Deformation Mechanisms and History of the Purgatory Conglomerate, RI

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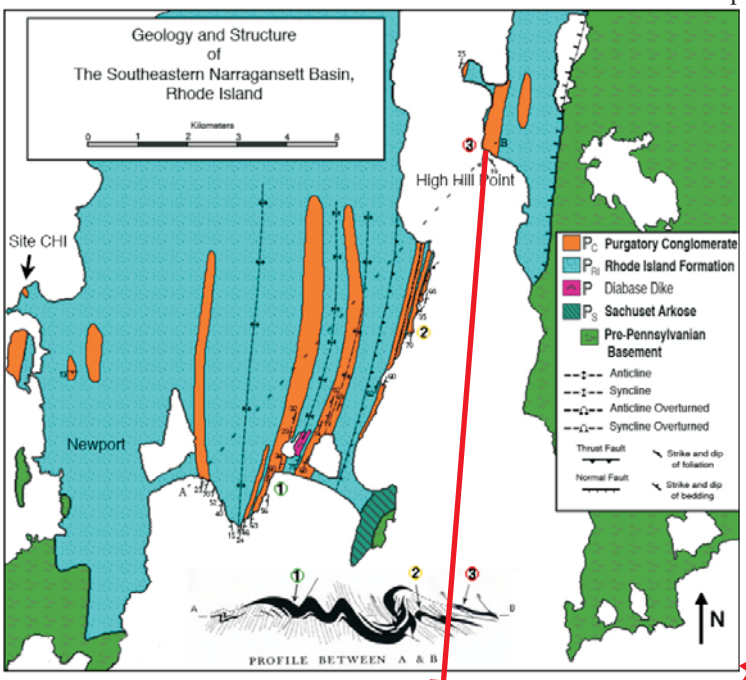

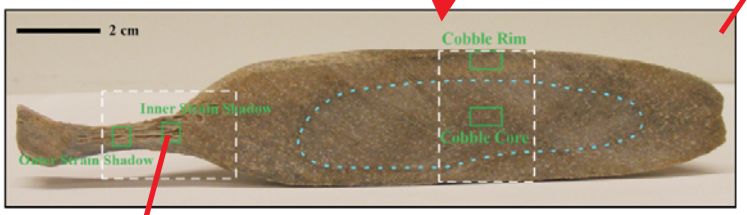

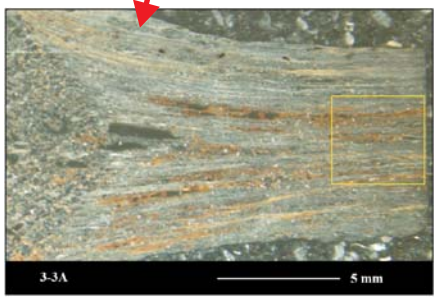

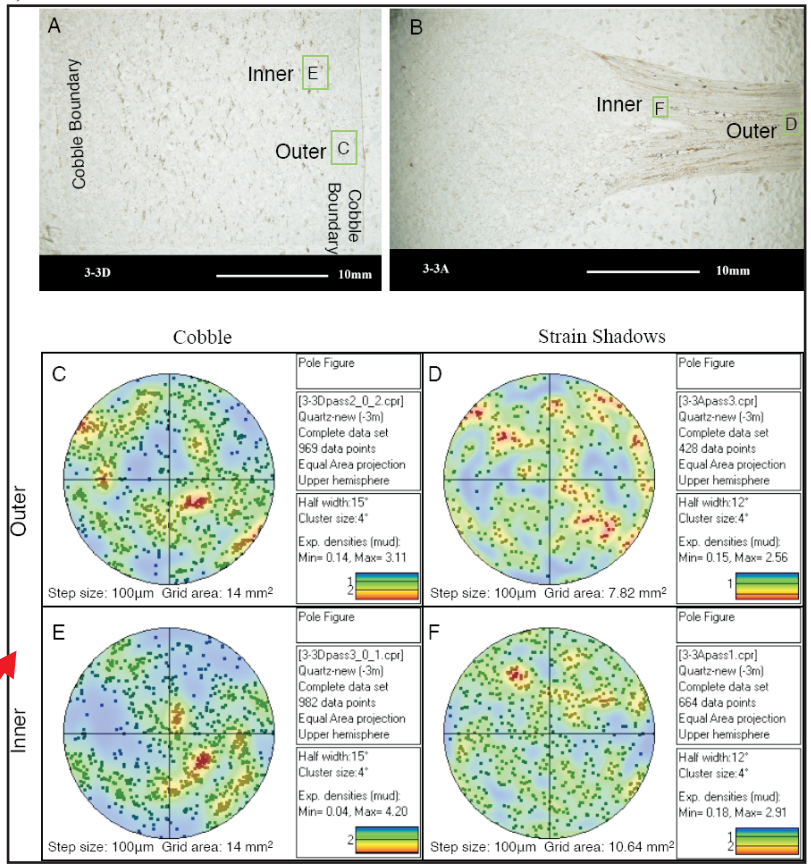

Strain, metamorphic grade and effects of dissolution-precipitation creep (DPC) increase from site 1 to 3 (on geological map) in the Purgatory Conglomerate. Quartz c-axis patterns from cobble cores and rims and inner and outer strain shadows, from all three sites are random. Images and data for a sample from site 3 are shown. Images are a photograph of a hand sample, a cross polarized light image (bottom left) and plane polarized light images of cobble and strain shadow (top right). All quartz c-axes patterns are random as illustrated by the four plots above. The apparent patterns of high-data-density areas (red) vary from sample to sample and are considered insignificant. Quartz dissolution was probably localized along the very edge of the cobble, where mica selvages suggest complete dissolution of all quartz along the rims. Remaining quartz was therefore unaffected by DPC and quartz c-axes patterns are random. Random patterns within the strain shadows suggest that strain shadows are truly localized regions of low strain and/or stress.