

## Supplementary Material for:

### Palaeomagnetism, geochronology, and geochemistry of the Palaeoproterozoic Rabbit Creek and Powder River dyke swarms – Implications for Wyoming in supercraton Superia

Taylor M. Kilian, Wouter Bleeker, Kevin Chamberlain, David A.D. Evans, and Brian Cousens

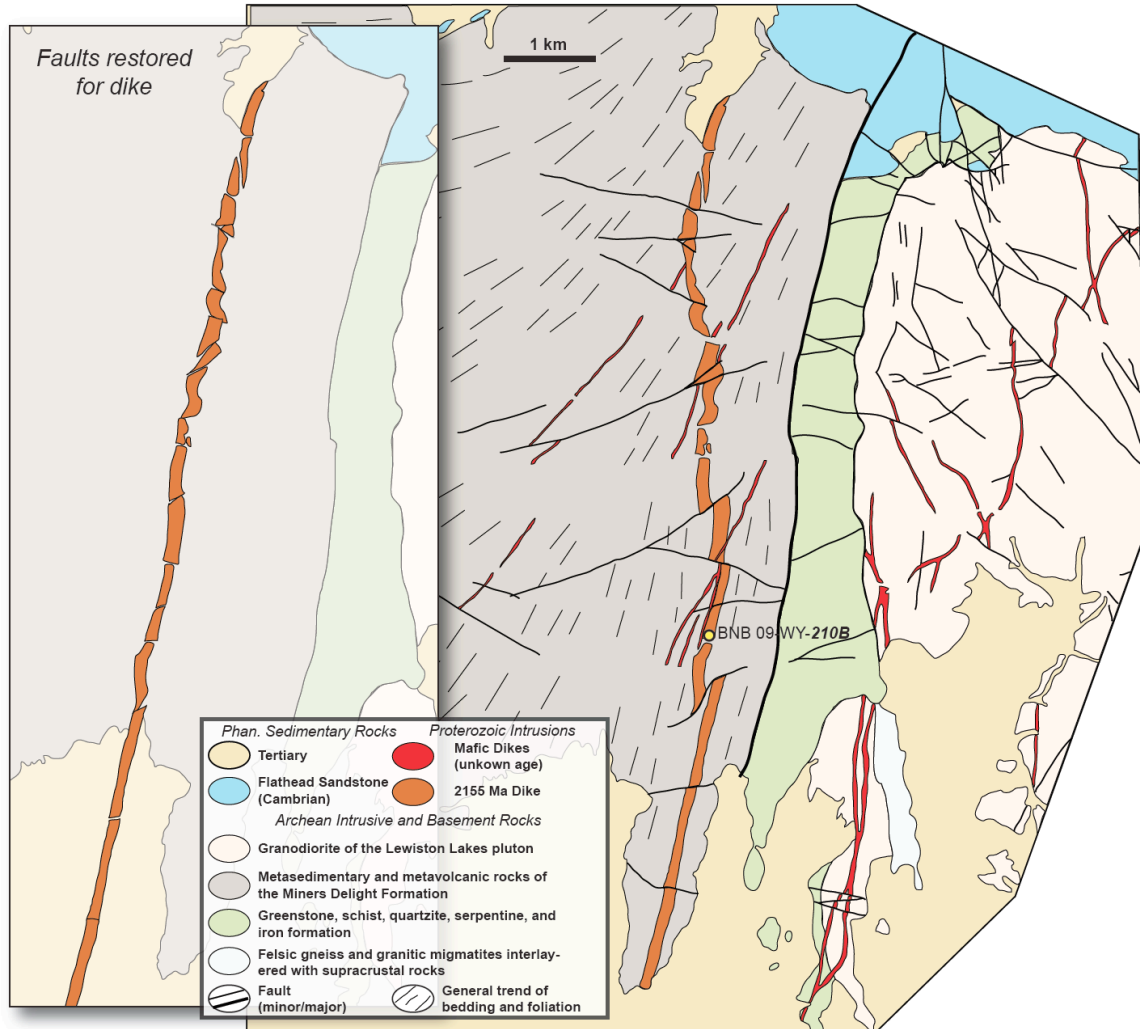
Supplementary Table 1. Palaeomagnetic and geochronologic sample localities

| Site ID              | N<br>deg. | min.   | W<br>deg. | min.   |
|----------------------|-----------|--------|-----------|--------|
| T09BH8               | 44        | 10.700 | 106       | 56.781 |
| T09BH9               | 44        | 14.503 | 106       | 59.069 |
| T09BH11              | 44        | 12.485 | 106       | 54.803 |
| <b>T09BH13</b>       | 44        | 14.720 | 106       | 56.371 |
| <b>T09BH14</b>       | 44        | 20.752 | 106       | 53.721 |
| <i>BNB09-WY-202b</i> | 44        | 20.752 | 106       | 53.721 |
| <b>T09BH15</b>       | 44        | 14.380 | 106       | 55.945 |
| <i>BNB09-WY-204</i>  | 44        | 14.380 | 106       | 55.945 |
| <b>T09BH16</b>       | 44        | 14.743 | 106       | 56.376 |
| <b>T09BH17</b>       | 44        | 14.802 | 106       | 56.368 |
| <b>T09BH18</b>       | 44        | 16.133 | 106       | 56.920 |
| <b>T09BH21</b>       | 44        | 16.104 | 106       | 57.202 |
| <b>T09BH22</b>       | 44        | 9.019  | 107       | 3.522  |
| <i>BNB09-WY-208a</i> | 44        | 9.271  | 107       | 3.331  |
| T09BH23              | 44        | 4.364  | 106       | 59.746 |
| <b>T09BH24</b>       | 44        | 4.182  | 106       | 59.978 |
| <i>BNB09-WY-207b</i> | 44        | 4.182  | 106       | 59.978 |
| <b>T09BH25</b>       | 44        | 3.344  | 107       | 0.722  |
| T09BH26              | 44        | 9.277  | 107       | 3.300  |
| <b>T10BH58</b>       | 44        | 15.616 | 106       | 51.600 |
| <b>T10BH59</b>       | 44        | 15.630 | 106       | 51.389 |
| T10BH73              | 44        | 10.290 | 107       | 2.438  |
| <b>T12SHM1</b>       | 44        | 11.377 | 107       | 0.379  |
| <b>T12SHM2</b>       | 44        | 11.352 | 107       | 0.278  |
| <b>T12SHM3</b>       | 44        | 11.464 | 107       | 0.343  |
| <i>BNB09-WY-210b</i> | 42        | 24.925 | 108       | 30.871 |

All coordinates given in WGS84 datum. All sites in italics refer to geochronologic samples. Sites in bold yielded reliable palaeomagnetic data.



**Supplementary Figure 1:** Photograph taken of South Pass dyke [WGS 84: N 42°24.94', W 108°30.91'] showing quartz diorite core and gabbroic margin. Sample for geochronology was taken near the core of the dyke from the cliff to the near left.



**Supplementary Figure 2:** The South Pass dyke appears to trend north before faults are restored along its length. Displacement of these blocks is likely due to a lateral thrust ramp that underlies this portion of the uplift, or could be due to differential amounts of uplift along the Wind River thrust. The metasedimentary rocks (gray) likely accommodated a large amount of strain through simple shear along bedding planes. Map modified from Hausel (1991).