**Supplementary Information Table S4:** Profile description at JFL3.

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| Unit (comparison to KAT1) | Depth (m) | Description |
| 1 (S2) | 0-1.65 | Beige fine aeolian sand with dune cross bedding and occasional small carbonate nodules. |
| 2 (S3) | 1.65-1.75 | Thin granule to pebble conglomerate scour fills. |
| 3 (S3) | 1.75-3.3 | Poorly stratified fine sand with moderate pedogenesis and common carbonate nodules and rhizoliths. |
| 4 (S4/S5) | 3.3-3.4 | Thin, clast supported quartzite pebble conglomerate, down cutting to the west. |
| 5 (S5/S6) | 3.4-3.5 | Fine sand with carbonate nodules. |
| 6 (S6) | 3.5-3.8 | Matrix supported well rounded quartzite pebble conglomerate with buff to beige fine sand matrix. |
| 7 (S7) | 3.8-4 | Fine silty sand with pedogenic carbonate nodules and occasional quartzite granules. |