Ship's RDUDE and HECK each took velocity casts throughout work in this area. The data was reduced and velocity corrections calculated using program PC 530 on the ship's IBM computer. MARTEK units receive a pre- and post-deployment calibration by AMC (see Appendix ID for Martek calibration and velocity correction data).

B. HEAVE, ROLL, PITCH

Heave, roll and pitch were recorded by a Datawell B.V. (S/N 19110-C) heave roll, pitch sensor (HIPPY) located on the centerline, midships. The sensor gathers on line heave data which is applied to sounding data in near real time.

No heave, roll, pitch sensor calibration requirements or procedures were available aboard the HECK at the time of this report. Because DSF-6000N sounding data was used for reconnaissance only, this deficiency did not compromise the quality of the item investigation survey. However, it is recommended that procedures for calibration of this unit be defined and tested prior to the conduction of survey operations requiring reduction of sounding data.

C. SETTLEMENT AND SQUAT CORRECTORS

Settlement and Squat corrections for the NOAA Ship HECK were determined on June 12, 1986 in Key West, Florida. The static draft of the HECK for the Raytheon DSF 6000N transducer corrector was determined to be 6.8 ft. At the time of this report, HDAS software was not capable of applying this corrector. Since all side scan sonar survey work was carried out at vessel speeds of 200 r.p.m. or less, the settlement and squat corrector was effectively 0.0 ft. for all data acquired. Anticipated software modifications will provide the capability to apply both draft and settlement and squat correctors to sounding data during acquisition. See Appendix IF for Settlement and Squat test results.

D. TIDES INFORMATION

The tidal datum for this survey is mean lower low water (MLLW). The operating tide gages at Annapolis, MD. (857-7330) and Solomons Island, MD. (857-5512) provided direct control for hydrographic operations and served as control for datum determination for all subordinate stations during work on this project. For AWOIS items 4462 and 4463, a subordinate station located at Chesapeake Beach, MD. was also utilized. Data from this station was sent in periodically and the gage itself was checked by a tide observer ashore.

The operating stations at Baltimore, Maryland and Hampton Roads, Virginia were the reference stations for predicted tides.

Predicted tides were generated by HDAS from high and low water times and correctors input from the 1987 NOS Tide Tables. A request for smooth tides was made to N/HOA12 on November 9, 1987 (see Appendix IF for tides information and field tide note).