Reconstruction of Ghaub glacial diamictites bounding carbonates in the Neoproterozoic Otavi Group of northern Namibia

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Structural analyses showed that Ghaub glacial diamictites in Neoproterozoic Otavi Group of northern Namibia have been compressed up to 55 %, resulting in the total thickness of approximately 160 m at present. The reconstructed thickness of the diamictites is about 280 m, which is the thickest record in Namibia and is the similar thickeness with those in Canada and Australia at Neoproterozoic time, indicating that the glacial deposition appears to be remarkably high in the world wide. Furthermore, calcite fragments within the diamictites showed strongly negative carbon isotope signature (delta13C values around -3permil) as well as those for both Ombaatjie and Maieberg carbonates. It suggests that Ghaub glacial diamictites have been deposited during glacial maxima (with totally frozen seas) in the low-latitude, which appears to be related to 'snowball Earth event'.