
**Permeability distribution in a deltaic system:
a case study in the importance of basin processes
in a fluvial-dominated succession**

PULHAM, ANDY

*Department of Earth Sciences, Memorial University,
St. John's, NL A1B 3X5.*

The dominant controls on permeability in siliciclastic reservoir systems are grain size and sandstone composition. For any given porosity, coarser grained and more quartzose sandstones will typically comprise the most productive reservoir intervals. In marginal marine systems, like deltas, grain size is often predictably distributed with coarsest grained sandstones commonly described within channels settings, towards the tops of shorefaces and mouth-bars and as lag deposits of various types. Composition of sandstones is more an arduous descriptive exercise, especially when grain size distribution and porosity within a reservoir have a limited variability. However, sandstone composition can have an equal and sometimes greater influence on the distribution of reservoir quality than grain size and should have an equally predictable distribution. A case study will be presented that illustrates how compositional variability in a deltaic system influences permeability distribution.
