SOFTWARE CAPABILITIES:

The GEMDAS system incorporates software capabilities that have been developed to monitor drilling operations, aid in drilling control and pressure detection and provide a permanent easy-recall record of all pertinent drilling data. The following basic units are involved:

a)   The Drill Monitor program which monitors and provides for the redording of real-time drilling parameters including calculated variables each as rate of penetration, vertical depth, Dxc, Nxb, drilled porosity and estimated formation pressure. In addition, the GEMDAS operator is able to set values for rotary speed, weight on bit and other parameters, which enables the software "Drill Logic" to distinguish between drilling, reaming, circulation, connection and off-bottom situations.

b)   The Trip Monitor program which provides a critical real-time monitoring of all necessary parameters during trips, and calculated trip-related parameters such as hole fill-up, actual and expected hookload, pit volume, running/pulling speed and swab/surge pressure.

c)   The Kill Monitor program which monitors and records parameters related to the killing operation such as choke and standpipe pressures, pit volume, and gas readings. The Kill Monitor is used following a complete kick analysis, thus enabling the suggested and actual well kill parameters to be compared.