

Zampatti (1991) undertook a diagenetic study of the EVCM sediments and documented two phases of silica cementation relating the late phase to cementation at elevated temperatures (above 80-90°C). Zampatti (1991) also showed that the carbonate cement was related to the supply of carbon by the breakdown of organic matter. The study established the following broad diagenetic sequence.

- 1) Siderite deposition/formation
- 2) Early silica cementation
- 3) Carbonate dissolution, feldspar dissolution
- 4) Late silica cementation, kaolin formation

The work of Zampatti (1991) was expanded upon by Cubitt (1992) who refined the diagenetic paragenesis to:-

- 1) Early siderite cement
- 2) Early silica cement
- 3) Kaolinite development
- 4) Siderite and Kaolin dissolution
- 5) Dolomite and Ankerite cements (coarse to medium grained sediments)
- 6) Lillite formation
- 7) Secondary silica cementation
- 8) Organic acids dissolving fractures in rock

7.4 New Studies

7.4.1 Introduction

In this report the results of new reservoir studies designed to determine if there are any observations about reservoir quality which can be used as predictive exploration tools are presented.

Subjects addressed include observations on log derived porosity verses depth profiles, an analysis of core derived porosity and permeability data, and an analysis of gross and net sand ratios determined from wireline data.