Petroleum systems III: Reefal trap III

This is the third of six pages using sketches of a potential reefal trap to illustrate the concept of petroleum systems. This page and the next consider the issue of geothermal gradient and resultant issues of timing of petroleum generation.

These sketches are not a time series.

Reefal trap
Shale seal
Potential siliciclastic reservoir
Potential reefal reservoir
Potential migration pathway through reef talus
Potential source rock

Moderate to large geothermal gradient causes maturation; oil migrates to reefal limestone reservoir. Pasteurization preserves crude with degradation.

Paraffin-rich light crude in reefal reservoir
Source rock

Small geothermal gradient delays or does not cause maturation while potential limestone reservoirs lose porosity to diagenesis.

Cemented reefal limestones
Compacted and/or cemented talus limestones
Source rock