

1 **On the Holocene Evolution of the Ayeyawady Megadelta**

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27 *submitted to *Earth Surface Dynamics*

28 Supplementary Materials

29 Fig. S1. Trench and drill sites location and other locales mentioned in text.
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Table S1. Radionuclide activities obtained from high resolution gamma spectrometry. These values were used to derive total dose rates to quartz and K-feldspar grains presented in Table 2 using the conversion factors from Guérin et al. (2011). For K-feldspar the internal beta dose rate was estimated using an internal K content of $12.5 \pm 0.5\%$ (Huntley and Baril, 1997). A cosmic ray dose rate component was also incorporated (Prescott and Hutton, 1994)

Sample code	U-238 (Bq/kg)	Ra-226 (Bq/kg)	Pb-210 (Bq/kg)	Th-232 (Bq/kg)	K-40 (Bq/kg)
17 72 F01	16 ± 15	27.2 ± 1.2	n.a. ± n.a.	48.0 ± 1.3	450 ± 22
17 72 F02	36 ± 5	32.4 ± 0.9	39 ± 6	52.3 ± 0.9	513 ± 14
17 72 F03	17 ± 4	18.6 ± 0.8	17 ± 5	32.2 ± 0.7	518 ± 13
17 72 F04	25 ± 3	26.6 ± 0.5	27 ± 4	45.8 ± 0.6	493 ± 10
17 72 F05	23 ± 3	23.2 ± 0.6	25 ± 4	43.9 ± 0.6	476 ± 10
17 72 F06	8 ± 4	13.7 ± 0.6	15 ± 5	28.0 ± 0.7	562 ± 14
17 72 F07	24 ± 4	16.3 ± 0.8	14 ± 5	36.3 ± 0.7	555 ± 14

References:

Huntley, D. J., Baril, M. R., 1997. The K content of the K-feldspars being measured in optical dating or in thermoluminescence dating. *Ancient TL* 15: 11–13.
Guérin G, Mercier N, Adamiec G. 2011. Dose-rate conversion factors: update. *Ancient TL* 29: 5–8.
Prescott JR, Hutton JT. 1994. Cosmic ray contributions to dose rates for luminescence and ESR dating: large depths and long-term time variations. *Radiation Measurements* 23: 497–500

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