



Sedimentary characteristics of Ediacaran microbialite in the Yangtze Platform, South China: implications for the evolution of early life

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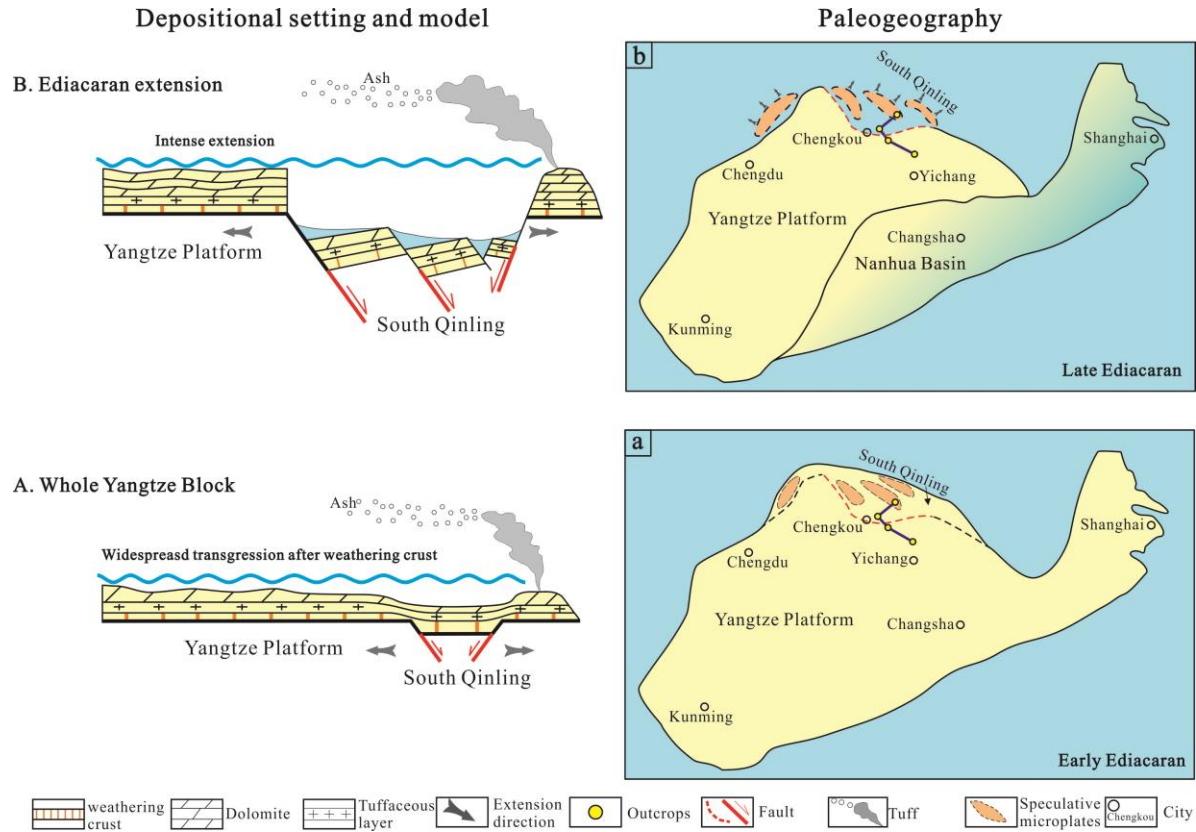
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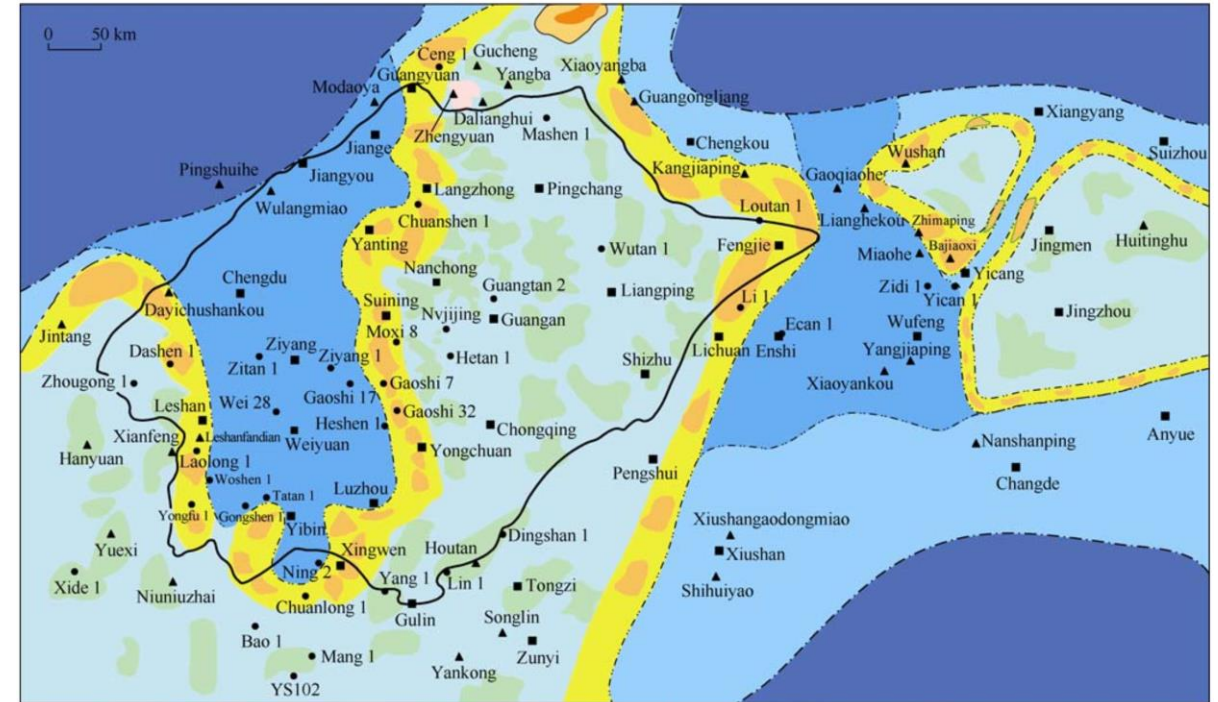
1.Geological background

1.Ediacaran Upper Yangtze Block Margins in an Extensional Tectonic Setting;

2.Carbonate Platform Interior vs. Marginal Extension in the Upper Yangtze Platform;



Ediacaran Tectonic Model of the Upper Yangtze Block Margins



Late Ediacaran Lithofacies Paleogeographic Map of the Upper Yangtze Platform (Wang et al., 2019)

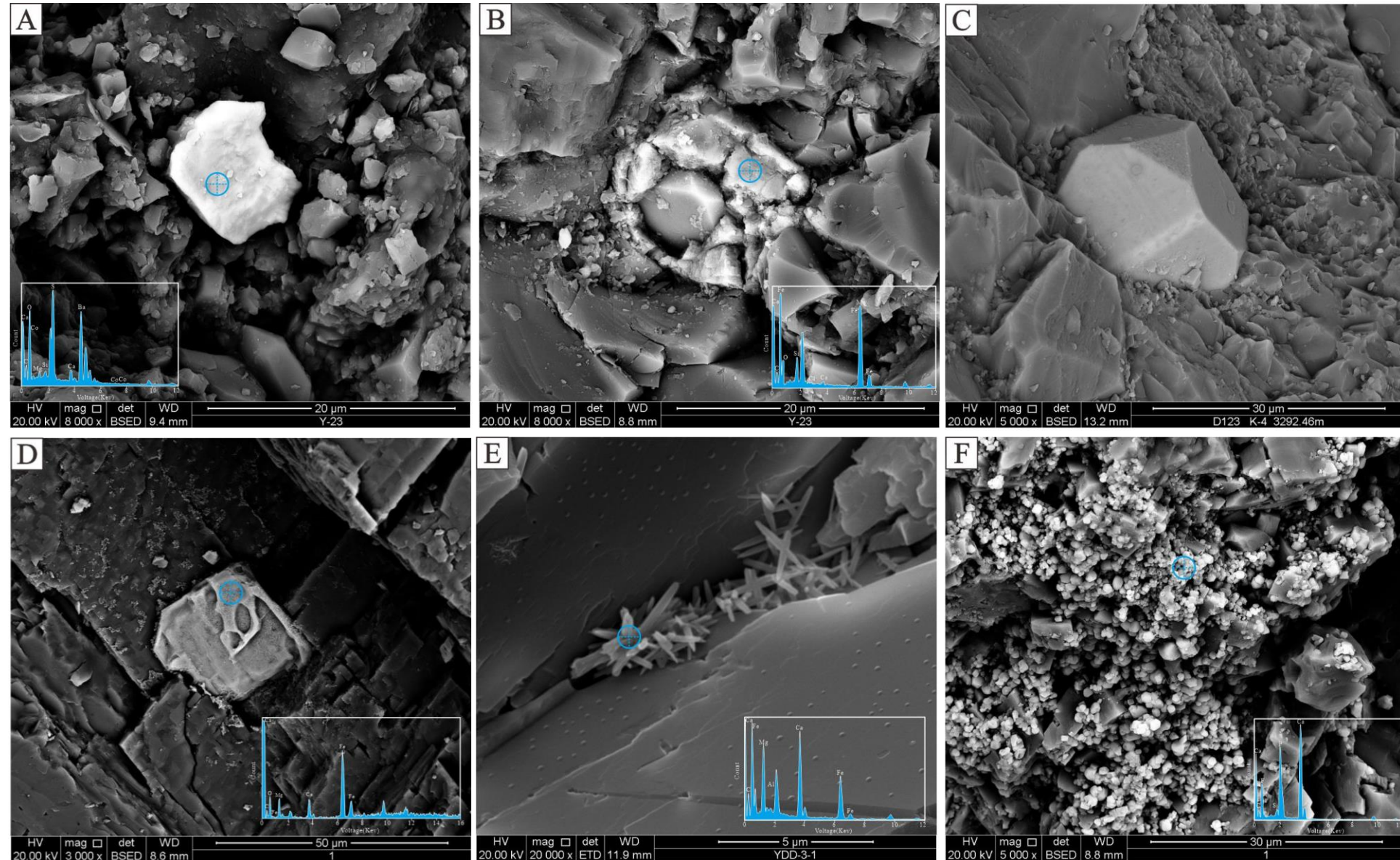
3. Hydrothermal Signatures and Redox-Sensitive Metal Enrichment in Microbialite Microtextures.



REE Distribution Patterns in Stromatolites

2.Platform Margin Stromatolites

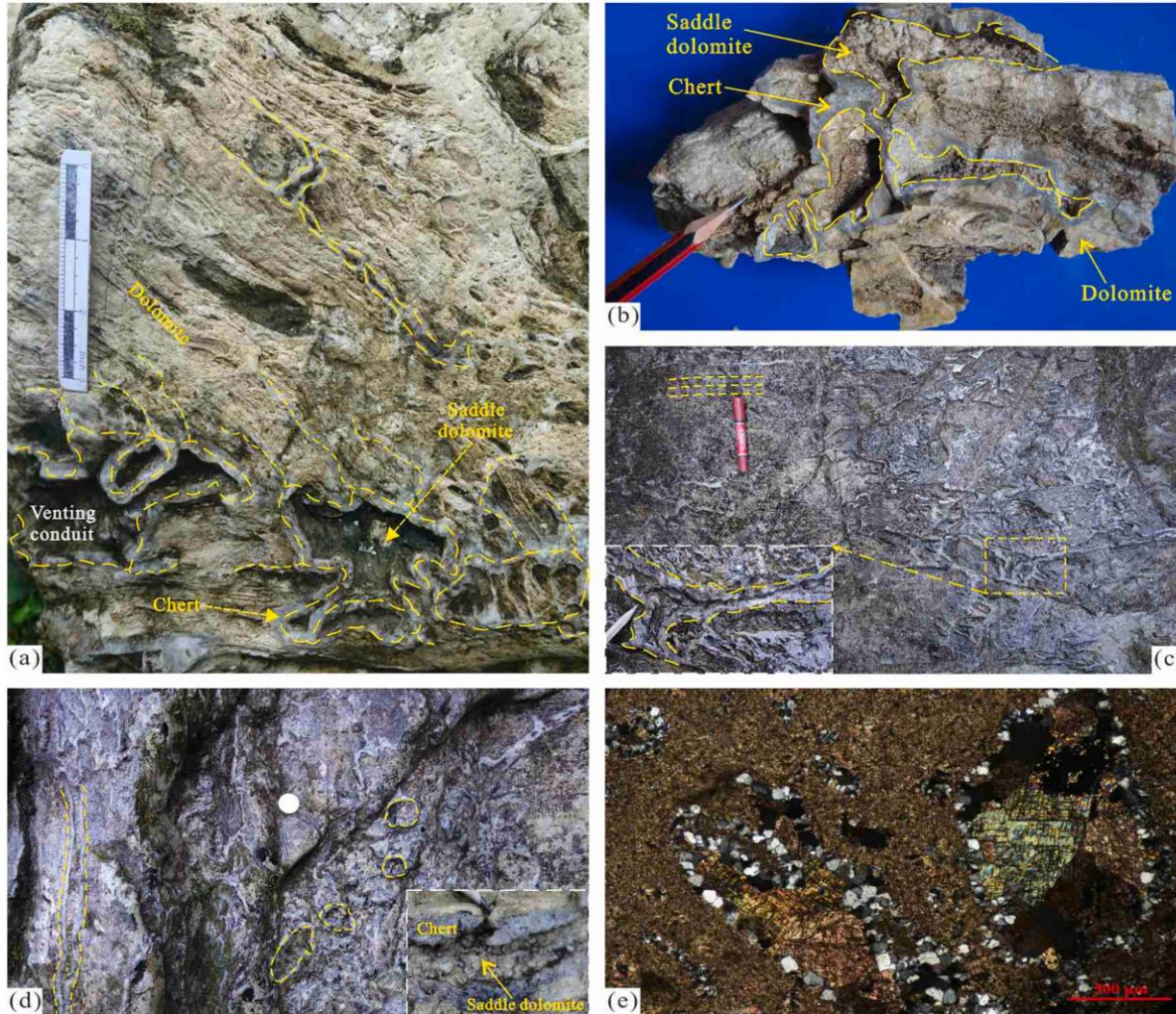
Suspected hydrothermal mineral assemblages in stromatolites.



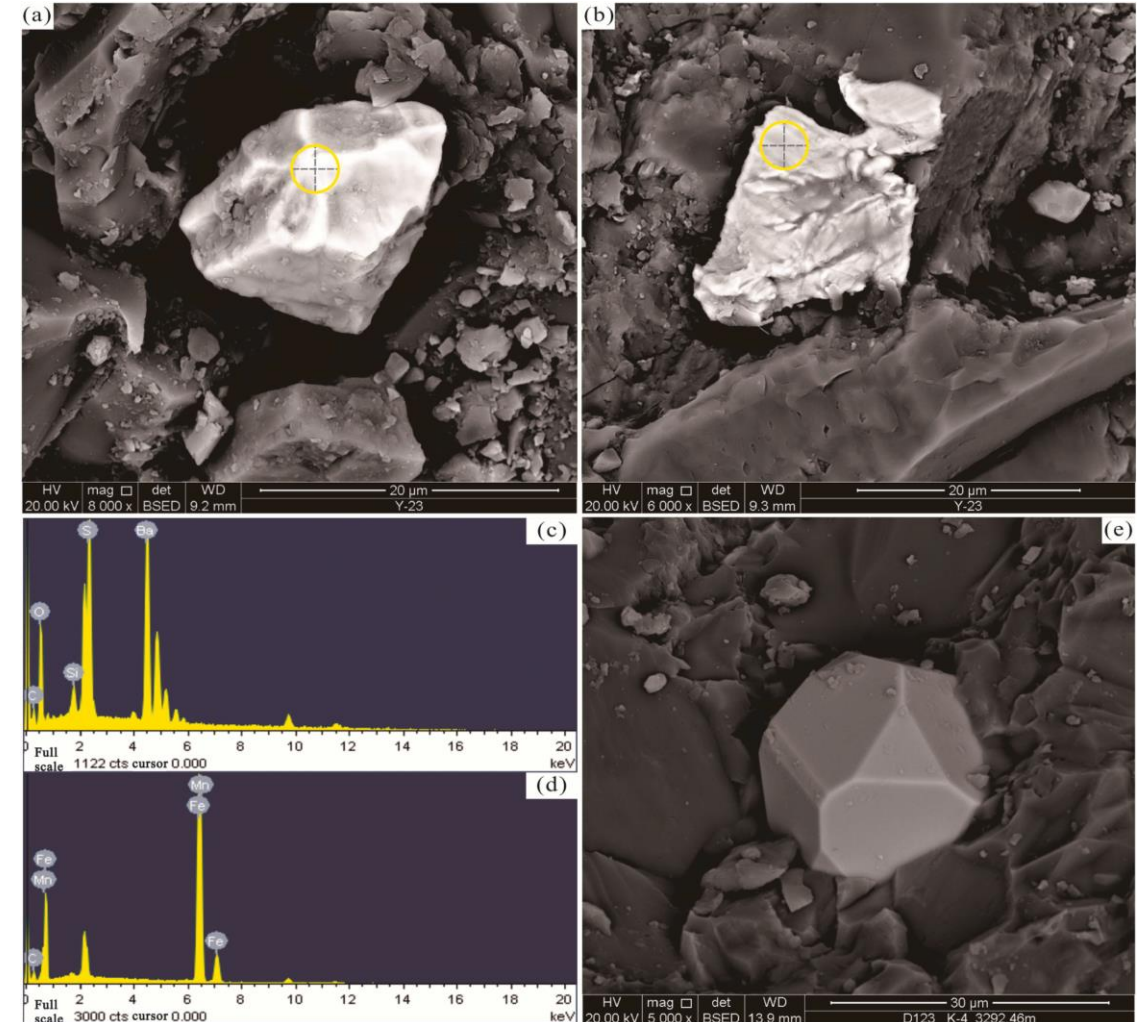
Characteristics of hydrothermal minerals under SEM

3. Platform Margin Hydrothermal Vents

1. Siliceous Hydrothermal Vents Embedded in Microbialites;
2. Synsedimentary-Early Diagenetic Vent Formation in Semi-Lithified Microbialites;
3. Potential Hydrothermal Controls on Microbialite Proliferation (Nutrients, Salinity, Redox, etc.).



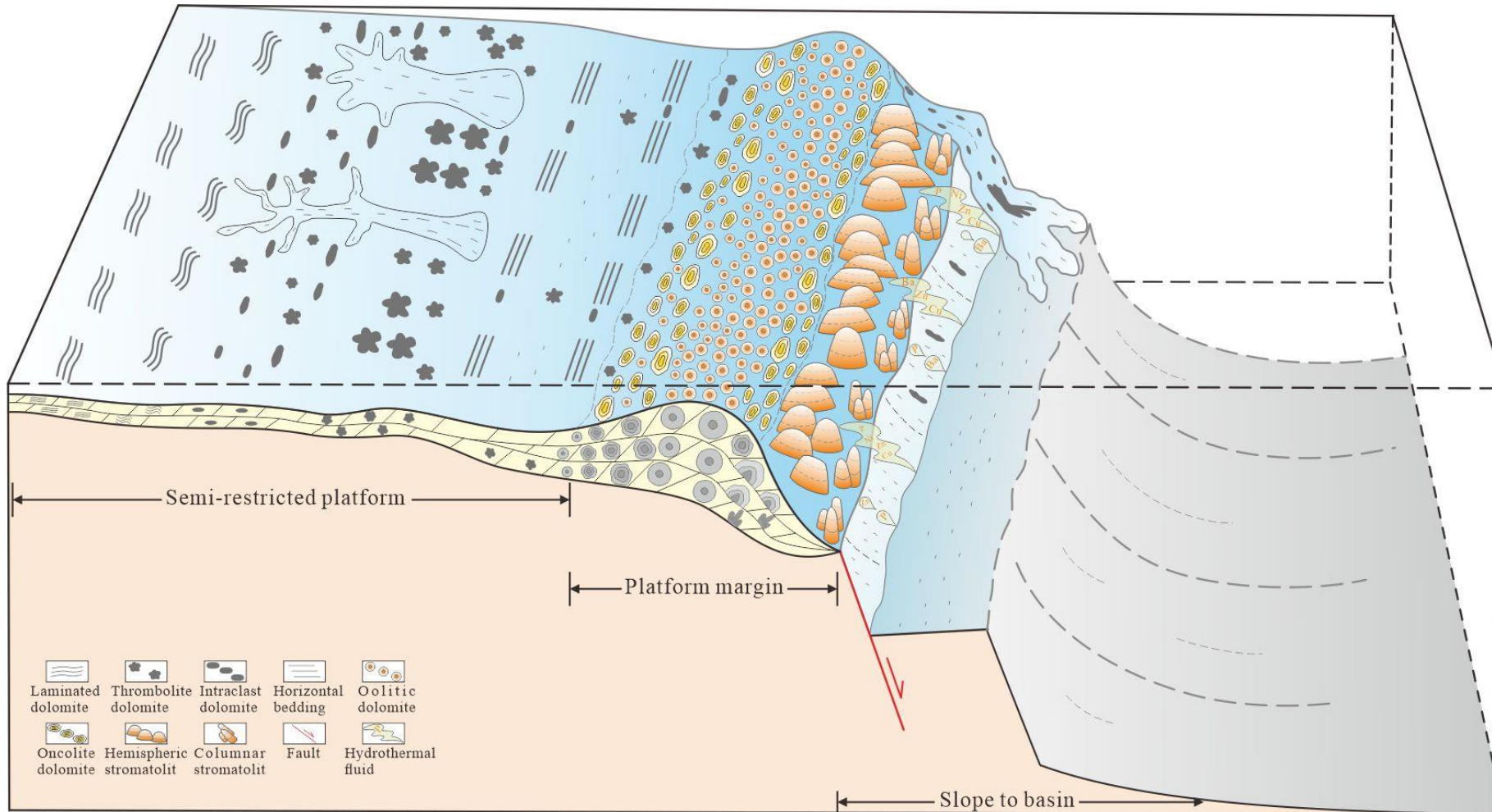
Macro- and Micro-features of Siliceous Hydrothermal Vents at the Platform Margin



Typical Hydrothermal Mineral Assemblages in chert

3. Platform Margin Hydrothermal Vents

Hydrothermal activities may be conducive to the growth of microbialite



Microbialite growth pattern