

## **Early Paleozoic high and ultra-high pressure metamorphism in the North Qaidam and South Altyn Tagh, Western China**

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The South Altyn Tagh (SAT)-North Qaidam (NQD) HP/UHP metamorphic belt extends approximately 1000 km across the northern Tibetan Plateau, and was truncated by the Altyn Tagh sinistral strike-slip fault and splitted it into two distincts, the South Altyn Tagh region and North Qaidam region. Based on rock associations, petrologic criteria and field relationships, six HP/UHP metamorphic units can be distinguished along the South Altyn Tagh (SAT) -North Qaidam (NQD). From west to east, they are: the Jianggalesayi eclogite-gneiss unit (JSU), the Bashiwake garnet peridotite-high pressure granulite unit (BWU), the Yuka eclogite-gneiss (schist) unit (YKU), the Luliangshan garnet peridotite-gneiss unit (LLU), the Xitieshan eclogite-gneiss unit (XTU) and the Dulan eclogite-gneiss unit (DLU). The geological relationship, the petrology and geochronology indicate that six HP/UHP metamorphic units have different rock associations, underwent different P-T conditions and metamorphic history, and supports a correlation of the North Qaidam and South Altyn terranes, offset 350–400 km across the Altyn Tagh fault. Geochronology interpreted to reflect eclogite-facies metamorphism yields ages between 500 and 420 Ma. This implies that a possible multiple or disachronous subduction along the SAT-NQD HP/UHP metamorphic belt.