

Conclusions

Six standard seal lithotypes are recognized consistently in deepwater depositional settings. MICP data in combination with petrological analyses show a strong correlation between seal character and shale facies.

Fabric (e.g., the presence of well-defined microlaminae) is associated with significantly greater sealing capacity in marine shales. Bioturbation tends to degrade sealing capacity.

Silt content is a key parameter that affects seal character. Samples containing more than a threshold value (approximately 20% detrital silt) can have a markedly lower sealing capacity.

Early carbonate cementation is known to enhance sealing capacity. An increasing content of total clay and carbonate shows a strong positive correlation with increasing critical seal saturation.

Each shale facies compacts at a different rate, which can result in erroneous burial history interpretations and cause apparent differences in hydrocarbon generation and migration models.

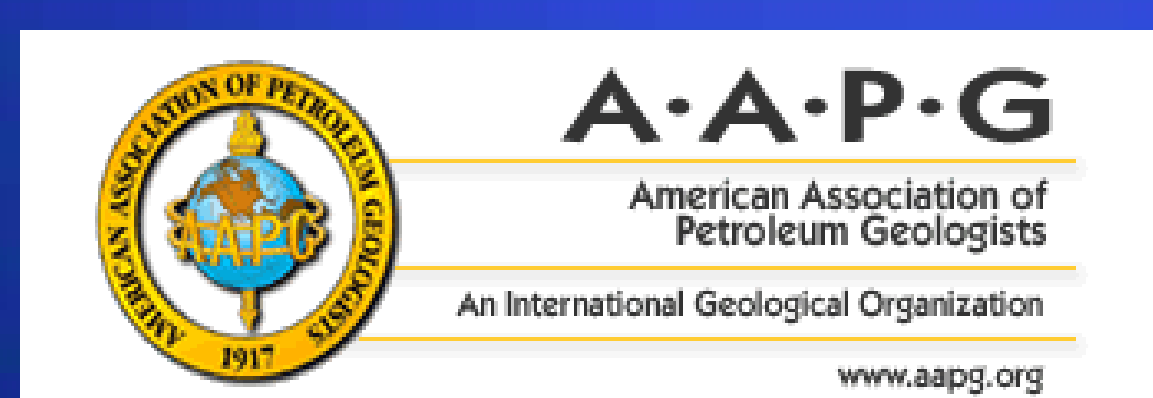


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