

W00243

NOAA Form 76-35A

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

DESCRIPTIVE REPORT

Type of Survey: Track Line

Registry Number: W00243

LOCALITY

State: Alaska

General Locality: Arctic Reconnaissance

Sub-locality: Arctic Reconnaissance

2012

CHIEF OF PARTY
LCDR Brian Krautler, USCG

LIBRARY & ARCHIVES

Date:

HYDROGRAPHIC TITLE SHEET

W00243

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: Arctic Reconnaissance

Sub-Locality: Arctic Reconnaissance

Scale: 1: 40,000

Dates of Survey: 07/19/2012 to 08/09/2012

Instructions Dated: 05/30/2012

Project Number: OSD-PHB-12

Field Unit: USCGC Hickory

Chief of Party: LCDR Brian Krautler

Soundings by: Furuno RDP-149 echosounder

Imagery by:

Verification by: Pacific Hydrographic Branch

Soundings Acquired in: Feet

H-Cell Compilation Units: N/A

Remarks:

Horizontal Coordinate System: UTM Zone 3. The purpose of this survey is to provide contemporary survey to update National Ocean Service (NOS) charts. All separates are filed with the hydrographic data. Revisions and 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/>.

Project Joint NOAA/USCG Arctic Hydrographic Project 2012
 Arctic Reconnaissance
 Scale 1:40,000
 June 22st – August 12th, 2012
CGC HICKORY

A. AREA SURVEYED

This hydrographic survey was completed as specified by the memo outlining the Project Joint NOAA/USCG Arctic Hydrographic Project 2012 (OSD-PHB-12), dated 30th May, 2012. A copy of the memo is attached.

Northern limit	Southern limit	Eastern limit	Western limit
71°01'81" N	60°24'30" N	158°20'65" W	168°18'62" W

Data acquisition was conducted from
 June 22st – August 12th, 2012

The purpose of this project is to provide contemporary reconnaissance surveys to update National Ocean Service (NOS) nautical charting products and to increase the USCG's self sufficiently in collecting valuable data while on patrol in these areas. The project will address areas uncharted in the Bering Sea and Arctic Ocean. Lack of survey data in these regions prevents NOAA from accurately informing the mariners transiting these uncharted areas of water depths and sea floor characteristics for anchoring.

LNM Single beam mainscheme only	6512.67 NM
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)	N/A
LNM Cross lines singlebeam and multibeam combined	N/A
LNM Lidar Crosslines	N/A
LNM development lines non mainscheme	368 Hrs ¹
LNM shoreline/nearshore investigations	N/A
Number of Bottom Samples	17 ²
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

Calendar Date	Julian Date
19-July-12	201
20-July-12	202
21-July-12	203
22-July-12	204
23-July-12	205
24-July-12	206
25-July-12	207
26-July-12	208
27-July-12	209
28-July-12	210
29-July-12	211
30-July-12	212
31-July-12	213
01-August-12	214
02-August-12	215
03-August-12	216
04-August-12	217
05-August-12	218
06-August-12	219
07-August-12	220
08-August-12	221
09-August-12	222

Table 2: VBES Acquisition Dates

B. DATA ACQUISITION AND PROCESSING

Refer to OSD-PHB-12 *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 included in this descriptive report.

B 1. EQUIPMENT AND VESSELS

Data was acquired by *CGC HICKORY* and *CG231020*. *CGC HICKORY* acquired Furuno RDP-149 vertical beam echo sounder (VBES) soundings. *CG231020* acquired Furuno GP-185 vertical beam echo sounder (VBES) soundings. Sea bed samples were collected by *CGC HICKORY*. Vessel configurations, equipment operation and data acquisition and processing were consistent with specifications described in the *DAPR*.

B 2. QUALITY CONTROL

B 2.1 System Certification and Calibration

Refer to *CGC HICKORY DAPR* for a complete description of system integration for equipment used for this survey.

B 2.2 Sounding Coverage

As per the outlining memo, this survey was conducted using VBES bathymetry.

B 2.3 Cross lines

Due to the nature of transit surveys, limited opportunities existed for cross line comparisons. Where possible transit lines crossed areas previously surveyed with high resolution MBES.

B 2.4 Systematic Errors

Due to the hull design of small boat 231020, data was inconsistent while going against any swell greater than two feet, speeds in excess of eight knots, as well as any sharp turns made against tides. In heavy seas (anything over 13ft) CGC HICKORY's data acquisition was significantly impacted due to a lack of a motion sensor, during these times CGC HICKORY did not save any soundings. Also due to a lack of a motion sensor CGC HICKORY's sounding data may be inconsistent while in any seas over five feet or when the pitch/roll was over five degrees. There was also no tidal data used during the patrol.

B 3. CORRECTIONS TO ECHO SOUNDING

Tide files and tide zones were not provided at the time of survey.

B 4. DATA PROCESSING

B 4.1 Data Cleaning

The survey data were cleaned using the vertical beam editor tools in Hypack. All areas of the track line that indicated a deviation from both charted soundings and adjacent soundings were examined and cleaned. Additional cleaning was performed using depth and speed filters to remove known vessel influences.

C. HORIZONTAL AND VERTICAL CONTROL

As per Field Procedures Manual (2010) section 5.2.3.2.3 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).³ No tidal data was acquired for this project at the time of the survey. Transit data spanned the tidal zoning of multiple tide stations and will require correction in post processing.

D. RESULTS AND RECOMMENDATIONS

D.1 Chart Comparison

Due to time constraints, significant geographical area covered, insufficiently scaled charts, and lack of personnel, chart comparison was not completed at this time.

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 from the outlining memo. Where possible the CGC *HICKORY*'s small craft surveyed up to the 3 ft depth on the vessels fathomer with the exception of beach landings. Beach landings were only made within Port Clarence, Charts 16006 and 16200, for the two villages of Teller and Brevig Mission and to service a fixed aid to navigation ashore at former LORSTA (LORAN Station) Port Clarence.

D.2.5 Charted Features

N/A

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

There were no charted Aids to Navigation (ATON) observed during project OSD-PHB-12.

D.5 Coast Pilot Information

No Coast Pilot data was taken during this patrol.

D.6 Bottom Samples

Bottom samples were taken as a result of anchoring efforts in these areas. A total of 17 bottom samples were acquired. A list of all bottom samples acquired during Survey W00243 is attached.

D.7 Environmental Conditions and Notes

No significant environmental conditions occurred during the survey.

D.8 Adequacy of Survey

This survey is considered as reconnaissance and validation level data for areas previously charted.

D.9 Summary and Recommendations for Additional Work

No additional work is needed to complete this survey. No changes significant to navigation have been noted and it is recommended that this survey receive normal processing priority.

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.

All field sheets, this Descriptive Report, and all accompanying records and data are approved. All records are forwarded for final review and processing to N/CS33, Atlantic Hydrographic Branch.

The Data Acquisition and Processing Report for OSD-PHB-12 are attached and contain additional information relevant to this survey.

Approved and Forwarded:

HALSIG.DANIEL.
PETER.JR.1283557452

Digitally signed by HALSIG.DANIEL.PETER.
JR.1283557452
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ou=USCG, cn=HALSIG.DANIEL.PETER.JR.1283557452
Reason: I am approving this document
Date: 2012.12.13 12:58:28 -09'00'

LTJG Daniel Halsig, USCG
Operations Officer

KRAUTLER.BRIAN.
C.1042636777

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BRIAN.C.1042636777
Date: 2012.12.21 11:17:31 -09'00'

LCDR Brian Krautler, USCG
Commanding Officer

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

WRIGHT.JOEL.
ROGER.117899476
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Digitally signed by WRIGHT.JOEL.
ROGER.1178994766
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ou=DoD, ou=PKI, ou=USCG,
cn=WRIGHT.JOEL.ROGER.1178994766
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LTJG Joel Wright, USCG

ERICKSON.KEVIN.
J.1137774000

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J.1137774000
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ou=USCG, cn=ERICKSON.KEVIN.J.1137774000
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this document
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ET1 Kevin Erickson, USCG

POORE.BENJAMIAN.
JAMES.1293414404

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JAMES.1293414404
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IT2 Benjamin Poore USCG

Revisions Compiled During Office Processing

¹ Development lines were not collected.

² Bottom samples were not submitted.

³ The survey data was not corrected to MLLW as no tide was applied. The data remains uncorrected.

⁴ The Survey Acceptance Review was completed at the Pacific Hydrographic Branch. The data was not found to be acceptable for charting purposes and all soundings in the survey area will remain as charted.

APPROVAL PAGE

W00243

Data did not meet current specifications as determined by the OCS survey acceptance review process. The survey did not meet specifications mainly due to lack of sound speed, water level or heave data. The survey will not be applied to NOAA charting products.

The following products will be sent to NGDC for archive:

- W00243_DR.pdf
- W00243_DAPR.pdf
- XYZ data

The survey evaluation and verification has been conducted according to current OCS specifications and procedures.

Approved: _____

Kurt Brown

Acting Cartographic Team Lead, Pacific Hydrographic Branch

The survey has not been approved for chart updates. The data will be archived at NGDC so that it can be made available for other uses.

Approved: _____

CDR David Zezula, NOAA

Chief, Pacific Hydrographic Branch