

*Tectonics*

Supporting Information for

**Late Pleistocene-Holocene Slip Rates in the Northwestern Zagros Mountains (Kurdistan Region of Iraq) Derived from Luminescence Dating of River Terraces and Structural Modeling**

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**Contents of this file**

Tables S1

**Introduction**

This supporting information provides details about the collected river terraces samples, their dosimetry, and their calculated burial ages for K-feldspar using both IRS and pIR methods.

Table S1. Details of the dosimetry for the river terraces samples and their calculated burial ages for K-feldspar using both IRS and pIR methods.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sample | Easting | Northing | Elevation (m) | Terrace level | Elevation above the river (m) | Depth(cm) | K (%) | Th (ppm) | U (ppm) | D (Gy ka-1) | n | OD | Model | De IRSL(Gy) | De pIR-150 (Gy) | De Ratio  pIR/IRSL | Age IRSL  (ka) | Age pIR  (ka) |
| ***Hanara Syncline*** | | | | | | | | | | | | | | | | | | |
| 19K1 | 435898 | 4063552 | 436 | T2 | 26 | 100 | 0.83±0.02 | 3.28±0.09 | 1.13±0.03 | 2.01±0.12 | 20/19 | 0.30/0.29 | FMM/FMM | 100.58±4.72 | 153.53±7.67 | 1.53 | 49.9±2.8 | 76.2±4.5 |
| 19K3 | 436230 | 4064264 | 448 | T3 | 35 | 100 | 0.81±0.02 | 2.95±0.07 | 1.26±0.03 | 2.00±0.12 | 20/20 | 0.27/0.31 | FMM/FMM | 131.75±7.07 | 202.96±9.83 | 1.54 | 65.6±4.1 | 101.3±5.9 |
| 19K5 | 436848 | 4064366 | 418 | T1 | 4 | 30 | 0.87±0.02 | 3.28±0.06 | 1.27±0.05 | 2.11±0.15 | 20/20 | 0.19/0.33 | FMM/MAM | 13.08±0.83 | 15.72±0.79 | 1.20 | 6.2±0.4 | 7.4±0.4 |
| 19K7 | 437312 | 4064660 | 422 | T1 | 7 | 500 | 0.73±0.02 | 2.86±0.09 | 0.92±0.04 | 1.77±0.29 | 20/20 | 0.80/0.78 | MAM/MAM | 14.88±2.37 | 31.41±3.75 | 2.11 | 8.4±1.4 | 17.7±2.2 |
| 19K9 | 437575 | 4065595 | 444 | T3 | 27 | 500 | 0.61±0.01 | 2.38±0.11 | 1.00±0.03 | 1.65±0.13 | 20/20 | 0.49/0.45 | FMM/FMM | 127.32±9.64 | 150.87±10.60 | 1.18 | 77.0±6.3 | 91.2±7.0 |
| ***Harir Syncline*** | | | | | | | | | | | | | | | | | | |
| 19K13 | 429967 | 4056227 | 403 | T1 | 12 | 200 | 0.81±0.02 | 3.45±0.09 | 1.13±0.02 | 1.98±0.10 | 20/20 | 0.20/0.19 | FMM/FMM | 26.24±0.98 | 48.47±1.94 | 1.85 | 13.2±0.6 | 24.4±1.2 |
| 19K15 | 427790 | 4055666 | 396 | T3 | 6 | 500 | 1.19±0.03 | 4.14±0.11 | 1.04±0.03 | 1.65±0.15 | 20/20 | 0.31/0.37 | MAM/FMM | 103.68±6.01 | 187.92±15.62 | 1.81 | 62.7±4.1 | 113.6±10.1 |
| 19K17 | 427977 | 4055684 | 422 | T3 | 32 | 500 | 0.73±0.02 | 2.81±0.10 | 1.06±0.02 | 1.80±0.16 | 20/19 | 0.15/0.19 | CAM/MAM | 115.10±4.24 | 142.22±12.03 | 1.23 | 63.9±3.1 | 79.0±7.2 |
| 19K19 | 428466 | 4055522 | 395 | T1 | 5 | 200 | 0.57±0.01 | 2.27±0.08 | 1.14±0.05 | 1.70±0.20 | 20/20 | 0.66/0.68 | MAM/MAM | 22.03±2.53 | 28.42±3.81 | 1.29 | 13.0±1.5 | 16.8±2.3 |
| 19K21 | 427000 | 4053557 | 434 | T4 | 48 | 200 | 0.76±0.02 | 2.89±0.14 | 1.05±0.04 | 1.88±0.15 | 23/23 | 0.34/0.33 | FMM/FMM | 256.81±16.44 | 311.22±21.77 | 1.21 | 136.3±9.8 | 165±12.7 |
| 19K23 | 425761 | 4052510 | 393 | T2 | 9 | 200 | 1.11±0.02 | 3.66±0.18 | 1.43±0.06 | 2.33±0.20 | 20/20 | 0.20/0.26 | MAM/MAM | 61.26±4.95 | 84.71±5.98 | 1.38 | 26.3±2.3 | 36.4±2.8 |
| 19K29 | 426789 | 4053574 | 406 | T2 | 20 | 300 | 0.68±0.02 | 2.89±0.13 | 1.08±0.04 | 1.80±0.23 | 23/23 | 0.37/0.40 | MAM/MAM | 75.08±7.70 | 83.72±10.19 | 1.12 | 41.8±4.5 | 46.5±5.9 |
| 19K31 | 423132 | 4051982 | 392 | T2 | 10 | 100 | 0.89±0.02 | 3.17±0.17 | 1.18±0.05 | 2.07±0.26 | 23/22 | 0.30/0.37 | MAM/MAM | 55.16±6.37 | 73.85±8.79 | 1.33 | 26.7±3.2 | 35.7±4.4 |
| ***Safin Antticline*** | | | | | | | | | | | | | | | | | | |
| 19K25 | 419117 | 4051282 | 410 | T4 | 42 | 400 | 1.10±0.02 | 2.84±0.11 | 0.84±0.05 | 2.09±0.23 | 20/19 | 0.35/0.28 | FMM/FMM | 125.84±5.63 | 147.69±15.24 | 1.17 | 60.2±3.4 | 70.7±7.7 |
| ***Sarta Anticline*** | | | | | | | | | | | | | | | | | | |
| 19K27 | 405705 | 4046668 | 376 | T4 | 42 | 300 | 0.95±0.02 | 3.52±0.09 | 1.00±0.03 | 2.06±0.21 | 20/20 | 0.34/0.30 | MAM/MAM | 64.28±6.13 | 103.36±9.58 | 1.60 | 31.2±3.1 | 50.2±4.9 |

Abbreviations: n: number of aliquots; OD: observed overdispersion, De: Equivalent Dose; FMM: Finite Mixture Model; MAM: Minimum Age Model; CAM: Central Age Model.