

C. VERTICAL AND HORIZONTAL CONTROL *SEE ALSO THE H-CELL REPORT.*

Please refer to the *****Horizontal and Vertical Control Report**, for detailed descriptions of the procedures and systems used to attain hydrographic positioning. This report will be delivered with the Descriptive Report for the last sheet of this task order. Specifics pertaining to H12092 are discussed below. *****Data included with H-Cell Survey deliverables.**

C.1 VERTICAL CONTROL

The vertical datum for H12092 is Mean Lower-Low Water (MLLW). NOAA tide station 8651370 Duck, NC (latitude 36° 11'N, longitude 075° 44.8'W) was the source of all verified water level heights for determining correctors to soundings. All data for H12092 were contained within tide zones SA55A and SA46A; which were provided from NOAA.

The primary means for analyzing the adequacy of zoning was by entering the observed verified water level correctors at 6-minute intervals from 22 June 2010 to 17 October 2010 from adjacent zones into a spread sheet. A comparative zone-to-zone analysis (summarized in Table C-1) confirmed the adequacy of the NOAA provided preliminary zone boundaries and zoning parameters based on Duck, NC (8651370). Adequacy of zoning was also carried out by analyzing zone boundary crossings in the navigated swath editor, SAIC's **Multi View Editor (MVE)**, reviewing differences between overlapping swath data as well as crossline versus main scheme data. In addition sun illuminated coverage grids were viewed within **SABER** and examined for any vertical offsets which may be a result of tidal zoning impacts. SAIC did not revise the delivered tide zones for H12092. The water level zoning parameters provided by NOS, Table C-2, were adequate for application of the observed verified water levels. As a result, they were accepted as final and applied to all H12092 multibeam data.

Table C-1. H12092 Analysis of Verified 6 Minute Water Level Data Across Tide Zones SA55A and SA46A

Zone Boundary	SA55A – SA46A
Average +2x Standard Deviation	0.043
Minimum Difference	-0.006
Maximum Difference	0.050
Average Difference	0.020
Standard Deviation	0.012

Data are in Meters above MLLW

Table C-2. Water Level Zoning Parameters Applied on Sheet H12092

Zone	Time Corrector (minutes)	Range Ratio	Reference Station
SA46A	00:00	1.08	8651370
SA55A	00:00	1.11	8651370

No final tide note was provided by NOAA Center for Operational Oceanographic Products and Services (CO-OPS). SAIC is not required to have a final tide note from CO-OPS. SAIC has provided a final tide note in **Appendix IV. *Data appended to this Report.*