

UQ Winter Research Project Description

Project title:	Does the Proterozoic sedimentary record indicate greater abundance of aeolian deposition relative to the Phanerozoic due to the post-Proterozoic development of a terrestrial biosphere?
Hours of engagement & delivery mode	For the Winter program, students will be engaged for 4 weeks only . Hours of engagement must be between 20 – 36 hrs per week and must fall within the official program dates (30 June – 25 July 2025). The Project will be offered on-site or a hybrid of on-site and remote.
Description:	<p>The greater McArthur Basin, and the Beetaloo Sub-basin in particular, preserve relatively undeformed Proterozoic sedimentary rocks. Since 2010 there have been wells drilled into the meso-Proterozoic Roper Group that have provided detailed log, cuttings and core data. New data suggest that prior depositional models, assuming deltaic point-source deposition, are not sufficiently complex to explain observed data.</p> <p>My more recent model (Close & Wilson, 2024) postulates that aeolian deposition may better explain some observations from the relatively recent (post-2010) suite of wells. The model is partly premised on the likelihood that, given that land plants had not yet evolved, sandstorms were far more frequent and played a relatively greater role in sediment deposition relative to the Phanerozoic.</p> <p>This project reviews literature relating to Proterozoic depositional environments and potentially can involve interpretation of digital data and core/cuttings to better describe these environments.</p>
Expected learning outcomes and deliverables:	Improved understanding of: <ul style="list-style-type: none"> • Earth environments in the Proterozoic vs Phanerozoic, • gross depositional environment modelling and interpretation, • wireline log interpretation and the use of total vs spectral gamma-ray logs in particular, and • Sedimentology and sequence stratigraphy. <p>Deliverables will include written and/or powerpoint report of findings.</p>
Suitable for:	This project would require a working level understanding of geology or geography, and the ability to undertake research and literature reviews.
Primary Supervisor:	Prof David Close
Further info:	If you would like applicants to contact your unit for further information, please provide the relevant contact details here. For additional information please contact gas-energy@uq.edu.au.