Table S1 Major rock units of the Zhurihe tectonic mélange

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| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Age of protolith | Tectonic setting | | | Rock type | Symbols in Fig. 9 | Zircon U-Pb ages (Ma) |
| Matrix | Permian | Epicontinental slope | | | Silty slate | ssl P1-2 | < 257 |
| Calcareous siliceous mudstone | csi P1-2 |  |
| Abyssal basin | | | Pinal schist | bm P1-2 |  |
| Chlorite-bearing sericite schist | cbm P1-2 | < 258 |
| Abyssal basin | | | Argillaceous siltstone | sim P1-2 |  |
| Sericite quartz schist | mqs P1-2 |  |
| Chlorite quartz schist | bqs P1-2 |  |
| Albite schist | nqs P1-2 |  |
| MORB-type ophiolite fragments | Mafic volcanics | | Chlorite schist | chs P1-2 | 255 |
| Albite epidote chlorite schist | nhs P1-2 |  |
| Block | Keratophyre | χτP1-2 |  |
| Pillow and vesicular basalt | βP1-2 | 269 |
| Spilite | μβP1-2 |  |
| Mafic intrusion | | Diabase | βμP1-2 |  |
| Gabbro | υP1-2 | 292 |
| Ultramafic rock | | Silicified and carbonated ultramafic rock | ΣP1-2 |  |
| Strongly fractured serpentine | ΣP1-2 |  |
| Ocean island | | | Crystalline limestone | lsSmP1-2 |  |
| Jasperite | jkSmP1-2 |  |
| Basalt | βSmP1-2 | 274 |
| Spilite | μβmP1-2 |  |
| Early Permian | Continental marginal arc | | Dashizhai Group | Silty slate | ssl P1 |  |
| Lithic sandstone | sdP1 |  |
| Rhyolite | λP1 | 282 |
| Ordovician | Abyssal basin | | Haerhada Group | Quartzite | qz∈-O |  |
| Quartz schist | qs∈-O |  |
| Ferruginous quartzite | ibr∈-O |  |