The processes and products of submarine erosions along the southeastern margin of the Southern Welsh Basin : a response to Telychian tectonism

by R A Waters, J R Davies, D Wilson,
J A Zalasiewicz, C J N Fletcher and H F Barron

Telychian turbidite systems of the Southern Welsh Basin are separated from contemporary shelf facies by the complex fault zone known as the Tywi Lineament. Telychian sequences overlying the lineament rest with pronounced discontinuity on older strata, overstepping eastwards first on to Rhuddanian and then progressively older Ashgill formations. The degree of overstep changes abruptly across the major fractures of the lineament. The disconformity is locally overlain by slump, debrite and mass-flow conglomerate facies and comparable facies intertongue with the conformable sequence lying to the west of the Tywi Lineament.

The evidence indicates an erosive origin for the Tywi disconformity. The pattern of Telychian overstep, and character and position of overlying resedimented facies confirm that formation was the result of submarine mass-wasting of emergent west-facing fault scarps. These phenomena record a phase of intra Telychian tectonism manifested by 'east-up' faulting along the basin margin and coincident with the initiation and evolution of southerly-sourced sandstone lobe systems to the west.