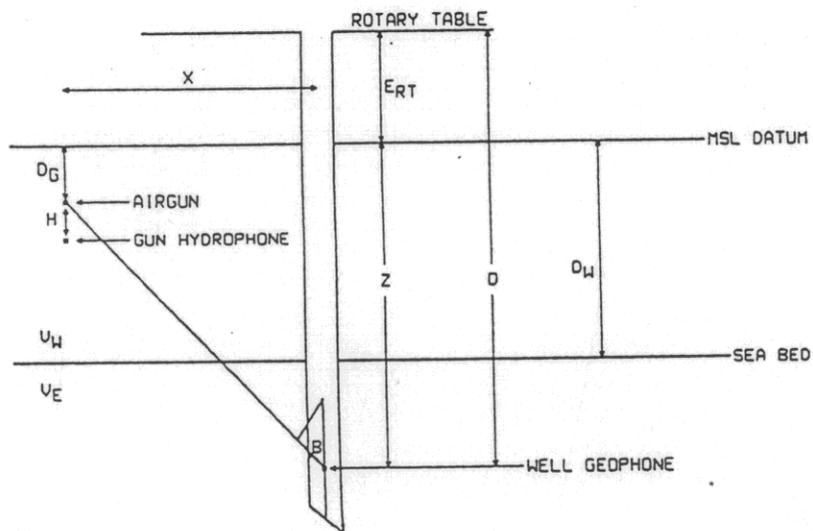


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SCHMATIC CROSS-SECTION



KEY

- RT - ROTARY TABLE
- $E_{RT}$  - ELEVATION OF RT ABOVE DATUM
- $D^*$  - MEASURED DEPTH OF WELL GEOPHONE BELOW RT
- D - VERTICAL DEPTH OF WELL GEOPHONE BELOW RT
- Z - VERTICAL DEPTH OF WELL GEOPHONE BELOW DATUM
- $D_G$  - DEPTH OF GUN BELOW M. S. L.
- H - DISTANCE BETWEEN GUN AND GUN HYDROPHONE
- X - HORIZONTAL DISTANCE BETWEEN WELL GEOPHONE AND GUN
- $\beta$  - INCIDENT ANGLE AT WELL GEOPHONE LEVELS
- T - TRAVEL-TIME FROM GUN HYDROPHONE TO WELL GEOPHONE
- $T_V$  - TIME FROM GUN TO WELL GEOPHONE CORRECTED TO VERTICAL  
 (1) BY ASSUMING STRAIGHT LINE TRAVEL PATHS  $\left[ \left[ T + \frac{H}{v_W} \right] \cos \beta \right]$
- OR (2) BY ESTIMATING THE TRUE REFRACTED TRAVEL PATHS
- $T_E$  - TIME CORRECTION FROM GUN TO DATUM  $\left[ = \frac{\text{GUN DEPTH}}{v_W} \right]$
- $T_C$  - CORRECTED TRAVEL-TIME BETWEEN DATUM AND WELL GEOPHONE =  $T_V + T_E$
- $v_A$  -  $Z/T_C$  (AVERAGE VELOCITY)
- $v_I$  -  $\Delta Z/\Delta T_C$  (INTERVAL VELOCITY)
- $D_W$  - DEPTH OF WATER
- $v_W$  - WATER VELOCITY
- $v_E$  - ELEVATION VELOCITY