

## C. VERTICAL AND HORIZONTAL CONTROL

### C.1 Vertical Control

The vertical datum for this project is Mean Lower Low Water (MLLW). The operating National Water Level Observation Network (NWLON) station at Panama City, FL (872-9108) serves as datum control for Survey H12237.

The survey area is located within Zones CGM1 and CGM8 as provided in the preliminary tidal zoning scheme included with the project SOW CD. Based on the results of cross line analysis, it appears that the time and range factors as provided in the preliminary zoning scheme are adequate.

### C.2 Horizontal Control

The horizontal datum for this project is the North American Datum of 1983 (NAD83). All data products are referenced to Latitude/Longitude or Universal Transverse Mercator (UTM) Zone 16, meters.

All mainscheme line and item investigation position data were acquired using an Applanix POS MV operating in Differential GPS (DGPS) mode. The unit was configured to receive USCG Differential beacon correctors from the Eglin Air Force Base, FL station. Differential beacon correctors from the U.S. Coast Guard station in Mobile Point, AL, were used by the secondary navigation system to facilitate real-time horizontal control confidence checks. Due to degradation in the USCG Eglin AFB signal on May 19 (DN 139), the primary navigation system was temporarily supplied with correctors from the Mobile Point station. Initial dynamic draft and patch calibration data were acquired with the POS MV operating in RTK GPS mode.

Prior to and during the course of the survey the accuracy of the primary positioning system was verified by means of a physical measurement to a project horizontal control point established at the vessel's berth. Position confidence checks were accomplished during fuel or weather stops for the *R/V Ferrel*. Refer to the DAPR\* and Horizontal and Vertical Control Report (HVCR) for additional details.