

## Parameter Selection - Zoning

The well was divided into 3 principal zones based on the general character of the data:

1250m - 1397m  
1397m - 1541m  
1541m - 2205m

The upper zone (1250m - 1397m) consists of claystones and siltstones. The massive claystone from 1345m - 1390m is inter-bedded with hard carbonate/calcite stringers. The "cleaner" intervals in this zone have high porosity but the low Rt indicates that they are water wet.

The zone from 1397m- 1451m presented special problems in the interpretation. The sands from 1458m - 1475m and from 1515 - 1522m show very low and apparently erratic Rt values compared with the other sands in the well. These low values were interpreted as due to low concentrations of Pyrite which is very conductive. To allow for this the Simandoux equation with Pyrite as the conductive mineral was chosen as the saturation equation.

Perhaps the most difficult problem to overcome was the apparently high values of Pe in the sand bodies throughout the well. For perfectly clean sand one would expect to see a Pe value of around 2. However, this is not the case in this well. These apparently high values were interpreted as carbonate cementation, therefore Siderite and a ferrous carbonate of variable radio-active content were introduced into the model. The only ambiguous point was between 1529m and 1533m. However, the low Pe values here were thought to be due to carbonaceous material (this interpretation is consistent with the rest of the well).

Zircon was included in the model to compensate for high gamma ray and Pe values. However, only very small percentages were found in the final interpretation.

The bottom zone (1541m - 2205m) exhibits claystones of variable composition with occasional sandstones and siltstones. There are well defined coalbeds and the siltstones and sandstones contain carbonaceous material. The high Pe values indicate carbonate cement.