Overlay of H12750 sheet limits (blue) and the acquired survey coverage (red) on Chart 17320. Multibeam coverage did not reach the survey limits due to the unnavigable nature of shoreline areas.



Figure 4: *Holiday in survey coverage measures approximately 4 x 12 meters.*



Figure 5: Holiday in survey coverage measures approximately 4 x 11 meters.



Figure **6***: Holiday in survey coverage measures approximately 3 x 8 meters.*



Figure 7: Holiday in survey coverage measures approximately 3 x 8 meters.



Figure **8***: Holiday in survey coverage measures approximately 3 x 3 meters.*



Figure 9: H12750 depth-colored MBES coverage overlay on Chart 17320

A.5 Survey Statistics

The following table li	ists the mainscheme	and crossline	acquisition	mileage fo	or this survey:
			1		

	HULL ID	2801	2802	2804	Total
	SBES Mainscheme	0	0	0	0
	MBES Mainscheme	15.66	235.07	164.23	414.96
	Lidar Mainscheme	0	0	0	0
	SSS Mainscheme	0	0	0	0
	SBES/SSS Mainscheme	0	0	0	0
MBES/SSS Mainschen SBES/MB Crosslines Lidar Crosslines	MBES/SSS Mainscheme	0	0	0	0
	SBES/MBES Crosslines	0	1.30	25.21	26.51
	Lidar Crosslines	0	0	0	0
Numb Bottor	er of n Samples				9
Numb Bound Invest	er Maritime lary Points igated				1
Number of DPs					23
Numb Invest Dive C	er of Items igated by)ps				0
Total S	SNM				12.31

Table 2: Hydrographic Survey Statistics

The following table lists the specific dates of data acquisition for this survey:

Survey Dates	Day of the Year
05/02/2015	122
05/03/2015	123
05/04/2015	124
05/05/2015	125
05/06/2015	126
05/13/2015	133
05/19/2015	139
05/20/2015	140
05/21/2015	141
05/22/2015	142
05/23/2015	143
05/24/2015	144
05/25/2015	145

Table 3: Dates of Hydrography

B. Data Acquisition and Processing

B.1 Equipment and Vessels

Refer to the Data Acquisition and Processing Report (DAPR) for a complete description of data acquisition and processing systems, survey vessels, quality control procedures and data processing methods. Additional information to supplement sounding and survey data, and any deviations from the DAPR are discussed in the following sections.

B.1.1 Vessels

The following vessels were used for data acquisition during this survey:

Hull ID	2804	2802	2801	1906	1905
LOA	8.8 meters	8.8 meters	8.8 meters	5.8 meters	5.8 meters
Draft	1.1 meters	1.1 meters	1.1 meters	0.3 meters	0.3 meters

Table 4: Vessels Used

B.1.2 Equipment

Manufacturer	Model	Туре
Applanix	POS-MV V4	Positioning and Attitude System
Sea-Bird Electronics	SBE 19 and 19plus SEACAT Profiler	Conductivity, Temperature, and Depth Sensor
Reson	SeaBat 7125-B	MBES
Reson	SeaBat 7125 SV2	MBES
Reson	SVP71	Sound Speed System

The following major systems were used for data acquisition during this survey:

Table 5: Major Systems Used

B.2 Quality Control

B.2.1 Crosslines

Crosslines acquired for this survey totaled 6.39% of mainscheme acquisition.

Multibeam crosslines were acquired using the Reson 7125 sonars on Launches 2802 (RA-5) and 2804 (RA-6). A 4m CUBE surface was created using only mainscheme lines, a second 4m CUBE surface was created using only crosslines, and a difference surface was generated in Caris at a 4m resolution. This difference surface was compared to the allowable uncertainty values within the HSSD for the observed depths, and statistics were calculated in Excel. In total, 99.26% of the depth differences between H12750 mainscheme and crossline data are within the requirements of the HSSD.

Depth range	IHO Order	Number of nodes	Nodes satisfying HSSD	Percent nodes satisfying HSSD accuracy
Less than 100m	Order 1	358,633	354,312	98.80%
Greater than 100m	Order 2	256,352	256,119	99.91%
TOTAL:		614,985	610,431	99.26%

Figure 10: Crossline HSSD compliance analysis for H12750



Figure 11: H12750 Crossline HSSD Compliance

B.2.2 Uncertainty

Hull ID	Measured - CTD	Measured - MVP	Surface
2804	3.0 meters/second		0.15 meters/second
2802	3.0 meters/second		0.15 meters/second
2801	3.0 meters/second		0.15 meters/second

Table 6: Survey Specific Sound Speed TPU Values.

Uncertainty values were measured and applied in accordance with Section B.4 of the DAPR.

Total Propagated Uncertainty (TPU) values for survey H12750 were derived from a combination of fixed values for equipment and vessel characteristics, as well as field assigned values for sound speed uncertainties. Tidal uncertainties were provided by NOAA's Center for Operational Oceanographic Products and Service (COOPS), and were applied to depth soundings using a Tidal Constituent and Residual Interpolation (TCARI) grid. TCARI automatically calculates the uncertainty associated with water level interpolation, which is then written into the Caris HDCS. For this reason, no tidal uncertainty values were entered into the Tide Value section of the Caris Compute TPE function.

Uncertainty values of submitted finalized grids were calculated in Caris using the "Greater of the Two" of uncertainty and standard deviation (scaled to 95%). To visualize where uncertainty requirements were met, for each surface a custom "HSSD Compliance" layer was created, based on the difference between the calculated uncertainty of the nodes and the allowable uncertainty defined in the HSSD. To quantify the extent to which requirements were met, the HSSD Compliance layers were queried within Caris and examined in Excel. Overall, 99.99% of the nodes of survey H12750 met the uncertainty requirements specified in the HSSD. These HSSD Compliance layers were retained in the submitted surfaces. Additionally, the surfaces were analyzed using the Pydro Finalized CSAR Surface IHO Compliance tool, achieving similar results.

9.0%

H12750_MB_1m_MLLW_Final_0to20_MLLW.csar: 100% nodes pass (14425975/14425975) min=0.14, 5%=0.15, mode=0.17, 25%=0.17, median=0.21, 75%=0.25, 95%=0.33, max=0.89

Node uncertainty as a fraction of allowable IHO (TVU QC computed)



10%

Figure 12: IHO compliance to uncertainty standards as calculated using Pydro Finalized CSAR Surface tool

Node uncertainty as a fraction of allowable IHO (TVU QC computed)

H12750_MB_2m_MLLW_Final_12to40_MLLW.csar: >99.9% nodes pass (2824805/2824855)

min=0.16, 5%=0.20, 25%=0.25, mode=0.28, median=0.29, 75%=0.37, 95%=0.47, max=1.24

B.2.3 Junctions

Two junction comparisons were completed for H12750 at MLLW (Figure 13). H12536 and H12537 were completed by NOAA Ship Rainier in 2013. Depth comparisons were performed by creating Caris difference surfaces. For the junction of H12750 and H12536, the 4m finalized surfaces for each survey were used for the comparison. For the junction of H12750 and H12537, the 16m finalized surfaces for each survey were used.



Figure 13: Overview of junctions with survey H12750

The following junctions were made with this survey:

Registry Number	Scale	Year	Field Unit	Relative Location
H12536	1:5000	2013	NOAA Ship RAINIER	SW
H12537	1:40000	2013	NOAA Ship RAINIER	W

Table 7: Junctioning Surveys

<u>H12536</u>

Overlap with survey H12536 was approximately 200 to 600 meters wide, covering an area of 0.12 square nautical miles along the southwestern boundary of H12750. Depths in the junction area range from approximately 0 to 421 meters. For respective depths, the difference surface was compared to the allowable uncertainty values within the HSSD for the observed depths, and statistics were calculated in Excel. In total, 99.92% of the depth differences between H12750 and junction survey H12536 are within allowable uncertainties.

Depth range	IHO Order	Number of nodes	Nodes satisfying HSSD accuracy	Percent nodes satisfying HSSD accuracy
Less than 100m	Order 1	6,221	5,738	92.24%
Greater than 100m	Order 2	14,626	14,623	99.98%
	TOTAL:	20,847	20,361	97.67%

Figure 14: HSSD compliance analysis for junction of H12750 and H12536 Figure 14 shows the correct percentages of nodes satisfying allowable depth differences. H12537

Overlap with survey H12537 was approximately 70 to 300 meters wide, covering an area of 0.79 square nautical miles along the western boundary of H12750. Depths in the junction area range from approximately 132 to 731 meters. For respective depths, the difference surface was compared to the allowable uncertainty values within the HSSD for the observed depths, and statistics were calculated in Excel. In total, 99.65% of the depth differences between H12750 and junction survey H12537 are within allowable uncertainties.

Depth range	IHO Order	Number of nodes	Nodes satisfying HSSD accuracy	Percent nodes satisfying HSSD accuracy
Greater than 100m	Order 2	10,489	10,239	97.62%

Figure 15: HSSD compliance analysis for junction of H12750 and H12537 Figure 15 shows the correct percentage of nodes satisfying allowable depth differences.

B.2.4 Sonar QC Checks

Sonar system quality control checks were conducted as detailed in the quality control section of the DAPR.

B.2.5 Equipment Effectiveness

There were no conditions or deficiencies that affected equipment operational effectiveness.

B.2.6 Factors Affecting Soundings

There were no other factors that affected corrections to soundings.

B.2.7 Sound Speed Methods

Sound Speed Cast Frequency: All launch sound speed profiles were acquired using SBE 19Plus V2 SEACAT Profiler CTD probes at discrete locations within the survey area at least once every four hours, when significant changes in surface sound speed were observed, or when surveying a new area. A sheet-wide concatenated sound speed file was created and applied to survey lines using the "Nearest in distance within time (4 hours)" profile selection method.

Sound speed profiles were collected, processed, and applied as described in the DAPR.

B.2.8 Coverage Equipment and Methods

All equipment and survey methods were used as detailed in the DAPR.

B.3 Echo Sounding Corrections

B.3.1 Corrections to Echo Soundings

All data reduction procedures conform to those detailed in the DAPR.

B.3.2 Calibrations

All sounding systems were calibrated as detailed in the DAPR.

B.4 Backscatter

Raw backscatter was logged as a 7k file and has been submitted to NCEI. Backscatter was not processed by the field unit but was periodically examined (one line per vessel per day).

B.5 Data Processing

B.5.1 Primary Data Processing Software

The following Feature Object Catalog was used: NOAA Profile V_5_0

B.5.2 Surfaces

The following surfaces and/or BAGs were submitted to the Processing Branch:

Surface Name	Surface Type	Resolution	Depth Range	Surface Parameter	Purpose
H12750_MB_1m_MLLW	CUBE	1 meters	-1.7 meters - 278.2 meters	NOAA_1m	Complete MBES
H12750_MB_2m_MLLW	CUBE	2 meters	-1.7 meters - 278.2 meters	NOAA_2m	Complete MBES
H12750_MB_4m_MLLW	CUBE	4 meters	-1.4 meters - 278.2 meters	NOAA_4m	Complete MBES
H12750_MB_8m_MLLW	CUBE	8 meters	-1.3 meters - 278.2 meters	NOAA_8m	Complete MBES
H12750_MB_16m_MLLW	CUBE	16 meters	-1.3 meters - 277.8 meters	NOAA_16m	Complete MBES
H12750_MB_1m_MLLW_Final	CUBE	1 meters	-2 meters - 20 meters	NOAA_1m	Complete MBES
H12750_MB_2m_MLLW_Final	CUBE	2 meters	12 meters - 40 meters	NOAA_2m	Complete MBES
H12750_MB_4m_MLLW_Final	CUBE	4 meters	26 meters - 80 meters	NOAA_4m	Complete MBES
H12750_MB_8m_MLLW_Final	CUBE	8 meters	72 meters - 160 meters	NOAA_8m	Complete MBES

Surface Name	Surface Type	Resolution	Depth Range	Surface Parameter	Purpose
H12750_MB_16m_MLLW_Final	CUBE	16 meters	144 meters - 320 meters	NOAA_16m	Complete MBES

Table 8: Submitted Surfaces

Using typical depths for gridding resolutions would result in holidays between layers as parts of this survey were very dynamic with steeply sloping bottom. Per section 5.2.2.1 Object Detection Coverage of the HSSD, the shoaler extent of the coarser resolution grid should be modified to prevent this coverage gap.

Designated Soundings were determined based on criteria set forth in Section 5.2.1.2 of the HSSD.

C. Vertical and Horizontal Control

Additional information discussing the vertical or horizontal control for this survey can be found in the accompanying HVCR.

C.1 Vertical Control

The vertical datum for this project is Mean Lower Low Water.

Traditional Methods Used:

TCARI

The following National Water Level Observation Network (NWLON) stations served as datum control for this survey:

Station Name	Station ID
Port Alexander	9451054

Table 9: NWLON Tide Stations

File Name	Status
9451054	Final Approved

 Table 10: Water Level Files (.tid)

File Name	Status
O322RA2015	Final

Table 11: Tide Correctors (.zdf or .tc)

A request for final approved tides was sent to N/OPS1 on 05/26/2015. The final tide note was received on 06/05/2015.

The Project Instructions required referencing survey data to the ellipsoid using Ellipsoid Referenced Zoned Tides (ERZT). ERZT was not utilized in reducing delivered data due to the need to use SmartBase for creating some SBETS and the eventual vertical offsets introduced by application of GPS tides in CARIS HIPS and SIPS. See the associated ERZT Capability Memo with recommendation and reasoning for reduction to MLLW using TCARI grid approved as final.

The Tide Note is attached.

C.2 Horizontal Control

The horizontal datum for this project is North American Datum of 1983 (NAD83).

The projection used for this project is Universal Transverse Mercator (UTM) Zone 08 North.

The following PPK methods were used for horizontal control:

Smart Base Single Base

Vessel kinematic data (POS files) were post-processed with Applanix POSPac and POSGNSS software using Smart Base and Single Base processing methods described in the DAPR. SBET and RMS data were applied to all survey lines.

Due to equipment malfunctions, Single Base data were not available for all days, and some data created significant vertical offsets in the multibeam data. Therefore, Smart Base was used as a secondary means for creating SBET and RMS files. Single Base data were used for the following boat days: 2802_126, 2802_141, 2804_122, and 2804_144. The remaining boat days were processed using Smart Base data.

HVCR Site ID	Base Station ID		
AB49	KLAWOCKAIRAK2005		
AB51	PETERSBURGAK2005		
LEV6	Level Island 6		
AB48 PORTALEXANAK2005			
BIS5	Biroka Island 5		
AB50	MENDENHALLAK2005		
GUS6	GUSTAVUS 6		
AB43	CAPESPMCEAK2007		
LEV5	LEVEL ISLAND 5		
JNU1	JUNEAU WAAS 1		
GUS5	GUSTAVUS 5		
AB44	SKAGWAYUSCAK2005		
BIS6	BIORKA ISLAND 6		

The following CORS Stations were used for horizontal control:

Table 12: CORS Base Stations

The following user installed stations were used for horizontal control:

HVCR Site ID	Base Station ID		
1066	Barnacle Rock		
9715	Carroll's Sister		

Table 13: User Installed Base Stations

The following DGPS Stations were used for horizontal control:

DGPS Stations		
Biorka Island, AK- 305 kHz		
Gustavus, AK- 288 kHz		

Table 14: USCG DGPS Stations

D. Results and Recommendations

D.1 Chart Comparison

Chart comparisons were performed using a Caris sounding and contour layer based on the 16-meter combined CUBE surface. The contours and soundings were overlaid on the charts and compared for general agreement and to identify areas of significant change.



Figure 16: Overview of derived contours over Chart 17320. Note: The chart has been darkened to enhanced the visibility of soundings and contours. The contour legend in Figure 16 has incorrect depth labels. The correct depth labels for each color are shown below.



Corrected contour legend for Figure 16.

D.1.1 Raster Charts

The following are the largest scale raster charts, which cover the survey area:

Chart	Scale	Edition	Edition Date	LNM Date	NM Date
17320	1:217828	19	11/2013	08/18/2015	08/22/2015
17368	1:40000	8	09/2014	08/18/2015	08/22/2015
17368	1:40000	8	09/2014	08/18/2015	08/22/2015

Table 15: Largest Scale Raster Charts

17320

The comparison of soundings and contours from Chart 17320 and H12750 showed general agreement. Shoreward of the 10-fathom contour, most soundings showed general agreement within 2 fathoms, with most exceptions being deeper than charted. Seaward of the 10-fathom contour, most soundings showed general agreement within 3 fathoms.

17368

The comparison of soundings and contours from Chart 17368_1 and H12750 showed general agreement within 1 fathom.

In several areas surveyed soundings were significantly shoaler (up to 15 fathoms) than charted soundings.

<u>17368</u>

The comparison of soundings and contours from Chart 17368_5 and H12750 showed significant differences. Shoreward of the 10-fathom contour, many soundings show discrepancies greater than 3 fathoms. Seaward of the 10-fathom contour, about half of the soundings show discrepancies greater than 3 fathoms, with differences as large as 19 fathoms shoaler than charted.

Multibeam data disproves the 3-fathom contour crossing Security Bay between Christmas Island and Cedar Island (Figure 17).

Other areas of considerable disagreement are depicted below (Figure 18-20).



Figure 17: Soundings disprove charted 3 fathom contour crossing Security Bay on Chart 17368_5.



Figure **18***: Considerable differences between charted contours and derived contours highlighted on Chart* **17368_5***.*



Figure **19***: Considerable differences between charted contours and derived contours highlighted on Chart* **17368_5***.*



Figure 20: Soundings considerably shoaler than charted highlighted on Chart 17368_5. Figure 17: The charted contour crossing Security Bay between Christmas Island and Cedar Island is a 10 fm contour, not a 3 fm contour. Figure 17-19: Corrections to legend, green lines represent 10 fm contours and blue lines represent 50 fm contours.

D.1.2 Maritime Boundary Points

One maritime boundary feature was assigned for investigation by this survey. The investigation of this feature disproved its existence. Another feature NW of Round Island was investigated as a maritime boundary and is attributed as such in the Final Feature File.

D.1.3 Charted Features

The reported 10-fathom shoaling near Kingsmill Point on Chart 17320 was investigated and disproved through inspection of multibeam data (Figure 21). The reported shoaling and obstructions near the junction of Frederick Sound and Saginaw Bay on Chart 17368_5 were investigated and confirmed through inspection of multibeam data (Figure 22).


Figure 21: Soundings disprove reported shoaling on Chart 17320.



Figure 22: Soundings confirm reported shoaling and obstructions on Chart 17368_5.

D.1.4 Uncharted Features

Several new features were found during shoreline verification. The new features were addressed as required with S-57 attribution and recorded in the H12750 Final Feature File.

D.1.5 Dangers to Navigation

The following DTON reports were submitted:

DTON Report Name	Date Submitted
H12750_DTONs	2015-05-31
H12750_Additional_DTONs	2015-07-23
H12750_Additional_DTONs_2	2015-11-23

Table 16: DTON Reports

In total, 14 DTONs were identified and submitted. Danger to Navigation Reports are included in Appendix II of this report.

D.1.6 Shoal and Hazardous Features

All shoal and hazardous features were investigated in accordance with the Project Instructions and the HSSD, and are addressed in the Final Feature File.

D.1.7 Channels

No channels exist for this survey. There are no designated anchorages, precautionary areas, safety fairways, traffic separation schemes, pilot boarding areas, or channel and range lines within the survey limits.

D.1.8 Bottom Samples

Twelve proposed bottom sample locations were identified in the Project Reference File. Collection of samples were attempted at all of the proposed sites; of the 12 locations, 3 locations yielded no sample after 3 unsuccessful attempts. Acquired bottom samples are addressed with S-57 attribution and recorded in the Final Feature File submitted with this report.

D.2 Additional Results

D.2.1 Shoreline

Shoreline verification was conducted near predicted low water in accordance with the applicable sections of the NOAA HSSDM and FPM. There were 164 assigned features for this survey. All features were addressed as required with S-57 attribution and recorded in the H12750 Final Features File to best represent the features at chart scale.

D.2.2 Prior Surveys

No comparisons with prior surveys were conducted.

D.2.3 Aids to Navigation

Two aids to navigation (ATON) were present in the survey area, Kingsmill Point Light and Roadstead Island Light. Both were noted in the Final Feature File and serve their intended purpose.

D.2.4 Overhead Features

No overhead features exist for this survey.

D.2.5 Submarine Features

No submarine features exist for this survey.

D.2.6 Ferry Routes and Terminals

No ferry routes or terminals exist for this survey.

D.2.7 Platforms

No platforms exist for this survey.

D.2.8 Significant Features

No significant features exist for this survey which have not been addressed elsewhere in this report.

D.2.9 Construction and Dredging

No present or planned construction or dredging exist within the survey limits.

D.2.10 New Survey Recommendation

No new surveys or further investigations are recommended for this area.

D.2.11 Inset Recommendation

No new insets are recommended for this area.

E. Approval Sheet

As Chief of Party, field operations for this hydrographic survey were conducted under my direct supervision, with frequent personal checks of progress and adequacy. I have reviewed the attached survey data and reports.

All field sheets, this Descriptive Report, and all accompanying records and data are approved. All records are forwarded for final review and processing to the Processing Branch.

The survey data meets or exceeds requirements as set forth in the NOS Hydrographic Surveys and Specifications Deliverables Manual, Field Procedures Manual, Letter Instructions, and all HSD Technical Directives. These data are adequate to supersede charted data in their common areas. This survey is complete and no additional work is required with the exception of deficiencies noted in the Descriptive Report.

Report Name	Report Date Sent
Ellipsoidally Referenced Survey Capability Memo	2015-10-29
H12750_Additional_DTONs_2	2015-11-23
H12750_Additional_DTONs	2015-07-23
H12750_DTONs	2015-05-31
Final Tides Request	2015-05-26

Approver Name	Approver Title	Approval Date	Signature
Edward J. Van Den Ameele, CDR/NOAA	Commanding Officer, NOAA Ship RAINIER	02/29/2016	Edward J. Van Den Ameele 2016.02.29 14:24:56 - 08'00'
Adam Pfundt, LT/NOAA	Field Operations Officer, NOAA Ship RAINIER	02/29/2016	Adam Pfundt I have reviewed this document 2016.02.29 14:00:37 -08'00'
James B. Jacobson	Chief Survey Technician, NOAA Ship RAINIER	02/29/2016	James Jacobson James Jacobson I have reviewed this document 2016.02.29 14:15:48 -09'00'
Calandria M. DeCastro, ENS/NOAA	Junior Officer, NOAA Ship RAINIER	02/29/2016	Adam Pfundt I am signing this for Calandria DeCastro 2016.02.29 14:00:08 -08'00'

F. Table of Acronyms

Acronym	Definition
AHB	Atlantic Hydrographic Branch
AST	Assistant Survey Technician
ATON	Aid to Navigation
AWOIS	Automated Wreck and Obstruction Information System
BAG	Bathymetric Attributed Grid
BASE	Bathymetry Associated with Statistical Error
СО	Commanding Officer
CO-OPS	Center for Operational Products and Services
CORS	Continually Operating Reference Staiton
CTD	Conductivity Temperature Depth
CEF	Chart Evaluation File
CSF	Composite Source File
CST	Chief Survey Technician
CUBE	Combined Uncertainty and Bathymetry Estimator
DAPR	Data Acquisition and Processing Report
DGPS	Differential Global Positioning System
DP	Detached Position
DR	Descriptive Report
DTON	Danger to Navigation
ENC	Electronic Navigational Chart
ERS	Ellipsoidal Referenced Survey
ERZT	Ellipsoidally Referenced Zoned Tides
FFF	Final Feature File
FOO	Field Operations Officer
FPM	Field Procedures Manual
GAMS	GPS Azimuth Measurement Subsystem
GC	Geographic Cell
GPS	Global Positioning System
HIPS	Hydrographic Information Processing System
HSD	Hydrographic Surveys Division
HSSD	Hydrographic Survey Specifications and Deliverables

Acronym	Definition
HSTP	Hydrographic Systems Technology Programs
HSX	Hypack Hysweep File Format
HTD	Hydrographic Surveys Technical Directive
HVCR	Horizontal and Vertical Control Report
HVF	HIPS Vessel File
IHO	International Hydrographic Organization
IMU	Inertial Motion Unit
ITRF	International Terrestrial Reference Frame
LNM	Local Notice to Mariners
LNM	Linear Nautical Miles
MCD	Marine Chart Division
MHW	Mean High Water
MLLW	Mean Lower Low Water
NAD 83	North American Datum of 1983
NAIP	National Agriculture and Imagery Program
NALL	Navigable Area Limit Line
NM	Notice to Mariners
NMEA	National Marine Electronics Association
NOAA	National Oceanic and Atmospheric Administration
NOS	National Ocean Service
NRT	Navigation Response Team
NSD	Navigation Services Division
OCS	Office of Coast Survey
OMAO	Office of Marine and Aviation Operations (NOAA)
OPS	Operations Branch
MBES	Multibeam Echosounder
NWLON	National Water Level Observation Network
PDBS	Phase Differencing Bathymetric Sonar
РНВ	Pacific Hydrographic Branch
POS/MV	Position and Orientation System for Marine Vessels
РРК	Post Processed Kinematic
PPP	Precise Point Positioning
PPS	Pulse per second

Acronym	Definition
PRF	Project Reference File
PS	Physical Scientist
PST	Physical Science Technician
RNC	Raster Navigational Chart
RTK	Real Time Kinematic
SBES	Singlebeam Echosounder
SBET	Smooth Best Estimate and Trajectory
SNM	Square Nautical Miles
SSS	Side Scan Sonar
ST	Survey Technician
SVP	Sound Velocity Profiler
TCARI	Tidal Constituent And Residual Interpolation
ТРЕ	Total Propagated Error
TPU	Topside Processing Unit
USACE	United States Army Corps of Engineers
USCG	United Stated Coast Guard
UTM	Universal Transverse Mercator
XO	Executive Officer
ZDA	Global Positiong System timing message
ZDF	Zone Definition File



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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE : June 3, 2015

HYDROGRAPHIC BRANCH: Pacific HYDROGRAPHIC PROJECT: OPR-0322-RA-2015 HYDROGRAPHIC SHEET: H12750

LOCALITY: Security Bay, Chatham Strait, AK TIME PERIOD: May 02 - May 25, 2015

TIDE STATION USED: 9451054 Port Alexander, AK

Lat.56° 14.8'N Long.134° 38.9' W

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 3.070 meters

REMARKS: RECOMMENDED GRID

Please use the TCARI grid "O322RA2015.tc" as the final grid for project OPR-O322-RA-2015, H12750, during the time period between May 02 and May 25, 2015.

Refer to attachments for grid 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).

HOVIS.GERALD.TH OMAS.JR.136586025 0
Digitally signed by HOVIS.GERALD.THOMAS.JR.1365860250 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=OTHER, cn=HOVIS.GERALD.THOMAS.JR.1365860250 Date: 2015.06.05 09:21:55 -04'00'

CHIEF, PRODUCTS AND SERVICES BRANCH



Preliminary as Final TCARI Grid for OPR-O322-RA-2015, H12750 Security Bay, Chatham Strait, AK

> 0 10 LLLLLLL nautical miles

9451054 PORT ALEXANDER

H12750 Danger to Navigation Report

Registry Number:	H12750
State:	Alaska
Locality:	Chatham Strait
Sub-locality:	Security Bay
Project Number:	OPR-0322-RA-15
Survey Dates:	05/02/2015 - 05/25/2015

Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
47000	046	00/04/0044	4.40.000 (47000 5)	USCG LNM: 8/28/2012 (2/3/2015) CHS NTM: None (11/28/2014)
17368	8th	09/01/2014	1:40,000 (17368_5)	NGA NTM: None (2/14/2015)
17368	7th	08/01/2006	1:40,000 (17368_1)	[L]NTM: ?
17360	35th	06/01/2008	1:217,828 (17360_1)	[L]NTM: ?
17320	18th	03/01/2008	1:217,828 (17320_1)	[L]NTM: ?
16016	21st	10/01/2007	1:969,756 (16016_1)	[L]NTM: ?
531	24th	07/01/2007	1:2,100,000 (531_1)	[L]NTM: ?
500	8th	06/01/2003	1:3,500,000 (500_1)	[L]NTM: ?
530	32nd	06/01/2007	1:4,860,700 (530_1)	[L]NTM: ?
50	6th	06/01/2003	1:10,000,000 (50_1)	[L]NTM: ?

* Correction(s) - source: last correction applied (last correction reviewed--"cleared date")

Features

No.	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	Shoal	13.10 m	56° 52' 23.7" N	134° 23' 00.4" W	
1.2	Shoal	2.95 m	56° 52' 24.4" N	134° 22' 37.0" W	
1.3	Shoal	1.49 m	56° 52' 11.4" N	134° 22' 58.2" W	
1.4	Shoal	9.68 m	56° 50' 32.1" N	134° 25' 54.6" W	
1.5	Rock	6.64 m	56° 52' 48.4" N	134° 22' 47.3" W	
1.6	Shoal	1.64 m	56° 50' 37.6" N	134° 20' 25.2" W	
1.7	Shoal	1.23 m	56° 54' 34.7" N	134° 19' 16.4" W	

1 - Dangers To Navigation

1.1) 3463/227

DANGER TO NAVIGATION

Survey Summary

Survey Position:	56° 52' 23.7" N, 134° 23' 00.4" W
Least Depth:	13.10 m (= 42.97 ft = 7.162 fm = 7 fm 0.97 ft)
TPU (±1.96 თ):	THU (TPEh) ±0.110 m ; TVU (TPEv) ±0.119 m
Timestamp:	2015-122.21:29:22.015 (05/02/2015)
Survey Line:	h12750 / 2802_reson7125_hf_512 / 2015-122 / 2802_20151222123
Profile/Beam:	3463/227
Charts Affected:	17368_5, 17320_1, 16016_1, 531_1, 500_1, 530_1, 50_1

Remarks:

H12750 7 fathom 1 foot designated sounding near charted (17368) 18 fathom depth, outside 10-fathom curve. Near the entrance to Security Bay. Verified tides applied.

Feature Correlation

Source	Feature	Range	Azimuth	Status
2802_20151222123	3463/227	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

7fm (17320_1, 16016_1, 530_1)

7fm 1ft (17368_5, 531_1)

13.1m (500_1, 50_1)

S-57 Data

[None]



Figure 1.1.1



Figure 1.1.2

Office Notes: After office processing, a 6 fm 4 ft. sounding was included in the chart update product.

1.2) 366/224

DANGER TO NAVIGATION

Survey Summary

Survey Position:	56° 52' 24.4" N, 134° 22' 37.0" W
Least Depth:	2.95 m (= 9.68 ft = 1.613 fm = 1 fm 3.68 ft)
TPU (±1.96 თ):	THU (TPEh) ±0.062 m ; TVU (TPEv) ±0.101 m
Timestamp:	2015-122.23:12:56.537 (05/02/2015)
Survey Line:	h12750 / 2802_reson7125_hf_512 / 2015-122 / 2802_20151222312
Profile/Beam:	366/224
Charts Affected:	17368_5, 17320_1, 16016_1, 531_1, 500_1, 530_1, 50_1

Remarks:

H12750 1 fathom 3 foot designated sounding over charted (17368) 10 fathom curve. Near the entrance to Security Bay. Verified tides applied.

Feature Correlation

Source	Feature	Range	Azimuth	Status
2802_20151222312	366/224	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

1 ½fm (17320_1, 16016_1, 530_1)

1fm 3ft (17368_5, 531_1)

2.9m (500_1, 50_1)

S-57 Data

[None]



Figure 1.2.1



Figure 1.2.2

Office Notes: After office processing, a 1fm 5 ft sounding in the vicinity was deemed more appropriate relative to the complete context of the full survey data set.

1.3) 1392/109

DANGER TO NAVIGATION

Survey Summary

Survey Position:	56° 52' 11.4" N, 134° 22' 58.2" W
Least Depth:	1.49 m (= 4.89 ft = 0.814 fm = 0 fm 4.89 ft)
TPU (±1.96 σ) :	THU (TPEh) ±0.069 m ; TVU (TPEv) ±0.103 m
Timestamp:	2015-122.23:39:58.342 (05/02/2015)
Survey Line:	h12750 / 2802_reson7125_hf_512 / 2015-122 / 2802_20151222338
Profile/Beam:	1392/109
Charts Affected:	17368_5, 17320_1, 16016_1, 531_1, 500_1, 530_1, 50_1

Remarks:

H12750 0 fathom 5 foot designated sounding near charted (17368) 2 fathom 1 foot depth in Bibb Shoal. Near the entrance to Security Bay. Verified tides applied.

Feature Correlation

Source	Feature	Range	Azimuth	Status
2802_20151222338	1392/109	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

0 ¾fm (17320_1, 16016_1, 530_1)

0fm 5ft (17368_5, 531_1)

1.5m (500_1, 50_1)

S-57 Data

[None]



Figure 1.3.1



Figure 1.3.2

Office Notes: After office processing, a 0 fm 3 ft. sounding was included in the chart update product.

1.4) 678/118

DANGER TO NAVIGATION

Survey Summary

Survey Position:	56° 50' 32.1" N, 134° 25' 54.6" W
Least Depth:	9.68 m (= 31.76 ft = 5.294 fm = 5 fm 1.76 ft)
TPU (±1.96 σ) :	THU (TPEh) ±0.143 m ; TVU (TPEv) ±0.136 m
Timestamp:	2015-123.21:16:13.185 (05/03/2015)
Survey Line:	h12750 / 2802_reson7125_hf_512 / 2015-123 / 2802_20151232113
Profile/Beam:	678/118
Charts Affected:	17320_1, 16016_1, 531_1, 500_1, 530_1, 50_1

Remarks:

H12750 5 fathom 2 foot designated sounding outside charted (17320, 17368) 10 fathom curve. Near Kingsmill Point. Verified tides applied.

Feature Correlation

Source	Feature	Range	Azimuth	Status
2802_20151232113	678/118	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

5 ¼fm (17320_1, 16016_1, 530_1)

5fm 2ft (531_1)

9.7m (500_1, 50_1)

S-57 Data

[None]



Figure 1.4.1



Figure 1.4.2

Office Notes: After office processing, a 4 fm 5 ft. sounding was included in the chart update product.

1.5) 811/255

DANGER TO NAVIGATION

Survey Summary

Survey Position:	56° 52' 48.4" N, 134° 22' 47.3" W
Least Depth:	6.64 m (= 21.80 ft = 3.634 fm = 3 fm 3.80 ft)
TPU (±1.96 თ) :	THU (TPEh) ±0.089 m ; TVU (TPEv) ±0.105 m
Timestamp:	2015-124.23:42:14.178 (05/04/2015)
Survey Line:	h12750 / 2804_reson7125_hf_512 / 2015-124 / 2804_20151242341
Profile/Beam:	811/255
Charts Affected:	17368_5, 17320_1, 16016_1, 531_1, 500_1, 530_1, 50_1

Remarks:

H12750 3 fathom 4 foot designated sounding outside charted (17368) 10 fathom curve. Near the approach to Security Bay. Verified tides applied.

Feature Correlation

Source	Feature	Range	Azimuth	Status
2804_20151242341	811/255	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

3 ½fm (17320_1, 16016_1, 530_1)

3fm 4ft (17368_5, 531_1)

6.6m (500_1, 50_1)

S-57 Data

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

Attributes: VALSOU - 6.645 m



Figure 1.5.1



Figure 1.5.2

Office Notes: After office processing, a 3fm 1ft rock was included in the chart update product.

1.6) 2619/296

DANGER TO NAVIGATION

Survey Summary

Survey Position:	56° 50' 37.6" N, 134° 20' 25.2" W
Least Depth:	1.64 m (= 5.38 ft = 0.896 fm = 0 fm 5.38 ft)
TPU (±1.96 თ) :	THU (TPEh) ±0.082 m ; TVU (TPEv) ±0.109 m
Timestamp:	2015-124.21:42:23.833 (05/04/2015)
Survey Line:	h12750 / 2802_reson7125_hf_512 / 2015-124 / 2802_20151242138
Profile/Beam:	2619/296
Charts Affected:	17368_5, 17320_1, 17360_1, 16016_1, 531_1, 500_1, 530_1, 50_1

Remarks:

H12750 0 fathom 5 foot designated sounding over charted (17368) 10 fathom curve. Located between Cleft Island and Stewart Rock. Verified tides applied.

Feature Correlation

Source	Feature	Range	Azimuth	Status
2802_20151242138	2619/296	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

0 ¾fm (17320_1, 17360_1, 16016_1, 530_1)

0fm 5ft (17368_5, 531_1)

1.6m (500_1, 50_1)

S-57 Data

[None]



Figure 1.6.1



Figure 1.6.2

Office Notes: After office processing, a 0 fm 2ft rock was included in the chart update product.

1.7) 400/48

DANGER TO NAVIGATION

Survey Summary

Survey Position:	56° 54' 34.7" N, 134° 19' 16.4" W
Least Depth:	1.23 m (= 4.03 ft = 0.671 fm = 0 fm 4.03 ft)
TPU (±1.96 თ) :	THU (TPEh) ±0.066 m ; TVU (TPEv) ±0.088 m
Timestamp:	2015-124.20:22:39.531 (05/04/2015)
Survey Line:	h12750 / 2804_reson7125_hf_512 / 2015-124 / 2804_20151242022
Profile/Beam:	400/48
Charts Affected:	17368_1, 17320_1, 17360_1, 16016_1, 531_1, 500_1, 530_1, 50_1

Remarks:

H12750 0 fathom 4 foot designated sounding over charted (17368) 10 fathom curve. Located between Cleft Island and Stewart Rock. Verified tides applied.

Feature Correlation

Source	Feature	Range	Azimuth	Status
2804_20151242022	400/48	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

0 ½fm (17320_1, 17360_1, 16016_1, 530_1)

0fm 4ft (17368_1, 531_1)

1.2m (500_1, 50_1)

S-57 Data

[None]



Figure 1.7.1



Figure 1.7.2

Office Notes: After office processing, a 0 fm 1 ft. sounding was included in the chart update product.

H12750 Danger to Navigation Report

Registry Number:	H12750
State:	Alaska
Locality:	Chatham Strait
Sub-locality:	Security Bay
Project Number:	OPR-0322-RA-15
Survey Dates:	05/02/2015 - 05/25/2015

Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*	
17368	8th	09/01/2014	1:40,000 (17368_5)	USCG LNM: 8/28/2012 (2/3/2015) CHS NTM: None (11/28/2014) NGA NTM: None (2/14/2015)	
17360	35th	06/01/2008	1:217,828 (17360_1)	[L]NTM: ?	
17320	18th	03/01/2008	1:217,828 (17320_1)	[L]NTM: ?	
16016	21st	10/01/2007	1:969,756 (16016_1)	[L]NTM: ?	
531	24th	07/01/2007	1:2,100,000 (531_1)	[L]NTM: ?	
500	8th	06/01/2003	1:3,500,000 (500_1)	[L]NTM: ?	
530	32nd	06/01/2007	1:4,860,700 (530_1)	[L]NTM: ?	
50	6th	06/01/2003	1:10,000,000 (50_1)	[L]NTM: ?	

* Correction(s) - source: last correction applied (last correction reviewed--"cleared date")

Features

No.	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	Rock	3.42 m	56° 50' 48.9" N	134° 19' 39.4" W	
1.2	Rock	2.42 m	56° 50' 59.7" N	134° 19' 39.7" W	

1 - Dangers To Navigation
1.1) 1801/448

DANGER TO NAVIGATION

Survey Summary

Survey Position:	56° 50' 48.9" N, 134° 19' 39.4" W
Least Depth:	3.42 m (= 11.21 ft = 1.869 fm = 1 fm 5.21 ft)
TPU (±1.96 თ) :	THU (TPEh) ±0.067 m ; TVU (TPEv) ±0.070 m
Timestamp:	2015-143.19:01:55.602 (05/23/2015)
Survey Line:	h12750 / 2802_reson7125_hf_512 / 2015-143 / 2802_20151431859
Profile/Beam:	1801/448
Charts Affected:	17368_5, 17320_1, 17360_1, 16016_1, 531_1, 500_1, 530_1, 50_1

Remarks:

H12750 New dangerous 1 fathom 5 foot designated sounding outside charted (17368) 3 fathom curve in Cedar Bight. GPS tides applied.

Feature Correlation

Source	Feature	Range	Azimuth	Status
2802_20151431859	1801/448	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

1 ¾fm (17320_1, 17360_1, 16016_1, 530_1)

1fm 5ft (17368_5, 531_1)

3.4m (500_1, 50_1)

S-57 Data

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

TECSOU - 3:found by multi-beam VALSOU - 3.418 m WATLEV - 3:always under water/submerged

Feature Images



Figure 1.1.1



Figure 1.1.2

Office Notes: After office processing, a 1 fm 1 ft. rock was included in the chart update product.

1.2) 164/494

DANGER TO NAVIGATION

Survey Summary

Survey Position:	56° 50' 59.7" N, 134° 19' 39.7" W
Least Depth:	2.42 m (= 7.94 ft = 1.323 fm = 1 fm 1.94 ft)
TPU (±1.96 σ):	THU (TPEh) ±0.074 m ; TVU (TPEv) ±0.076 m
Timestamp:	2015-142.23:07:08.221 (05/22/2015)
Survey Line:	h12750 / 2804_reson7125_hf_512 / 2015-142 / 2804_20151422306
Profile/Beam:	164/494
Charts Affected:	17368_5, 17320_1, 17360_1, 16016_1, 531_1, 500_1, 530_1, 50_1

Remarks:

H12750 New dangerous 1 fathom 2 foot designated sounding outside charted (17368) 3 fathom curve in Cedar Bight. GPS tides applied.

Feature Correlation

Source	Feature	Range	Azimuth	Status
2804_20151422306	164/494	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

1 ¼fm (17320_1, 17360_1, 16016_1, 530_1)

1fm 2ft (17368_5, 531_1)

2.4m (500_1, 50_1)

S-57 Data

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

TECSOU - 3:found by multi-beam VALSOU - 2.419 m WATLEV - 3:always under water/submerged

Feature Images



Figure 1.2.1



Figure 1.2.2

Office Notes: After office processing, a 0 fm 4 ft. rock was included in the chart update product.

H12750 Danger to Navigation Report

Registry Number:	H12750
State:	Alaska
Locality:	Chatham Strait
Sub-locality:	Security Bay
Project Number:	OPR-0322-RA-15
Survey Dates:	05/02/2015 - 05/25/2015

Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
17368	8th	09/01/2014	1:40,000 (17368_5)	USCG LNM: 8/4/2015 (8/18/2015) CHS NTM: None (7/31/2015) NGA NTM: None (8/22/2015)
17360	35th	06/01/2008	1:217,828 (17360_1)	[L]NTM: ?
17320	18th	03/01/2008	1:217,828 (17320_1)	[L]NTM: ?
16016	21st	10/01/2007	1:969,756 (16016_1)	[L]NTM: ?
531	24th	07/01/2007	1:2,100,000 (531_1)	[L]NTM: ?
500	8th	06/01/2003	1:3,500,000 (500_1)	[L]NTM: ?
530	32nd	06/01/2007	1:4,860,700 (530_1)	[L]NTM: ?
50	6th	06/01/2003	1:10,000,000 (50_1)	[L]NTM: ?

* Correction(s) - source: last correction applied (last correction reviewed--"cleared date")

Features

No.	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	Rock	1.03 m	56° 52' 41.0" N	134° 22' 04.2" W	
1.2	Rock	1.94 m	56° 49' 54.1" N	134° 19' 16.0" W	
1.3	Rock	3.10 m	56° 53' 33.9" N	134° 21' 50.4" W	
1.4	Rock	1.58 m	56° 53' 17.1" N	134° 21' 46.9" W	
1.5	Rock	1.73 m	56° 52' 39.9" N	134° 22' 28.6" W	

1 - Dangers To Navigation

1.1) 3067/159

DANGER TO NAVIGATION

Survey Summary

Survey Position:	56° 52' 41.0" N, 134° 22' 04.2" W
Least Depth:	1.03 m (= 3.37 ft = 0.562 fm = 0 fm 3.37 ft)
TPU (±1.96 თ) :	THU (TPEh) ±0.080 m ; TVU (TPEv) ±0.072 m
Timestamp:	2015-139.21:24:28.085 (05/19/2015)
Survey Line:	h12750 / 2802_reson7125_hf_512 / 2015-139 / 2802_20151392121
Profile/Beam:	3067/159
Charts Affected:	17368_5, 17320_1, 17360_1, 16016_1, 531_1, 500_1, 530_1, 50_1

Remarks:

H12750 New dangerous 0 fathom 3 foot designated sounding outside charted (17368) 3 fathom curve between Round Island and Roadstead Island. Verified tides applied.

Feature Correlation

Source	Feature	Range	Azimuth	Status
2802_20151392121	3067/159	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

0 ½fm (17320_1, 17360_1, 16016_1, 530_1)

0fm 3ft (17368_5, 531_1)

1.0m (500_1, 50_1)

S-57 Data

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

TECSOU - 3:found by multi-beam VALSOU - 1.027 m WATLEV - 3:always under water/submerged

Feature Images



Figure 1.1.1



Figure 1.1.2

Office Notes: After office processing, a 0 fm 3 ft. rock was included in the chart update product.

1.2) 67/277

DANGER TO NAVIGATION

Survey Summary

Survey Position:	56° 49' 54.1" N, 134° 19' 16.0" W
Least Depth:	1.94 m (= 6.36 ft = 1.061 fm = 1 fm 0.36 ft)
TPU (±1.96 σ) :	THU (TPEh) ±0.068 m ; TVU (TPEv) ±0.069 m
Timestamp:	2015-141.21:12:29.032 (05/21/2015)
Survey Line:	h12750 / 2802_reson7125_hf_512 / 2015-141 / 2802_20151412112
Profile/Beam:	67/277
Charts Affected:	17368_5, 17320_1, 17360_1, 16016_1, 531_1, 500_1, 530_1, 50_1

Remarks:

H12750 New dangerous 1 fathom 0 foot designated sounding outside charted (17368) 3 fathom curve in Security Bay. Verified tides applied.

Feature Correlation

Source	Feature	Range	Azimuth	Status
2802_20151412112	67/277	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

1fm (17320_1, 17360_1, 16016_1, 530_1)

1fm 0ft (17368_5, 531_1)

1.9m (500_1, 50_1)

S-57 Data

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

TECSOU - 3:found by multi-beam VALSOU - 1.940 m WATLEV - 3:always under water/submerged

Feature Images



Figure 1.2.1



Figure 1.2.2

Office Notes: After office processing, a 1 fm 0 ft. rock was included in the chart update product.

1.3) 3194/447

DANGER TO NAVIGATION

Survey Summary

Survey Position:	56° 53' 33.9" N, 134° 21' 50.4" W
Least Depth:	3.10 m (= 10.16 ft = 1.693 fm = 1 fm 4.16 ft)
TPU (±1.96 თ) :	THU (TPEh) ±0.104 m ; TVU (TPEv) ±0.098 m
Timestamp:	2015-122.18:09:34.378 (05/02/2015)
Survey Line:	h12750 / 2802_reson7125_hf_512 / 2015-122 / 2802_20151221806
Profile/Beam:	3194/447
Charts Affected:	17368_5, 17320_1, 17360_1, 16016_1, 531_1, 500_1, 530_1, 50_1

Remarks:

H12750 New dangerous 1 fathom 4 foot designated sounding outside charted (17368) 3 fathom curve west of Meade Point. Verified tides applied.

Feature Correlation

Source	Feature	Range	Azimuth	Status
2802_20151221806	3194/447	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

1 ³/₄fm (17320_1, 17360_1, 16016_1, 530_1)

1fm 4ft (17368_5, 531_1)

3.1m (500_1, 50_1)

S-57 Data

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

TECSOU - 3:found by multi-beam VALSOU - 3.096 m WATLEV - 3:always under water/submerged

Feature Images



Figure 1.3.1



Figure 1.3.2

Office Notes: After office processing, a 1 fm 4 ft. rock was included in the chart update product.

1.4) 2517/492

DANGER TO NAVIGATION

Survey Summary

Survey Position:	56° 53' 17.1" N, 134° 21' 46.9" W
Least Depth:	1.58 m (= 5.20 ft = 0.866 fm = 0 fm 5.20 ft)
TPU (±1.96 ஏ):	THU (TPEh) ±0.096 m ; TVU (TPEv) ±0.101 m
Timestamp:	2015-122.19:12:57.357 (05/02/2015)
Survey Line:	h12750 / 2802_reson7125_hf_512 / 2015-122 / 2802_20151221910
Profile/Beam:	2517/492
Charts Affected:	17368_5, 17320_1, 17360_1, 16016_1, 531_1, 500_1, 530_1, 50_1

Remarks:

H12750 New dangerous 0 fathom 5 foot designated sounding outside charted (17368) 3 fathom curve southwest of Meade Point. Verified tides applied.

Feature Correlation

Source	Feature	Range	Azimuth	Status
2802_20151221910	2517/492	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

0 ³/₄fm (17320_1, 17360_1, 16016_1, 530_1)

Ofm 5ft (17368_5, 531_1)

1.6m (500_1, 50_1)

S-57 Data

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

TECSOU - 3:found by multi-beam VALSOU - 1.584 m WATLEV - 3:always under water/submerged

Feature Images 15 11 2 Sermanne " Handharne May 93 16 13 Meade Pt Ę Э 8 83 О rky 93 rky 3

Figure 1.4.1



Figure 1.4.2

Office Notes: After office processing, a 0 fm 5 ft. rock was included in the chart update product.

1.5) 6996/279

DANGER TO NAVIGATION

Survey Summary

Survey Position:	56° 52' 39.9" N, 134° 22' 28.6" W
Least Depth:	1.73 m (= 5.67 ft = 0.945 fm = 0 fm 5.67 ft)
TPU (±1.96 ാ):	THU (TPEh) ±0.073 m ; TVU (TPEv) ±0.099 m
Timestamp:	2015-125.22:49:59.020 (05/05/2015)
Survey Line:	h12750 / 2802_reson7125_hf_512 / 2015-125 / 2802_20151252243
Profile/Beam:	6996/279
Charts Affected:	17368_5, 17320_1, 16016_1, 531_1, 500_1, 530_1, 50_1

Remarks:

H12750 New dangerous 0 fathom 5 foot designated sounding over charted (17368) 3 fathom curve north of Roadstead Island. Verified tides applied.

Feature Correlation

Source	Feature	Range	Azimuth	Status
2802_20151252243	6996/279	0.00	000.0	Primary

Hydrographer Recommendations

[None]

Cartographically-Rounded Depth (Affected Charts):

1fm (17320_1, 16016_1, 530_1)

0fm 5ft (17368_5, 531_1)

1.7m (500_1, 50_1)

S-57 Data

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

TECSOU - 3:found by multi-beam VALSOU - 1.729 m WATLEV - 3:always under water/submerged

Feature Images



Figure 1.5.1



Figure 1.5.2

Office Notes: After office processing, a 1 fm rock was included in the chart update product.

Maritime Boundary Report

Feature: New Rock (high point of reef)

Survey Position: 56-52-56.86312N, 134-22-06.829114W

Comments: New maritime boundary point is west of charted reef, SW of Meade Pt.



APPROVAL PAGE

H12750

Data meet or exceed current specifications as certified by the OCS survey acceptance review process. Descriptive Report and survey data except where noted are adequate to supersede prior surveys and nautical charts in the common area.

The following products will be sent to NGDC for archive

- H12750_DR.pdf
- Collection of depth varied resolution BAGS
- Processed survey data and records
- H12750_GeoImage.pdf

The survey evaluation and verification has been conducted according current OCS Specifications.

Approved:_____

Pete Holmberg Cartographic Team Lead, Pacific Hydrographic Branch

The survey has been approved for dissemination and usage of updating NOAA's suite of nautical charts.

Approved:_____

CDR Benjamin K. Evans, NOAA Chief, Pacific Hydrographic Branch