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Thin section analysis of probable tsunami sediments from Washington, USA: a technique for identifying and analysing tsunamigenic sediments?

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Tsunami deposits are provisionally distinguished in the field on the basis of anomalous sand horizons, fining-up and fining-landward, coupled with organic-rich, fragmented 'backwash' sediments. This poster presents micromorphological features of a sediment sequence previously interpreted as being of tsunami origin. These characteristics are shown to be consistent with the macro-scale features used elsewhere, but show additional details not seen in standard stratigraphies, including possible evidence for individual waves, possibly wave-magnitude progression, organic fragment alignment and intraclast microstructures. Although replication and more complete studies are needed, this analysis confirms the identification of a tsunami in Willapa Bay in c.1700 AD, while demonstrating a widely applicable technique for confirming or refuting possible tsunami deposits.