Supplementary Information Figure Legends

Figure S1. Results of the preheat plateau test on single aliquots of the Lake Little Llangothlin sample L-EVA1231 (field code LL4). There does not appear to be a dependence of equivalent dose with preheat temperature, although more inter-aliquot scatter was observed for the preheat temperature of 280°C. Therefore a higher preheat temperature (260˚C) was chosen for subsequent SAR measurements; the cutheat temperature was 220˚C.

Figure S2. Dose recovery test results for L-EVA1228, illustrated as a radial plot. The black line corresponds to the administered dose and the shaded line to 2σ on either side of the central age.

Table S1. Results of the Finite Mixture Modelling. The dominant age populations used for age calculation are highlighted in italics.

12 **Supporting Information Legends (File S1)**

13 **Table S1.** Overdispersion values based on dose distributions from the LLL OSL samples.

Sample code	Overdispersion (%)
L-EVA1228 (LL1)	79.9
L-EVA1229 (LL2)	44.4
L-EVA1230 (LL3)	63.9
L-EVA123 (LL4)	61.4

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16 **Table S2.** Results from the Finite Mixture Modelling. The dominant age populations used for
17 age calculation are highlighted in italics; the resulting ages for the dominant and second major
18 age populations are also given for comparison.

Sample code	Number of components	De (Gy)	% population	Age (ka)	BIC
L-EVA1228 (LL1)	4	1.4±0.1 2.8±0.3 *6.1±0.6* 13.4±1.6	22.4 28.7 *32.5* 16.5	1.2 ± 0.1 2.3 ± 0.3 *5.1 ± 0.5* 11.1 ± 1.6	155
L-EVA1229 (LL2)	2	5.7±0.3 *19.2±0.4*	12.8 *87.2*	5.6 ± 0.5 *18.9 ± 1.2*	101
L-EVA1230 (LL3)	3	4.5±0.3 11.8±0.5 *26.9±0.9*	12.2 39.0 *48.8*	 9.1 ± 0.7 *20.6 ± 1.4*	234
L-EVA1231 (LL4)	2	7.8±0.5 *22.9±1.2*	43.2 *56.8*	8.0 ± 0.7 *23.4 ± 1.8*	128

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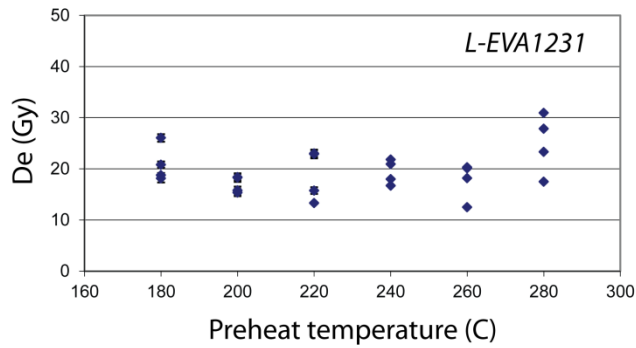
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22 **Figure S1.** Results of the preheat plateau test on single aliquots of the Lake Little Llangothlin

23 sample L-EVA1231 (field code LL4). There does not appear to be a dependence of equivalent

24 dose with preheat temperature, although more inter-aliquot scatter was observed for the preheat

25 temperature of 280°C. Therefore a higher preheat temperature (260˚C) was chosen for

26 subsequent SAR measurements; the cutheat temperature was 220˚C.

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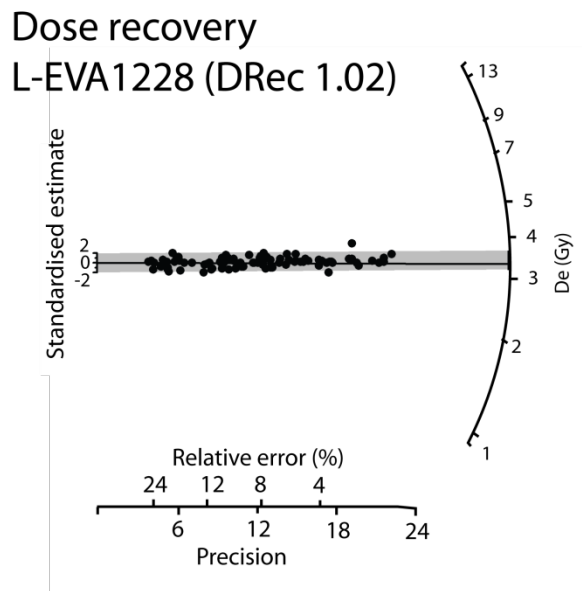
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30 **Figure S2.** Dose recovery test results for L-EVA1228, illustrated as a radial plot. The black line

31 corresponds to the administered dose and the shaded line to 2σ on either side of the central age.

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34   Supplementary Information - References

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