

#### 4. SURVEY METHODS AND PROCEDURES (Cont'd)

##### 4.5 Analogue Systems

###### 4.5.1 Echo Sounding

Continuous bathymetric profiles were obtained using an ATLAS DESO 20 echo sounder with its transducer mounted on the port side of the survey vessel (see Figure 2).

The sounder was calibrated using the average propagation velocity for the water column as derived from direct temperature salinity measurements at depth intervals of 10 m. This value was 1504 m/sec.

The data was reduced first by drawing a mean line through the wave motion (up to 1 m.) superimposed on the bottom trace, then by reading off the water depths at appropriate intervals along the survey lines.

To derive the appropriate tidal corrections, a technique developed by GEOMEX, known as "Crossing Analysis" <sup>(1)</sup> was employed. This method involves the addition or subtraction of small values from the raw soundings on each line. The effective datum implied by the analysis is the mean tidal level during the survey. In the long term this will approach mean sea level.

(1) Crossing Analysis, an Easy Method to Calculate the Tidal Curve from Bathymetric Data

J.L. Oustlant, The Hydrographic Journal - April '84