ERRATUM

Why most "dry" rocks should cool "wet", by M.J. Kohn (vol. 84, 570–580, 1999)

In comparing plots of oxygen isotope diffusivities vs. temperature in Kohn (1999) vs. Peck et al. (2003; also Watson and Cherniak 1997), it was realized that the tabulated pre-exponential terms for oxygen diffusion rates in zircon for wet and buffered conditions were systematically too high by 2 orders of magnitude in Kohn (1999).

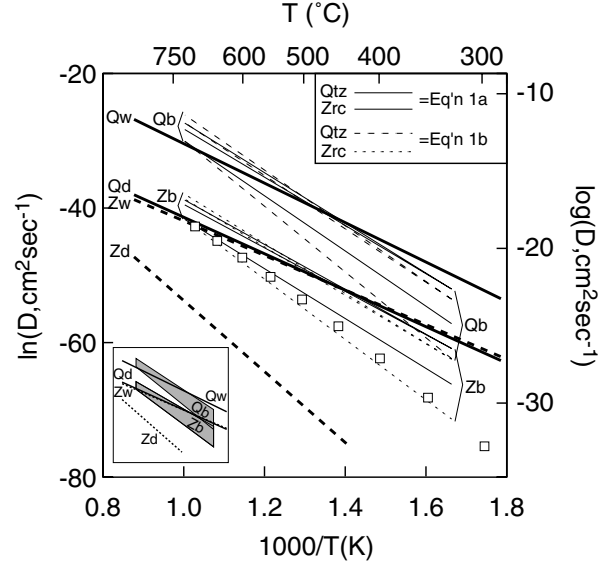
The correct table for zircon should read:

TABLE 2. Calculated T_c for zircon during "dry," "wet," and buffered cooling

Model type	D_o (cm²/s)	E (KJ)	T_c (°C)
"dry" (P_{H_2O} < 1 bar)	1.33	448	894
"wet" (P_{H_2O} = 1 kbar)	5.5×10^{-8}	210	588
Buffered, Grt + Chl pelite			
Eq. 1a	2.1×10^{-3}	273	557
Eq. 1b	2.5×10^{-2}	297	578
Buffered, Kfs+Ms pelite			
Eq. 1a	3.8×10^{-4}	265	568
Eq. 1b	2.9×10^{-2}	294	566
Buffered, Hbl+Pyx metabasite			
Eq. 1a	1.1×10^{-2}	309	628
Eq. 1b	4.4×10^{1}	373	636

Note that this correction reconciles much of the difference inferred by Peck et al. between their empirical diffusion rates, and the buffered model predictions for a low f_{H_2O} rock.

This also affects Figure 1, which as corrected is:



REFERENCES CITED

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