

## Supplement 1

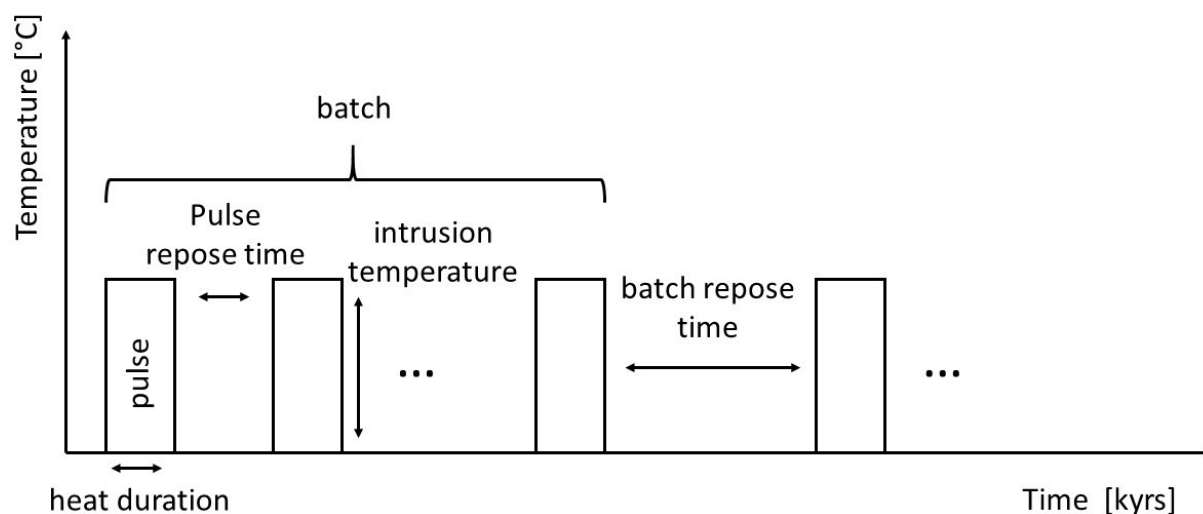
“Reaction progress of clay minerals and carbonaceous matter in a contact metamorphic aureole (Torres del Paine Intrusion, Chile)”

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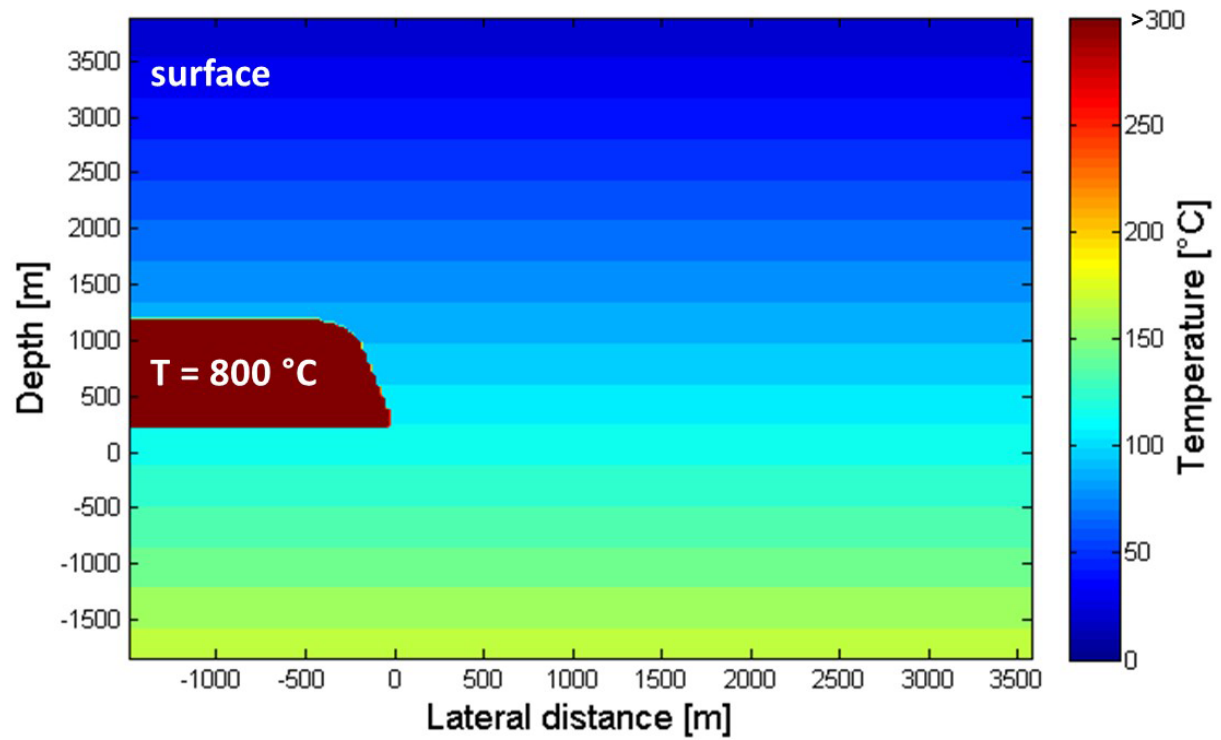
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**Table S1.** GPS coordinates of all samples used in this study. UTM 18S corresponds to the sector 18F.

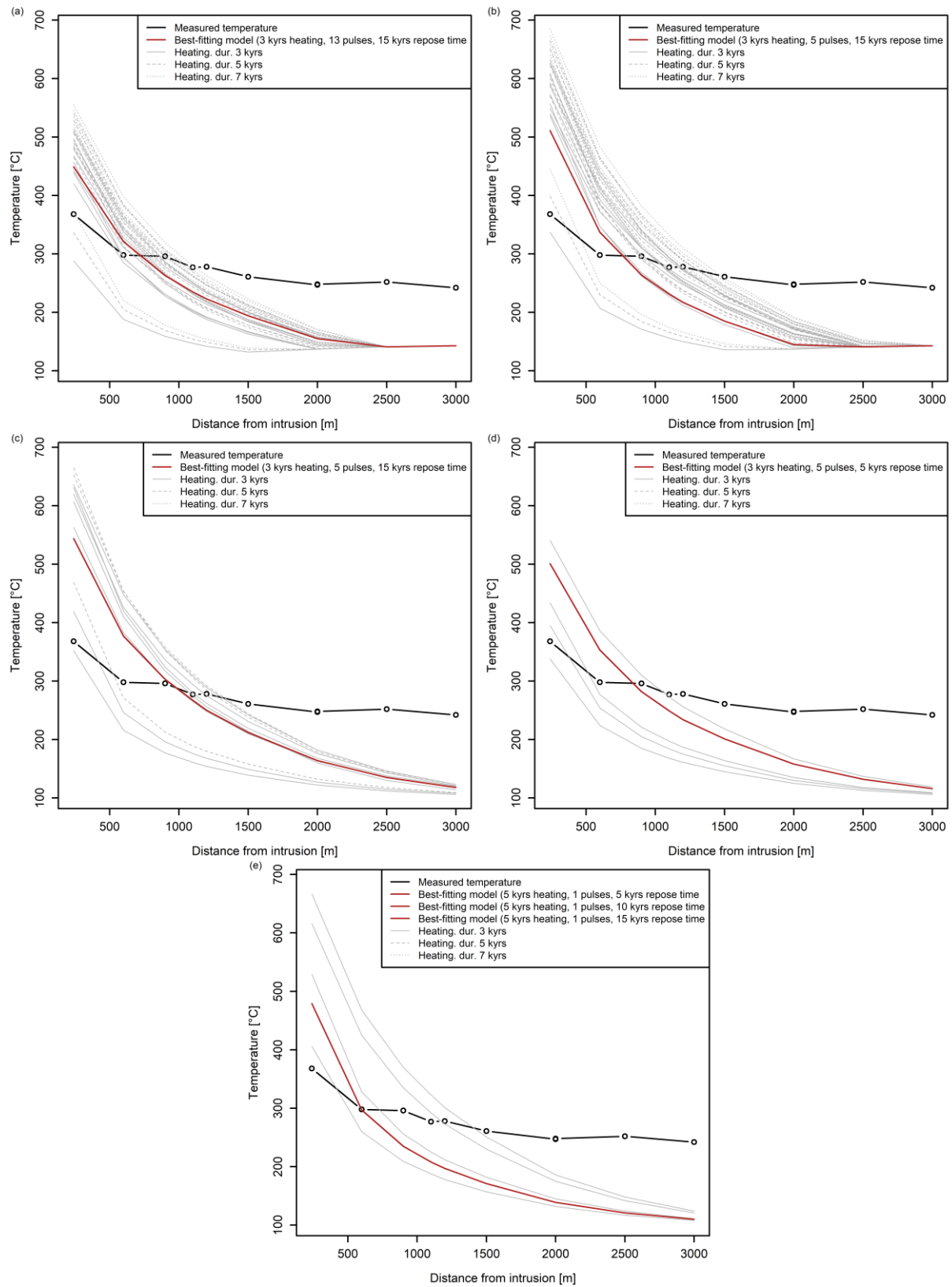
Sample ID	UTM 18S	
CPA.16-9	6464876	4351220
CPA.16-10	6461492	4350981
CPA.16-11	6466696	4350923
CPA.16-12	647349	4350213
CPA.16-15	6448226	4347435
CPA.16-16	6444707	4347505
CPA.16-17	6443755	4347591
CPA.16-18	6442943	4347774
09PR44	644011	4348432
L47	643319	4346919
09TP19	643815	4352284
CPA.15-10	626279	4353526
CPA.15-11	626703	4354581
CPA.15-12	626471	4354326
CPA.15-13	626155	4353853
CPA.15-15	626579	4352920
09PR23	643848	4351936



**Figure S1.** General setup of the intrusion modelling steps.



**Figure S2.** Setup of the intrusion model at time  $t = 0$ , here with an intrusion temperature of 800 °C, showing a normal geothermal gradient.



**Figure S3.** Comparison between measured Raman temperatures and modelled temperatures in the aureole of the Torres del Paine Intrusion, with the best-fitting model in each case marked in red. (a) 1-batch model at 800 °C intrusion temperature. (b) 1-batch model at 1000 °C intrusion temperature. (c) 2-batch model at 1000 °C intrusion temperature. (d) 3-batch model at 800 °C intrusion temperature. (e) 3-batch model at 1000 °C intrusion temperature.