Ultraslow Spreading
(<12 mm/yr)

Slow Spreading
(>20 mm/yr)

Amagmatic Accretionary Segment

Non-transform offset

1st order ridge segment

Overlapping segments

2nd order ridge segment
Ultraslow Spreading SW Indian Ridge

Southwest Indian Ridge

Oblique Supersegment Axial Trough

Dredges
- Basalt only
- Basalt/Peridotite
- Peridotite only
- Empty
- New Dredge Hauls

SW Indian Ridge 10° - 25° East
A. Narrowgate Volcanic Segment

B. Block Model

Zone of Lithospheric Necking

Lithosphere-Asthenosphere Boundary
120 Ma, Mid-Cretaceous

Grand Banks

Drilling Legs: 149, 173, 210

Iberia Margin

Gabbroic-Ultramafic! "Amagmatic" extension
Amagmatic accretionary segments seen at ultra slow ridges spreading at an ESR <12 mm/yr are likely the characteristic plate boundary structure of non-volcanic rifted margins.
“Amagmatic”!

• Mostly ultramafic outcrop
• Little or no volcanism
• Volcanism at segment ends, not center (!)
• Very fertile mantle compositions
• Melting very variable
• Melt production, stagnation, etc....