

## Supplementary Materials

Table S1. Chemical composition of the basaltic rocks used in this study (weight %).

SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	MnO	MgO	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>
53.8	1.27	14.7	14.7	0.222	4.08	9.17	2.17	0.44	0.119

Table S2. The measured concentrations of Si, Na, Al, K, Fe and P in the cooling bath measured at 1271 hours later and the calculated concentrations of the elements in the original 340 °C fluids in the reaction bath.

	C <sub>measured</sub> (mol/L)	C <sub>original</sub> (mol/L)
Si	2.63.E-02	3.36.E-02
Na	9.27.E-04	1.18.E-03
Al	3.11.E-04	3.98.E-04
K	1.07.E-04	1.36.E-04
Fe	4.26.E-05	5.44.E-05
P	1.50.E-05	1.89.E-05