**Supplementary Data Table 1:** Details of samples used in this study. Sample locations are shown in Figure 2.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sample** | **Rock Type** | **Location** | **Approx. Coordinates (WGS84, Zone 42S)** | **Application** |
| 53810 | Meta–volcanic sandstone | Fisher Massif | 455800 N  2073400 E | U–Pb zircon |
| 53816 | Garnet–staurolite schist | Fisher Massif | 455800 N  2073400 E | *P–T–*t  U–Pb monazite |
| 53815 | Cordierite–andalusite–staurolite schist | Fisher Massif | 457000 N  2069800 E | *P–T–*t  U–Pb monazite |