

D00184

NOAA Form 76-35A

U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Ocean Survey

DESCRIPTIVE REPORT

Type of Survey: Trackline Survey

Registry Number: D00184

LOCALITY

State: Alaska

General Locality: Bering Sea to Arctic Ocean

Sub-locality: Dutch Harbor to Barrow

2013

CHIEF OF PARTY
LCDR Michele L. Schallip, USCG

LIBRARY & ARCHIVES

Date:

HYDROGRAPHIC TITLE SHEET

D00184

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: **Alaska**

General Locality: **Bering Sea to Arctic Ocean**

Sub-Locality: **Dutch Harbor to Barrow**

Scale: **1: 40,000**

Dates of Survey: **06/28/2013 to 7/28/2013**

Instructions Dated: **07/09/2013**

Project Number: **OSD-USCG-13**

Field Unit: **USCGC SPAR (WLB 206)**

Chief of Party: **LCDR Michele L. Schallip, USCG**

Soundings by: **Furuno vertical beam echo sounder**

Imagery by:

Verification by: **Pacific Hydrographic Branch**

Soundings Acquired in: **meters at Mean Lower Low Water**

H-Cell Compilation Units: ***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. Notes in red were generated during office processing. The processing branch concurs with all information and recommendations in the DR unless otherwise noted. Page numbering may be interrupted or non-sequential. All pertinent records for this survey, including the Descriptive Report, are archived at the National Geophysical Data Center (NGDC) and can be retrieved via <http://www.ngdc.noaa.gov/>.

Descriptive Report to Accompany Hydrographic Survey W00264

Project USCG Hydrographic Project 2013 (OSD-USCG-13)
 USCGC SPAR Arctic Trackline Survey
 Scale 1:80,660
 June 28th – July 28th, 2013
USCGC SPAR

A. AREA SURVEYED

This hydrographic survey was completed as part of the USCG Operation Arctic Shield 2013.

Northern limit	Southern limit	Eastern limit	Western limit
65°25'	53°45'	-155°10'	-164°54'

Data acquisition was conducted from June 28th – July 28th, 2013.

The USCG, District 17, Sector Anchorage supported a 30 day deployment of USCGC SPAR to support Operation Arctic Shield 2013 (AS13) to provide law enforcement and marine safety activities in the Western Gulf of Alaska including Shumagin Islands, Pribilof and Nunivak Islands of the Bering Sea, Norton Sound, and Arctic Ocean with port calls in Kodiak, Dutch Harbor, Nome and Port Clarence. NOAA's Office of Coast Survey provided hydrographic survey support and training during this mission in an effort to collect and submit single beam trackline survey data to NOAA's Pacific Hydrographic Branch during transits for evaluation. This project addressed uncharted areas in the Bering Sea and Arctic Ocean with lack of survey data. Additional training was provided to improve the survey capabilities of the USCG District 17's WLB class vessels while increasing the USCG's self sufficiency in collecting valuable data while on patrol in these areas.

	Linear Nautical Miles
LNM Single beam mainscheme only	3111
LNM Multibeam mainscheme only	N/A
LNM Lidar mainscheme only	N/A
LNM Side Scan Sonar mainscheme only	N/A
Lineal nautical miles of any combination of the above techniques (SSS 200%, MBES)	3111
LNM Crosslines singlebeam and multibeam combined	N/A
LNM Lidar Crosslines	N/A
LNM development lines non mainscheme	N/A
LNM shoreline/nearshore investigations	N/A
Number of Bottom Samples	N/A
Number of items investigated that required additional time/effort in the field beyond the above survey operations	N/A
Total number of square nautical miles	N/A

Table 1: Hydrographic Survey Statistics

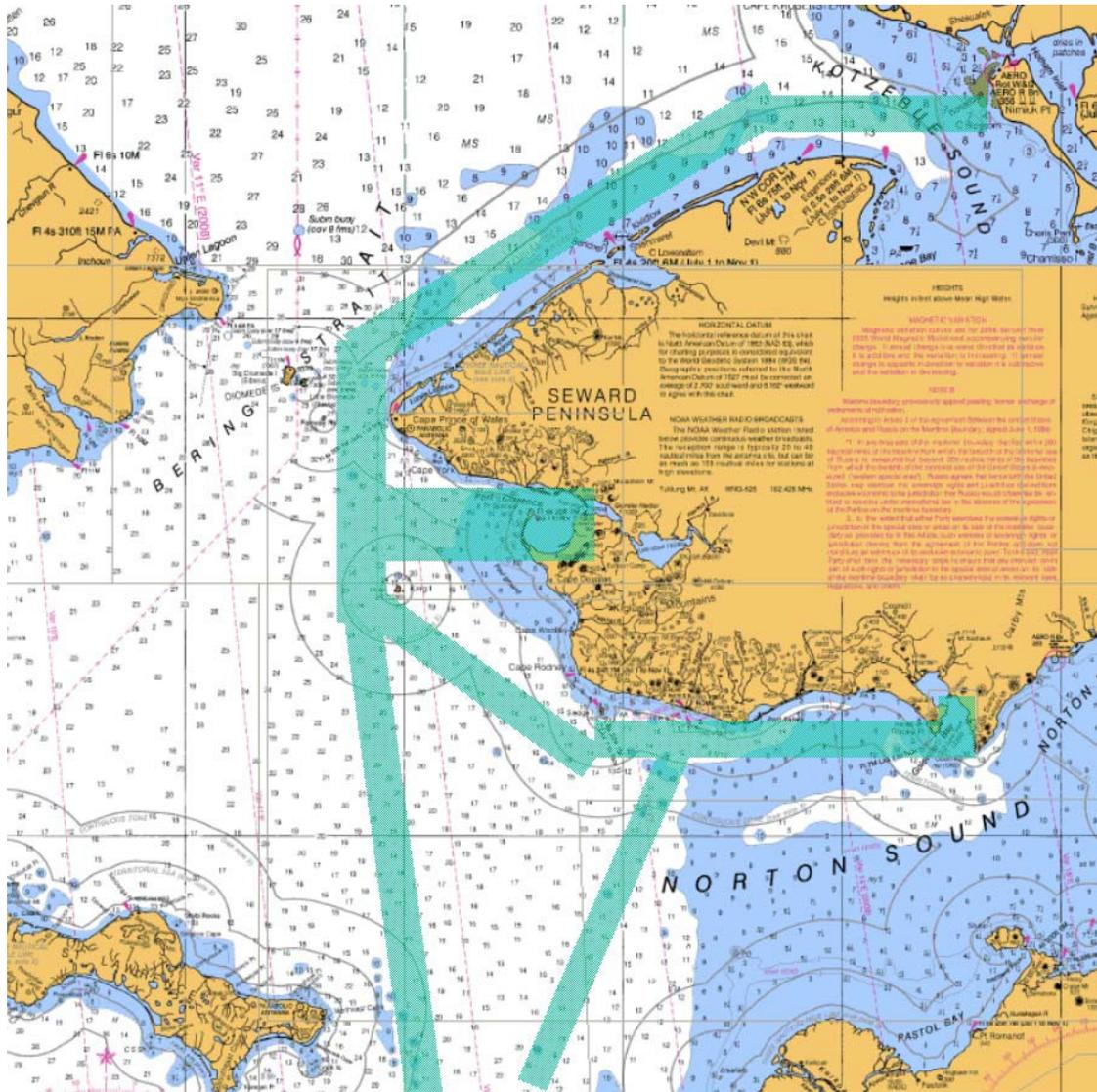


Fig. 1. D00184 Survey Area

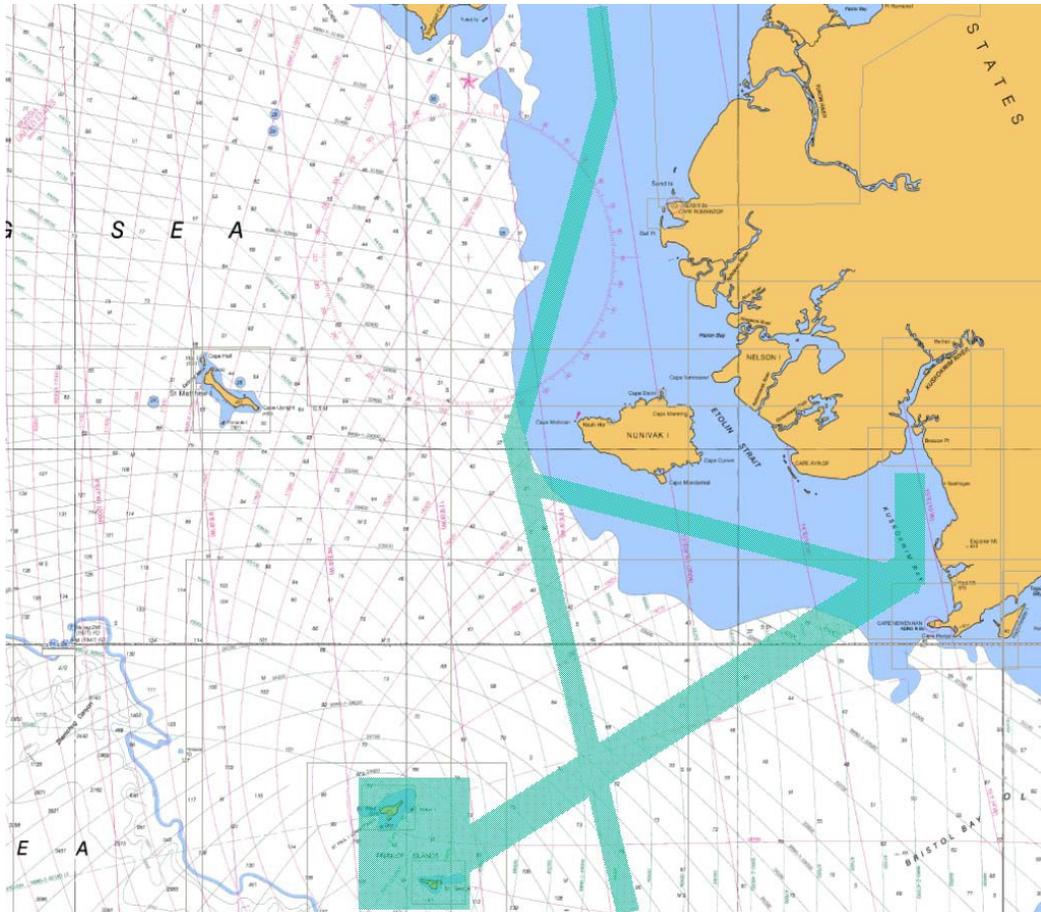


Fig. 2. D00184 Survey Area

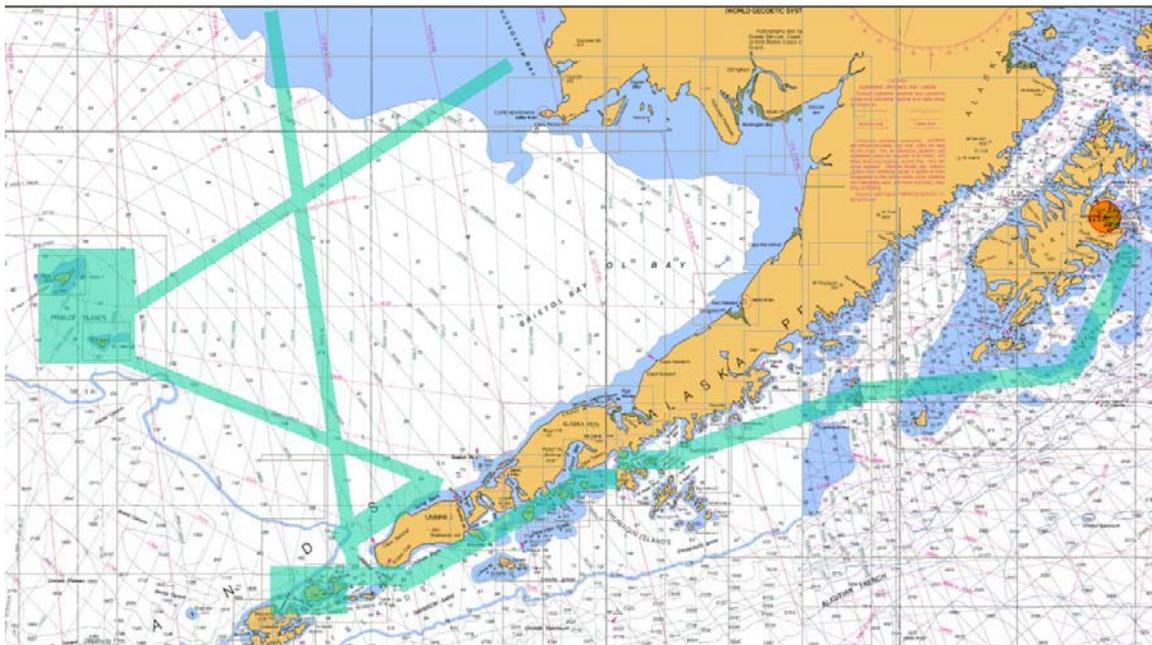


Fig. 3. D00184 Survey Area

Calendar Date	Julian Day
28 June 2013	179
29 June 2013	180
30 June 2013	181
01 July 2013	182
02 July 2013	183
03 July 2013	184
04 July 2013	185
05 July 2013	186
06 July 2013	187
07 July 2013	188
08 July 2013	189
09 July 2013	190
11 July 2013	192
12 July 2013	193
13 July 2013	194
14 July 2013	195
16 July 2013	197
17 July 2013	198
18 July 2013	199
19 July 2013	200
20 July 2013	201
21 July 2013	202
22 July 2013	203
23 July 2013	204
24 July 2013	205
25 July 2013	206
26 July 2013	207

Table 2: VBES Acquisition Dates

B. DATA ACQUISITION AND PROCESSING

Refer to USCGC SPAR 2013 *Data Acquisition and Processing Report (DAPR)* (in Appendix VI) 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 included in this descriptive report.

B 1. EQUIPMENT AND VESSELS

Data was acquired by CGC SPAR and CGC SPAR's small boat, SPAR 2. The vessels collected soundings via vertical beam echo sounder (VBES.) Sea bed samples were not collected. Vessel configurations, equipment operation and data acquisition and processing were consistent with specifications described in the *DAPR*.

B 2. QUALITY CONTROL¹

B 2.1 System Certification and Calibration

Refer to CGC SPAR *DAPR* in Appendix VI for a complete description of system integration and initial calibration results for equipment and sensors used for this survey.

B 2.2 Sounding Coverage

As per the outlining memo, this survey was conducted using VBES bathymetry. It has been observed that SPAR 2 survey data was collected with a position accuracy of two decimal minutes (XX° XX.XX'). The resolution of two decimal place position accuracy resulted in different depths being overlaid on top of each other. The accuracy is approximately 60 feet in the latitudinal direction and 35 feet in the longitudinal direction. This discrepancy was noticed near the end of this trip and was changed on 23 July 2013 to a position accuracy of four decimal minutes (XX° XX.XXXX'.)

B 2.3 Crosslines

CGC SPAR plans survey work based on areas and not planned track lines. After initial surveys are analyzed, new survey sorties are often planned in the same areas to get better coverage or fill in missed areas as real time data is not observed and analyzed during acquisition. This often leads to lines crossing in the main scheme data. However no crosslines were collected as part of this project.

During route planning an attempt to conduct surveys with tracklines that crossed was made on this trip. CGC SPAR transited parts of the Bering Strait Proposed Routing plan (Figure 4.) with a planned route forming an argyle pattern over the parts transited.

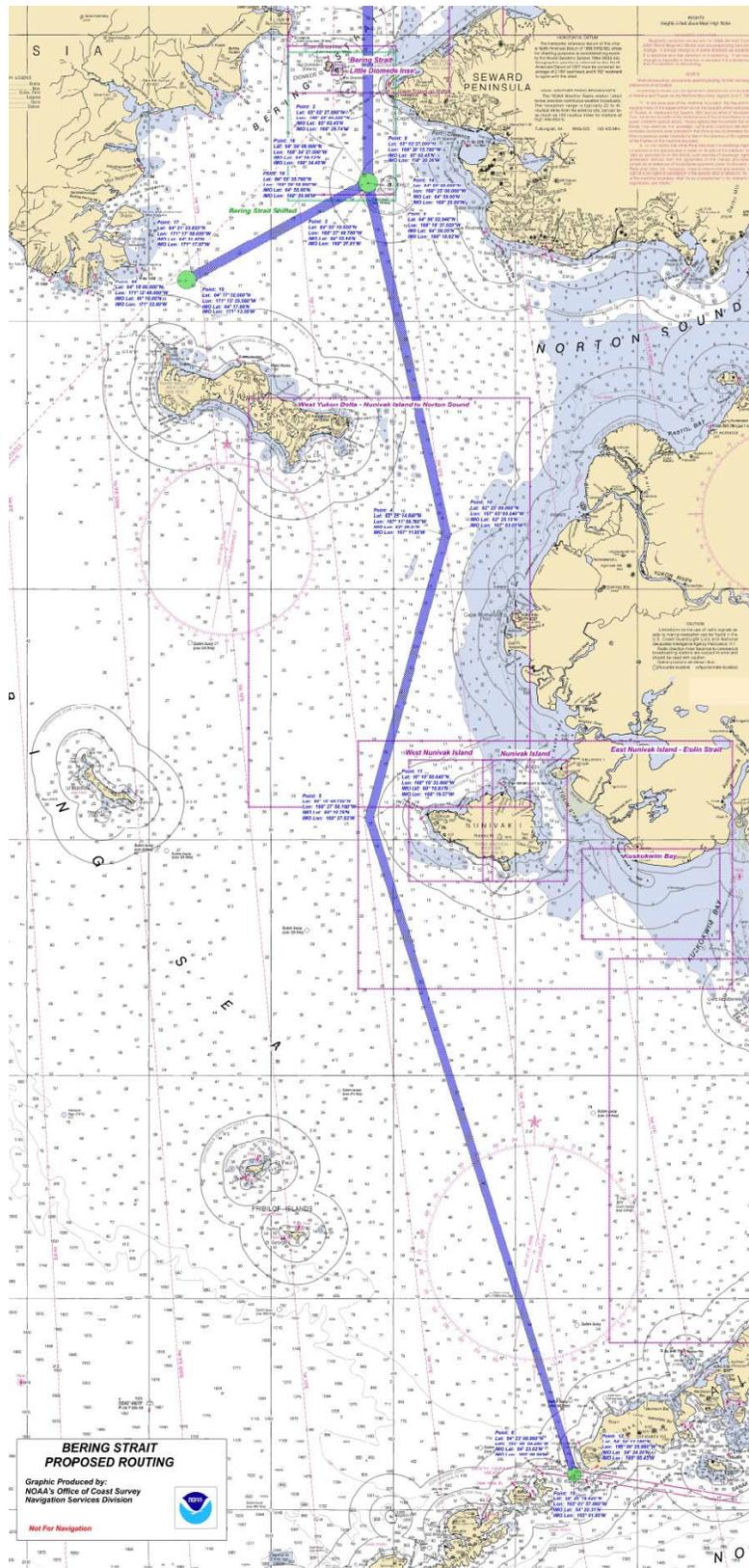
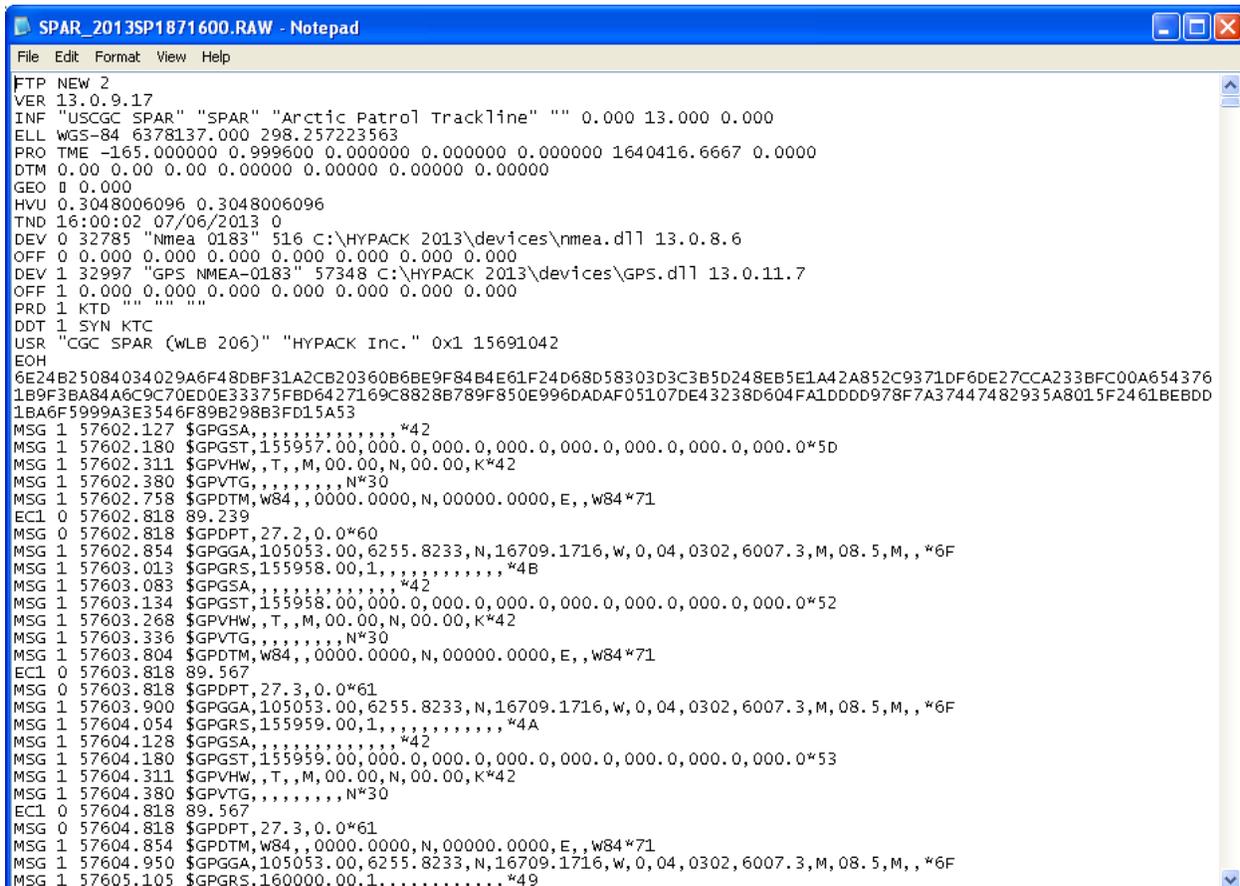


Fig. 4. Bering Strait Proposed Routing

B 2.4 Systematic Errors

On day 187 raw files display fragmented depths on HYPACK from file Spar_2013SP1870800.RAW. Furthermore, files Spar_2013SP1871200.RAW and Spar_2013SP1871600.RAW are not displaying in HYPACK. Upon further investigation, data is present however; the files do not have position information within the data stream (Figure 5.)



```

SPAR_2013SP1871600.RAW - Notepad
File Edit Format View Help
FTP NEW 2
VER 13.0.9.17
INF "USCGC SPAR" "SPAR" "Arctic Patrol Trackline" "" 0.000 13.000 0.000
ELL WGS-84 6378137.000 298.257223563
PRO TME -165.000000 0.999600 0.000000 0.000000 0.000000 1640416.6667 0.0000
DTM 0.00 0.00 0.00 0.000000 0.000000 0.000000 0.000000
GEO # 0.000
HVV 0.3048006096 0.3048006096
TND 16:00:02 07/06/2013 0
DEV 0 32785 "Nmea 0183" 516 C:\HYPACK 2013\devices\nmea.d11 13.0.8.6
OFF 0 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000
DEV 1 32997 "GPS NMEA-0183" 57348 C:\HYPACK 2013\devices\GPS.d11 13.0.11.7
OFF 1 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000
PRD 1 KTD "" "" ""
DDT 1 SYN KTC
USR "CGC SPAR (WLB 206)" "HYPACK Inc." 0x1 15691042
EOH
6E24B25084034029A6F48DBF31A2CB20360B6BE9F84B4E61F24D68D58303D3C3B5D248EB5E1A42A852C9371DF6DE27CCA233BFC00A654376
1B9F3BA84A6C9C70ED0E33375FBD6427169C8828B789F850E996DADF05107DE43238D604FALDDDD978F7A37447482935A8015F2461BEBDD
1BA6F5999A3E3546F89B298B3FD15A53
MSG 1 57602.127 $GPGSA,,,,,,,,,,,,,*42
MSG 1 57602.180 $GPGST,155957.00,000.0,000.0,000.0,000.0,000.0,000.0,*5D
MSG 1 57602.311 $GPVHW,,T,,M,00.00,N,00.00,K*42
MSG 1 57602.380 $GPVTG,,,,,,,,,N*30
MSG 1 57602.758 $GPDTM,w84,,0000.0000,N,00000.0000,E,,w84*71
ECL 0 57602.818 89.239
MSG 0 57602.818 $GPDPT,27.2,0.0*60
MSG 1 57602.854 $GPGGA,105053.00,6255.8233,N,16709.1716,w,0,04,0302,6007.3,M,08.5,M,,*6F
MSG 1 57603.013 $GPRGS,155958.00,1,,,,,,,,,,,,,*4B
MSG 1 57603.083 $GPGSA,,,,,,,,,,,,,*42
MSG 1 57603.134 $GPGST,155958.00,000.0,000.0,000.0,000.0,000.0,000.0,*52
MSG 1 57603.268 $GPVHW,,T,,M,00.00,N,00.00,K*42
MSG 1 57603.336 $GPVTG,,,,,,,,,N*30
MSG 1 57603.804 $GPDTM,w84,,0000.0000,N,00000.0000,E,,w84*71
ECL 0 57603.818 89.567
MSG 0 57603.818 $GPDPT,27.3,0.0*61
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MSG 1 57604.311 $GPVHW,,T,,M,00.00,N,00.00,K*42
MSG 1 57604.380 $GPVTG,,,,,,,,,N*30
ECL 0 57604.818 89.567
MSG 0 57604.818 $GPDPT,27.3,0.0*61
MSG 1 57604.854 $GPDTM,w84,,0000.0000,N,00000.0000,E,,w84*71
MSG 1 57604.950 $GPGGA,105053.00,6255.8233,N,16709.1716,w,0,04,0302,6007.3,M,08.5,M,,*6F
MSG 1 57605.105 $GPRGS,160000.00,1,,,,,,,,,,,,,*49

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Fig. 5. HYPACK file example missing position information.

In HYPACK the Files Spar_2013SP1880057.RAW through Spar_2013SP1950338.RAW do not display in their proper locations when displayed. These files are displayed in HYPACK approximately 340 NM due east from the location they should be displayed. Upon inspection of these RAW files in notepad, the plotting of positions pulled out of the raw data resulted in plotting them in the appropriate locations. For example a position from file Spar_2013SP1880000.RAW plots inside Port Clarence exactly where it should; however it is displayed in HYPACK 340 NM east of Port Clarence (Figure 6.) The reason for this display error is an error in the Geodesy setup in HYPACK during data collection. Correspondence with HYPACK is attached in Appendix V with instructions on how to properly display this data in HYPACK. These files will display correctly in CARIS if imported as separate HYPACK projects utilizing the directions contained in the correspondence.

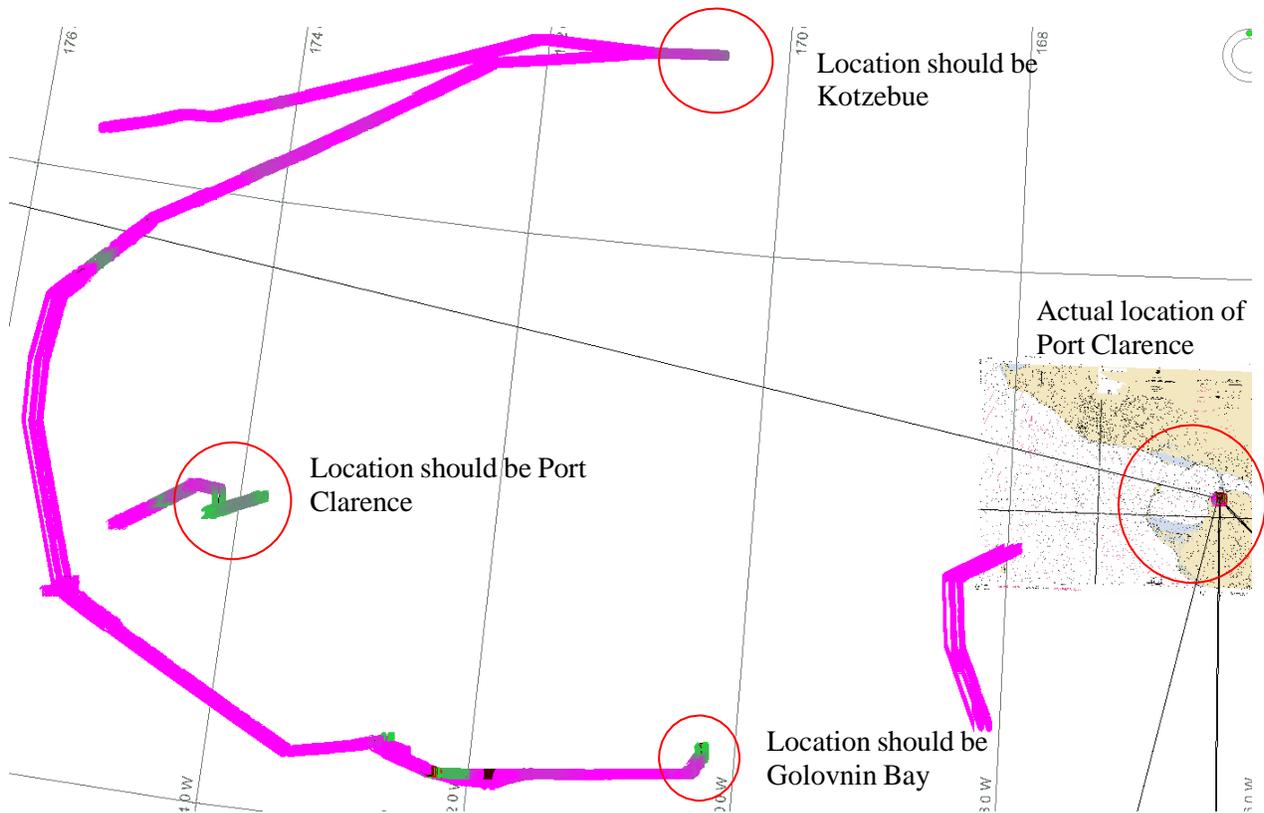


Fig. 6. HYPACK display error caused by Geodesy setup error.

B 3. CORRECTIONS TO ECHO SOUNDING

No corrections to soundings have been conducted. TCARI grid files covering the SPAR Arctic Trackline survey area have been included in the data submission disk included with this report.

B 4. DATA PROCESSING

B 4.1 Data Cleaning

Operations did not require CGC SPAR to process raw files. Survey data were not cleaned or processed by CGC SPAR. Tides, Sound Speed data, and offsets were not applied. However tides, sound speed and vessel offsets are supplied in the data submittal package.

Date	Time (UTC)	Position	Max Depth (meters)
01 July 2013	20:47	56:34:109 -169:41:096	11.9
02 July 2013	01:53	57:07:610 -170:17:080	9.5
02 July 2013	17:43	56:34:139 -169:40:241	6.5
02 July 2013	19:00	56:34:123 -169:40:569	10.7
04 July 2013	02:59	59:47:76 -162:17:47	8.4
06 July 2013	05:35	65:16:480 -166:20:973	19.3
08 July 2013	04:39	64:59.14 -167:55:62	18.9
10 July 2013	20:56	64:26.21 -165:22:01	19.0
11 July 2013	05:14	64:20.32 -164:39:98	18.9

11 July 2013	21:59	64:31:90 -163:03:27	13.7
11 July 2013	22:06	64:31:74 -163:01:72	11.1
11 July 2013	22:10	64:32:05 -162:59:90	5.6
11 July 2013	23:20	64:28:03 -163:02:24	8.4
26 July 2013	17:30	56:23:59 -153:03:24	17.6
26 July 2013	17:58	56:23:16 -153:03:55	19.6

Table 3: Sound Velocity – CTD Casts

C. HORIZONTAL AND VERTICAL CONTROL

As per Field Procedures Manual (2013) section 5.2.2.2.3, a Horizontal and Vertical Control Report was not filed since horizontal and vertical control stations were not established by the field party for this survey. A summary of horizontal and vertical control for this survey follows.

C 1.1 Horizontal Control

The horizontal datum for this project is the North American Datum of 1983 (NAD83). Global Positioning Satellites (GPS) was the sole method of positioning. Differential corrections from the U.S. Coast Guard beacons were not used during this survey due the limited range of the DGPS transmitters in the area.

C 1.2 Vertical Control

The vertical datum for this project is Mean Lower-Low Water (MLLW). Tides have not been applied to the raw data; however they are supplied in the data submittal package.²

D. RESULTS AND RECOMMENDATIONS

D.1 Chart Comparison

The charts listed below are affected by trackline survey.³

Affected Raster Charts					
Chart Number	Scale	Edition Number	Edition Date	LNM Date	NM Date
16003	1587870	17	Aug-08	08/19/2008	08/30/2008
16005	700000	10	Oct-07	10/16/2007	10/27/2007
16006	1534076	35	Apr-08	04/22/2008	04/26/2008
16200	400000	14	Oct-04	09/28/2004	10/16/2004
16240	300000	10	Nov-03	11/11/2003	11/29/2003
16204	100000	6	Mar-04	03/09/2004	03/20/2004
16011	1023188	38	Aug-12	07/24/2012	08/04/2012
16380	200000	15	Nov-06	10/24/2006	11/04/2006
16381	50000	9	Apr-06	04/04/2006	04/15/2006
16382	50000	11	Apr-06	04/18/2006	04/29/2006
16528	40000	18	Sep-12	09/04/2012	09/15/2012
16529	10000	16	Oct-10	09/28/2010	10/9/2010

16530	10000	7	May-10	04/27/2010	05/08/2010
16161	50000	1	Apr-12	04/17/2012	04/28/2012
Affected ENCs					
ENC Name	Scale	Edition	Update Application Date	Issue Date	Preliminary
US1AK90M	1534076	9	05/02/2011	05/28/2011	NO
US1BS01M	3500000	5	03/01/2011	02/07/2013	NO
US1BS03M	3500000	5	02/07/2007	06/10/2013	NO
US2AK5FM	1023188	10	11/30/2012	05/24/2013	NO
US2AK92M	700000	8	05/02/2011	01/16/2013	NO
US3AK80M	400000	5	08/13/2012	05/29/2013	NO
US3AK83M	300000	5	05/03/2011	05/03/2011	NO
US4AK81M	100000	8	10/14/2010		NO
US5AK6EM	10000	5	01/04/2013		NO
US5AK8BM	50000	7	06/03/2011		NO
US5AK6DM	10000	3	12/03/2008		NO
US3AK60M	300000	5	06/04/2010		NO
US5AK8AM	50000	5	03/18/2013		NO
US5AK97M	50000	1	06/06/2012		NO

Table 4: Affected charts.

Chart comparisons were conducted against large scale Raster Nautical Charts (RNC) where differences were observed. Electronic Nautical Charts (ENC) affected by survey are listed above but comparison to ENC's were not conducted.

D 1.1 Chart 16204 Comparison

Survey D00184 was compared to Chart 16204, the largest scale chart covering the survey area in Port Clarence. SPAR 2 conducted survey in the area leading into Grantley Harbor. Grantley Daybeacon 2 on the south side of the channel is charted in the water. This aid is on land. The survey on the north side of the peninsula Daybeacon 2 is on surveyed to within 20 feet of the shoreline. A comparison between the chart and Google aerial imagery was conducted and the aerial imagery depicts the southern spit accurately. Survey water depths generally agree with charted depths.

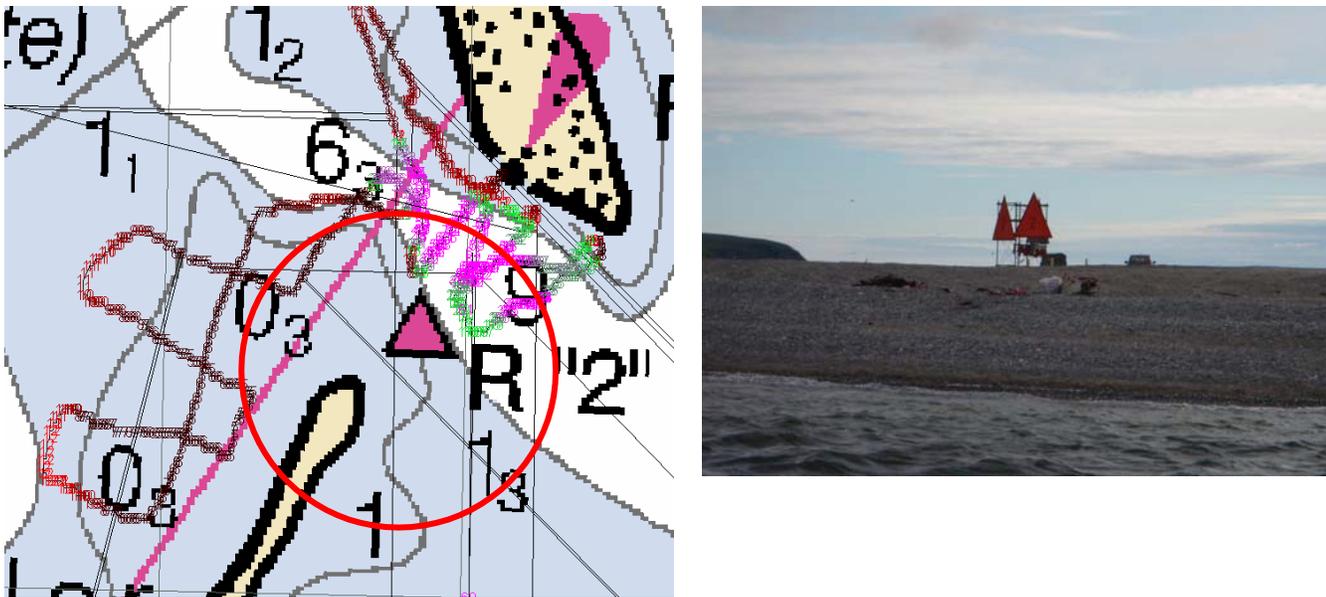


Fig. 7. Grantley Daybeacon 2 chart comparison with photo of daybeacon on shore.

D 1.2 Chart 16200 Comparison

Survey D00184 was compared to Chart 16200, the largest scale chart covering the survey area in Golovnin Bay. SPAR 2 conducted survey in the area while assessing old inactive Aids to Navigation (ATON) in the area. Multiple approaches to shore during buoy operations show a general agreement of survey depths with charted depths.

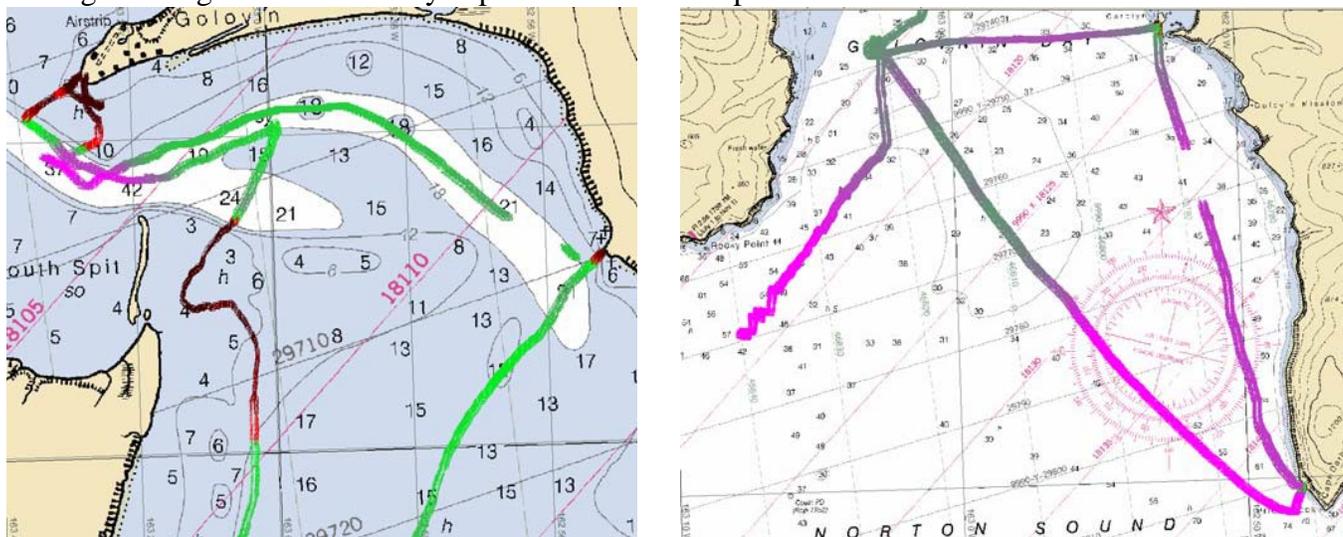


Fig. 8. Chart comparison Golovnin Bay- Survey data shows a general agreement with charted depths throughout the bay.

D 1.3 Chart 16382 Comparison

Survey D00184 was compared to Chart 16382, the largest scale chart covering the survey area in St. Paul Harbor. SPAR 2 conducted survey in the harbor with the intent to assess the harbor as a deep water port. The survey shows deeper water depths than charted depths on the east side of

the harbor and a deeper channel into the south east side of the harbor. The entire surveyed area shows a change in depth. According to an Army Corps of Engineers dredge report dated May 2011 the harbor was dredged and additional docks have been installed. The report can be found at the following web address:

<http://www.poa.usace.army.mil/Portals/34/docs/operations/RH/stpaul/2012StPaulIslandHarborPIProject.pdf>

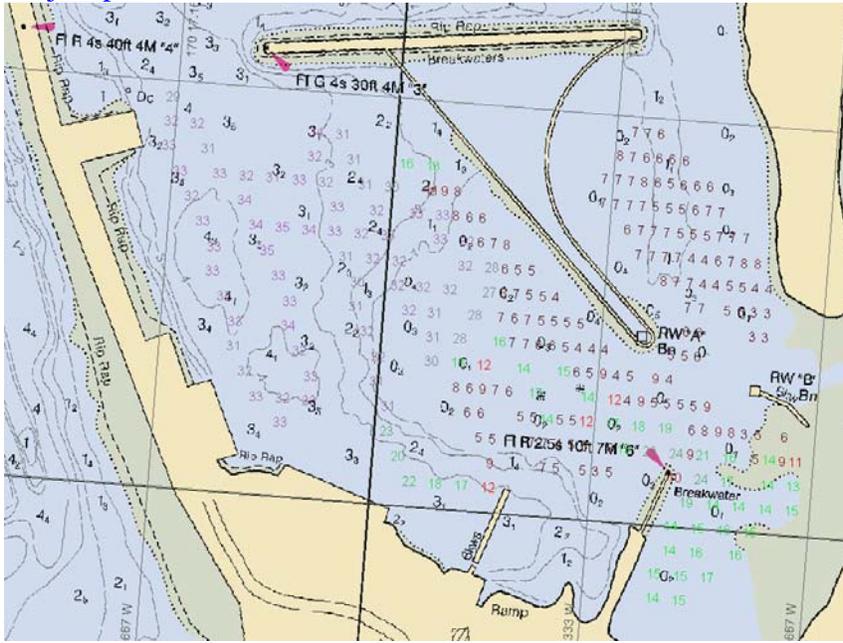


Fig. 9. St. Paul Harbor – Survey data generally agrees with the Army Core of Engineers dredge report.

D 1.4 Chart 16381 Comparison

Survey D00184 was compared to Chart 16381, the largest scale chart covering the survey area in St. George Harbor. SPAR 2 conducted survey in the harbor with the intent to assess the harbor as a deep water port. Survey comparison finds shoaling to 12 feet (uncorrected) at the entrance to the harbor in the 17 foot dredged channel. Breakers were observed across the mouth of the harbor on a day where 6 to 10 foot sea swells were coming out of the west. The areas on the north end of both the inner harbor and outer harbor contained kelp and were unable to be surveyed. According to an Army Corps of Engineers report dated 30 September 2011. The North East and South East of the harbor have been dredged. Survey data concurs with a photo dated 2006 in the USACE report found here:

<http://www.poa.usace.army.mil/Portals/34/docs/operations/RH/stgeorge/2011STGeorgeHarborPIProject.pdf>

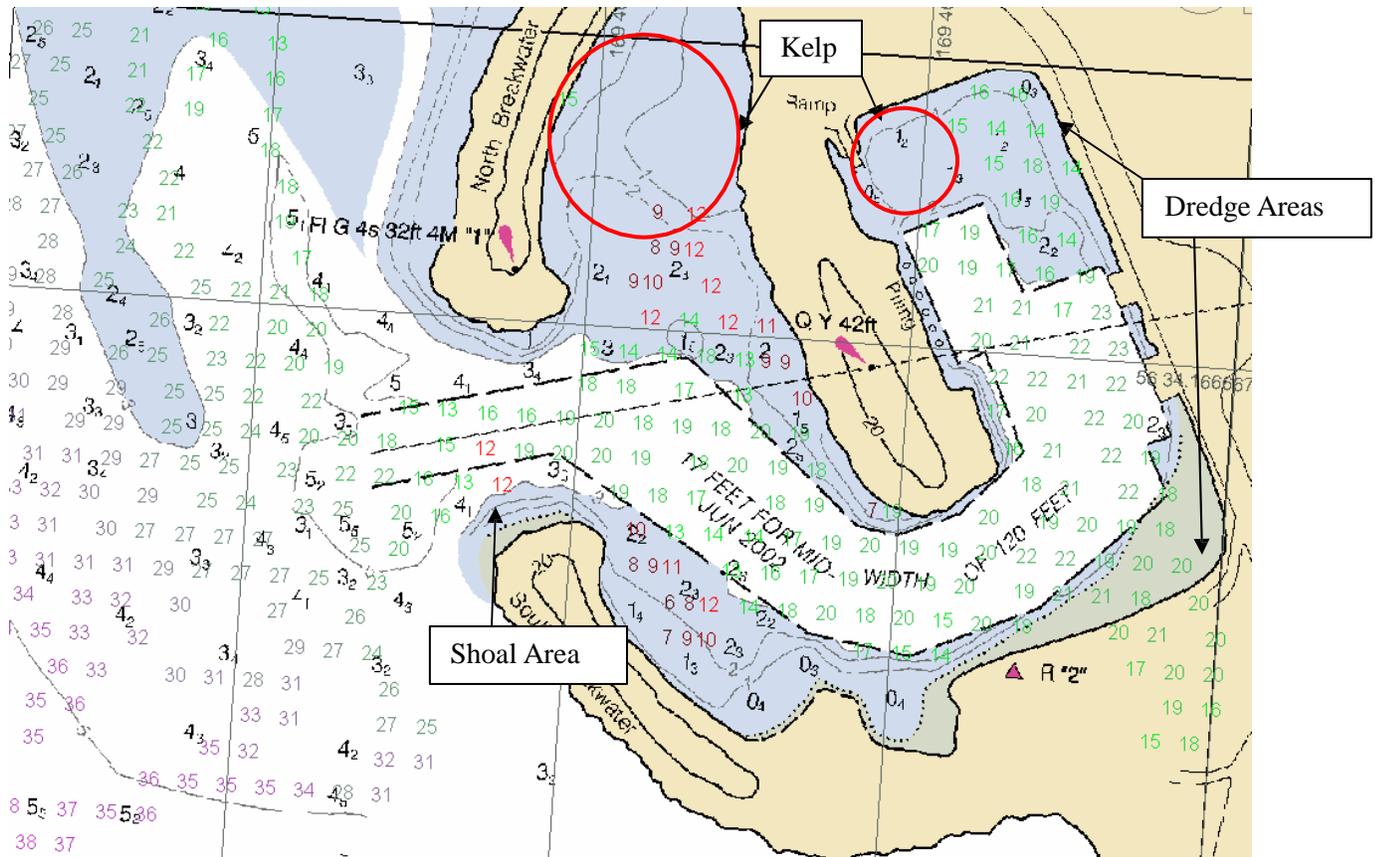


Fig. 10. – St. George Harbor – Shoaling at the mouth of the harbor, kelp beds and dredged areas are the major differences in this area.

D 1.5. Dutch Harbor and vicinity.

Surveys in the Dutch Harbor area were conducted during transits inbound and outbound by CGC SPAR. Latency tests were also conducted in the area. Chart comparisons in this area are solely for observed discrepancies on the chart.

D 1.5.A. Chart 16530 and 16529 Comparison

Discrepancies in Iliuliuk Harbor were noted in transit. The boat shape on the chart does not exist. Vessels were moored to the pier located to the west of this object. SPAR 2 approached these moored vessels driving over this charted object. The soundings remained constant at 50 feet deep. SPAR 2 also tried to locate the two obstructions to the east of this object and was unable to locate them. No survey data is available directly over these marked obstructions. The Hydrographer recommends keeping these obstructions charted until 100% bottom coverage data is collected to disprove these features.

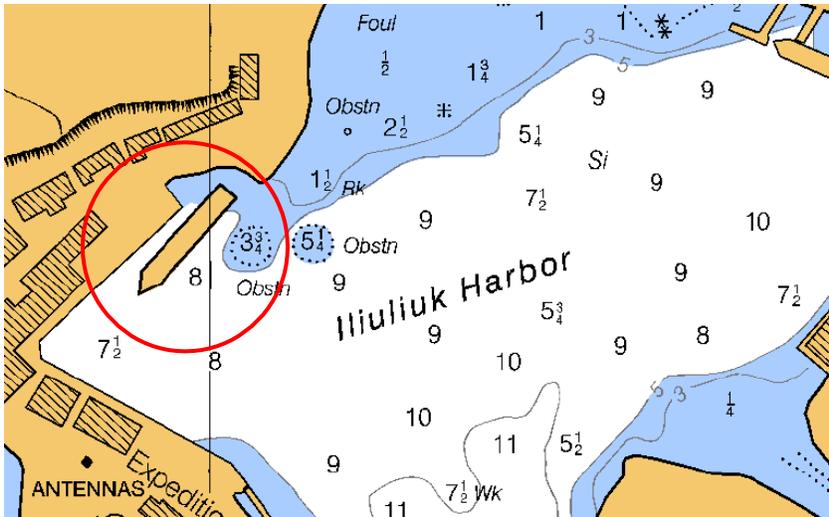


Fig. 11. Iliuliuk Harbor – Charted object does not exist.

The Carl E. Moses boat harbor project located in the South Channel south of Iliuliuk Harbor has been completed. See figures 12 and 13 below for changes.

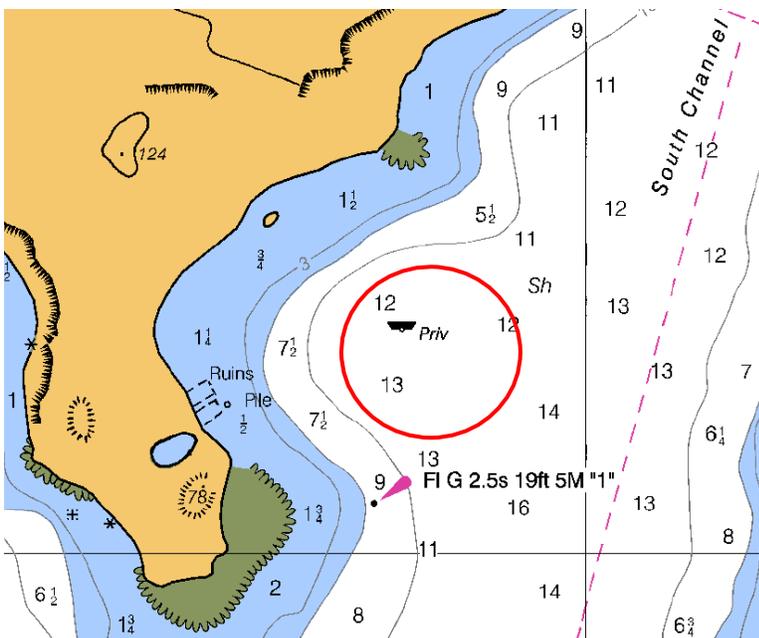


Fig. 12. South Channel - Iliuliuk Harbor – Area of Carl E. Moses boat harbor. Private mooring buoy has been removed.

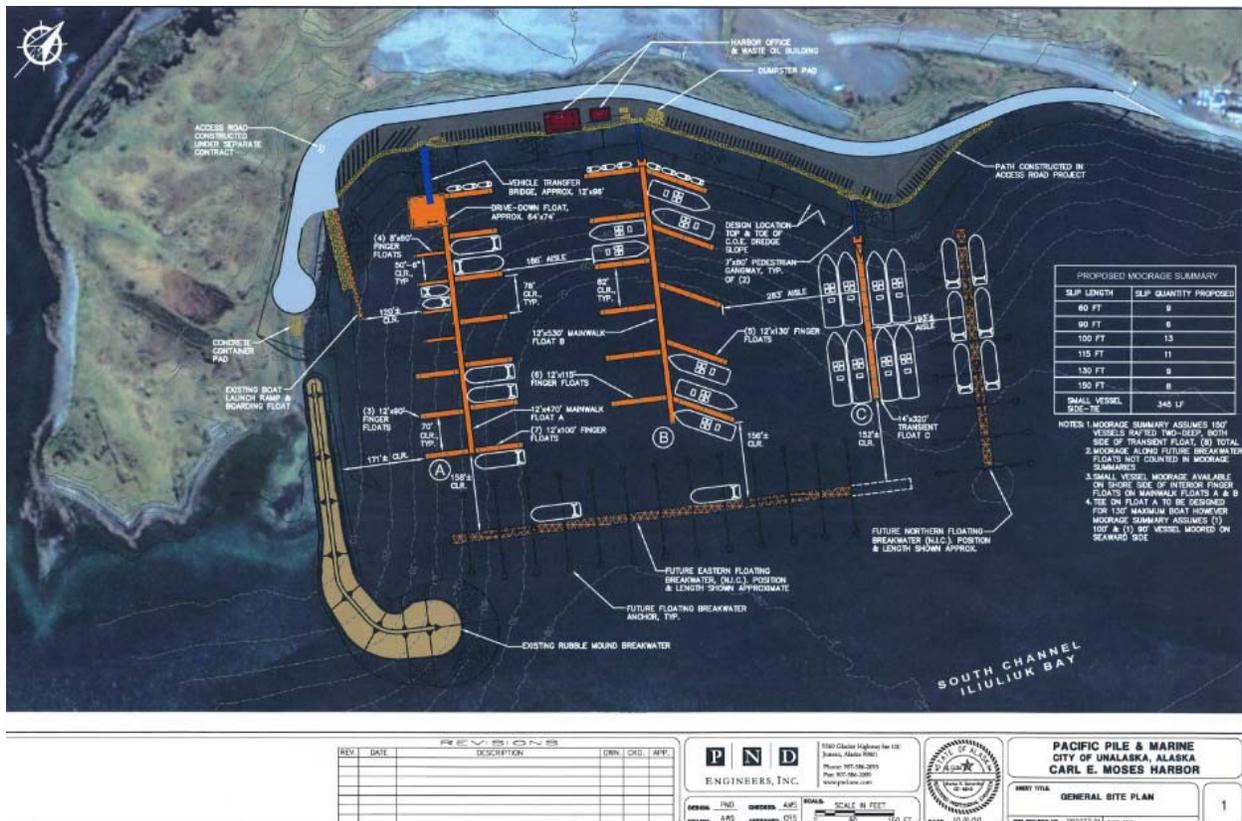
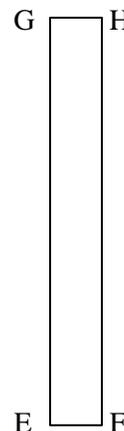


Fig. 13. South Channel - Iliuliuk Harbor – As-Built diagram of the Carl E. Moses Harbor. This diagram has been included in the data submission under the Carl E. Moses folder.

The northern and eastern floating breakwaters shown in Figure 13 have been built and CGC SPAR has erected four ATON structures on them. ATON reports have been submitted for inclusion on charts. The position of each corner of the breakwaters was determined utilizing a MX Marine MX-420 GPS system (portable jump kit) used for positioning Aids to Navigation. Fifteen minute occupations were taken to define each position. Figure 14 is the detail of the positions of the corners of the floating breakwaters.

- A - 53-52-03.450N 166-33-13.140W
- B - 53-52-10.070N 166-33-03.175W
- C - 53-52-03.321N 166-33-12.922W
- D - 53-52-09.895N 166-33-02.879W

Northern Floating Breakwater



- E - 53-52-11.476N 166-33-01.193W
- F - 53-52-11.620N 166-33-00.973W
- G - 53-52-14.925N 166-33-07.160W
- H - 53-52-15.069N 166-33-06.822W

Eastern Floating Breakwater

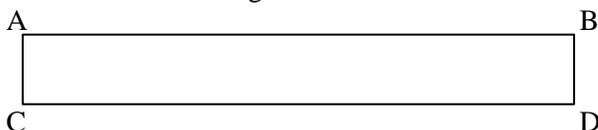


Fig. 14. Corner locations of the floating breakwaters in Carl E. Moses Harbor.

D 1.5.B. Chart 16528 Comparison

A mooring buoy has been placed in position 53-55.223N 166-36.998W in Unalaska Bay east of Broad Bay. This is a private mooring buoy with the following lettering on the buoy:

SPDI URSA
MC-807 NE-SSBM
NB 90 KIP W 18KIP



Fig. 15. Unalaska Bay – Private mooring buoy owned by the city of Unalaska.

D.2 Additional Results

D.2.1 Automated Wreck and Obstruction Information Service (AWOIS) Items

No AWOIS items were investigated for this survey.

D.2.4 Shoreline

Shoreline verification was not set forth as a deliverable product.

D.2.5 Charted Features

D.2.6 Charted Pipelines and Cables

No cables or pipelines were observed in this survey.

D.2.7 Bridges, Ferry Routes, and Overhead Cables

There are no ferry routes, bridges, or overhead cable crossings within the limits of the survey.

D.3 Dangers to Navigation and Shoals

D 3.1 Dangers to Navigation

No dangers to navigation were found or reported to the NOAA's Office of Coast Survey.

D 3.2 Shoals

There were no significant uncharted shoals discovered during this survey.

D.4 Aids to Navigation (ATON)

CGC SPAR serviced or established 27 ATON during this survey. All ATON encountered were verified and serve their intended purpose. New aids were built in the Carl E. Moses Harbor as mentioned above in section D.1.5.A.

D.5 Coast Pilot Information

The Hydrographer has the following recommendations for changes or addenda to the Coast Pilot:

US Coast Pilot 9, Chapter 8, Paragraph 385: The second sentence states "the channel is dredged and in 1993-2002, had a controlling depth of 17 feet." The Hydrographer recommends that the controlling depth be changed to a depth shoaler than that stated in the Coast Pilot. CGC SPAR is unable to make a recommendation of specific depth due to final tides and processing not completed aboard CGC SPAR. Once NOS completes processing, the shoalest depth observed should be utilized as the controlling depth.

US Coast Pilot 9, Chapter 8, Paragraph 428: The Hydrographer recommends the Village Cove description be updated to the most recent Army Corps of Engineers dredge report.

US Coast Pilot 9, Chapter 7, Paragraph 314: The Hydrographer recommends that at the end of this paragraph, information regarding the mooring buoy mentioned in D 1.5.B. be added.

US Coast Pilot 9, Chapter 7, Paragraph 299: The Hydrographer recommends that at the end of this paragraph, information regarding the Carl E. Moses Harbor mentioned in D 1.5.A. be added.

D.6 Bottom Samples

Bottom samples were taken in Golovnin Bay in position 64 28.03N, 163 02.24W. The bottom sample was obtained by observing the material on the forks of the ship anchor during anchor weighing. The bottom sample was observed to be white sand with small amounts of gravel.⁴

D.7 Environmental Conditions and Notes

No significant environmental conditions occurred during the survey. Weather logs are included in Appendix IX.

D.8 Adequacy of Survey

This survey is considered complete and adequate to update the navigable waters included in the survey area.⁵ Additional depths and features within the survey may be considered as reconnaissance and validation level data for areas previously charted.

D.9 Summary and Recommendations for Additional Work

The Hydrographer recommends additional shoreline mapping occur or records (i.e. as-built drawings) be obtained from US Army Corps of Engineers in the areas of St. Paul, St. George, Teller, and at the Carl E. Moses Harbor on Unalaska Island for updating the affected nautical charts.

E. APPROVAL

As Commanding Officer, I have ensured that standard field surveying and processing procedures were followed in producing this examination. I understand that these data are considered reconnaissance in nature until further validated by NOAA’s Pacific Hydrographic Branch for survey quality in accordance with the Office of Coast Survey Hydrographic Surveys Division’s *Field Procedures Manual*, and NOS *Hydrographic Surveys Specifications and Deliverables*. Field operations for this basic hydrographic survey were conducted under my daily supervision with frequent checks of progress and adequacy.

This Descriptive Report, and all accompanying records and data are approved. All records are forwarded for final review and processing to N/CS34, Pacific Hydrographic Branch.

The Data Acquisition and Processing Report for OSD-USCG-13 (D00184) is submitted in Appendix VI and contains additional information relevant to this survey.

Approved and Forwarded:

SLOAN.JOHN.
RICHARD.1291627419
Digitally signed by SLOAN.JOHN.
RICHARD.1291627419
DN: c=US, o=U.S. Government, ou=DoD,
ou=PKI, ou=USCG, cn=SLOAN.JOHN.
RICHARD.1291627419
Date: 2013.09.11 06:56:56 -08'00'

SCHALLIP.MICHELE.
L.1078920811
Digitally signed by SCHALLIP.MICHELE.
L.1078920811
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI,
ou=USCG, cn=SCHALLIP.MICHELE.L.1078920811
Reason: I am approving this document
Date: 2013.09.11 10:01:52 -08'00'

LTJG John Sloan, USCG
Operations Officer

LCDR Michele Schallip, USCG
Commanding Officer

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

COBB.MICHAEL.
B.1236377667
Digitally signed by COBB.MICHAEL.B.1236377667
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI,
ou=USCG, cn=COBB.MICHAEL.B.1236377667
Date: 2013.09.10 10:42:19 -08'00'

BM1 Michael Cobb, USCG

Revisions Compiled During Office Processing and Certification

¹ Data from platform SPAR 2 could not be used for charting due to data gaps, bad navigation data, bad positioning data, incorrectly performed system latency tests and extending out of areas of TCARI tide zone coverage limits. Large portions of data from platform SPAR could not be used due to uncorrected excessive motion artifacts of up to 3m in 40m of water, and extending out of TCARI tide zone coverage limits.

² TCARI tidal correctors were applied during office processing.

³ After office processing and data editing, charts 16240, 16011, 16380, 16381, 16382, 16528, 16529 and 16530 were not affected by the survey. Charts 16190 and 16220 which were not listed were also affected.

⁴ The bottom sample was not included in the chart update product.

⁵ Do not concur. Data is partially adequate for charting. See red note 1.

Appendix IV

Tides and Water Levels

1. Request for Approved Tides

DATE: 08/02/2013

MEMORANDUM FOR: LCDR Marc S. Moser
Chief, Operations Branch, N/CS31

FROM: Gerald Hovis
Products and Services Division, N/OPS3

SUBJECT: Delivery of Tide Requirements for Hydrographic Surveys

A TCARI grid for hydrographic survey project M-R976-USCG-2013, South Arctic Reconnaissance, AK is being provided at ftp://tidepool.nos.noaa.gov/pub/outgoing/HPT/Project_Instructions_TCARI/R976USCG2013/. Six minute preliminary data for Unalaska, AK (9462620), Port Moller, AK (9463502), Village Cove, AK (9464212), and Nome, AK (9468756) may be retrieved in one month increments over the internet from the CO-OPS Home Page at <http://opendap.co-ops.nos.noaa.gov/axis/text.html> by clicking on "Preliminary Data". A zip file containing the project instructions document, graphic and TCARI SOP is also posted to the Sharepoint for project "M-R976-USCG-2013".

2. Final Tide Notes

TCARI grid files have been included in the data submission disk included with this report.

APPROVAL PAGE

D00184

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

- D00184_DR.pdf
- Collection of depth varied resolution BAGS
- Processed survey data and records
- D00184_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 David J. Zezula, NOAA

Chief, Pacific Hydrographic Branch