

#### Parameter Selection - Clay.

Selection of the clay parameters was made from the Thorium versus Potassium crossplot. This suggested mixed clays bordering on Kaolinite. Two types of clays were chosen for use in the model, one kaolinitic (of fixed value) to help accommodate the erratically high gamma ray values and the other variable depending on the quality of fit between the raw and theoretical curves.

#### Parameter Selection - Zoning

The well was considered as one zone of sandstone and claystone (broken by the dolerite sill) with coal beds and dolomite streaks. The Pe values in the sandstones suggested sideritic cementation and lignite was included in the model as the carbonaceous material.

The mud log indicated that the sandstone occasionally varied to siltstone and this has been included in the model where appropriate.

The mudlog also suggested a certain amount of volcanic and igneous activity. Apart from the obvious dolerite sill it was difficult to identify igneous zones and so this was left out of the model.

The fit of raw to theoretical curves in the sandstones is good. However, the fit in the claystones requires more work in order to accommodate the erratic high gamma ray values.