

Data falling below the DNMINCUT boundary is considered either bad hole or coal. Bad hole is flagged when the density correction curve is greater than 0.1 gm/cc with the remainder of the data points flagged as coal. Data points falling above the DNMAXCUT boundary are considered either carbonate stringers or crystalline volcanics (or Basement). The volcanic (and basement) intervals are flagged manually from the mud logs in order to identify both crystalline and weathered volcanic or basement rocks. The remainder of the data falling above the DNMAXCUT boundary is flagged as possible carbonate intervals.

Similar logic was used on the sonic log. However, in this case, data falling below the ACPMAXCUT boundary is considered either bad hole or coal. Bad hole for the sonic log is flagged when the caliper curve exceeded 15 inches with the remaining data points being flagged as coal. Sonic data falling above the ACMIN CUT boundary is considered either carbonate stringers or crystalline volcanics (or Basement). The manually flagged volcanic (or basement intervals) are then identified and the remaining data flagged as possible carbonate intervals.

The data falling between the boundary lines is flagged as sand if the volume of shale (VSH) is less than 25%, shaly sand if VSH is greater than 25% and less than 50%, and shale if greater than 50%. No attempt was made to further classify the sands as being limy or dolomitic.

#### Note 2: RW Calculation

The formation water resistivity is treated by the LOGEVAL program as another log rather than a constant. This feature enables the interpreter to select a constant RW or a variable RW within defined intervals. The RW curve is constructed in the control file from points picked from the RWSP, RWA75 or RWRAT75 curves). The interpreter can set the curve to a constant for the initial run and then refine his selection on subsequent runs.

#### Note 3: SW Calculation

The LOGEVAL program computes the water saturation using three methods; the Archie method, the Modified Simandoux and the Dual Water. The results of these three calculations is displayed in the last track of the log plot in Enclosure 3. The user can select which method he wishes to use on the final plot and input his choice of "a", "m" and "n" in the control portion of the program.

The shale resistivity and shale porosity is generated for the dual water solution by creating an RTSH and PHISH curve using the same cross correlation technique used in discriminating lithology. However, only the shale points for the deep resistivity and crossplotted neutron/density porosity curves are correlated to depth. The resulting equations are used to generate continuous curves over the interval to be processed (see RTSH curve).