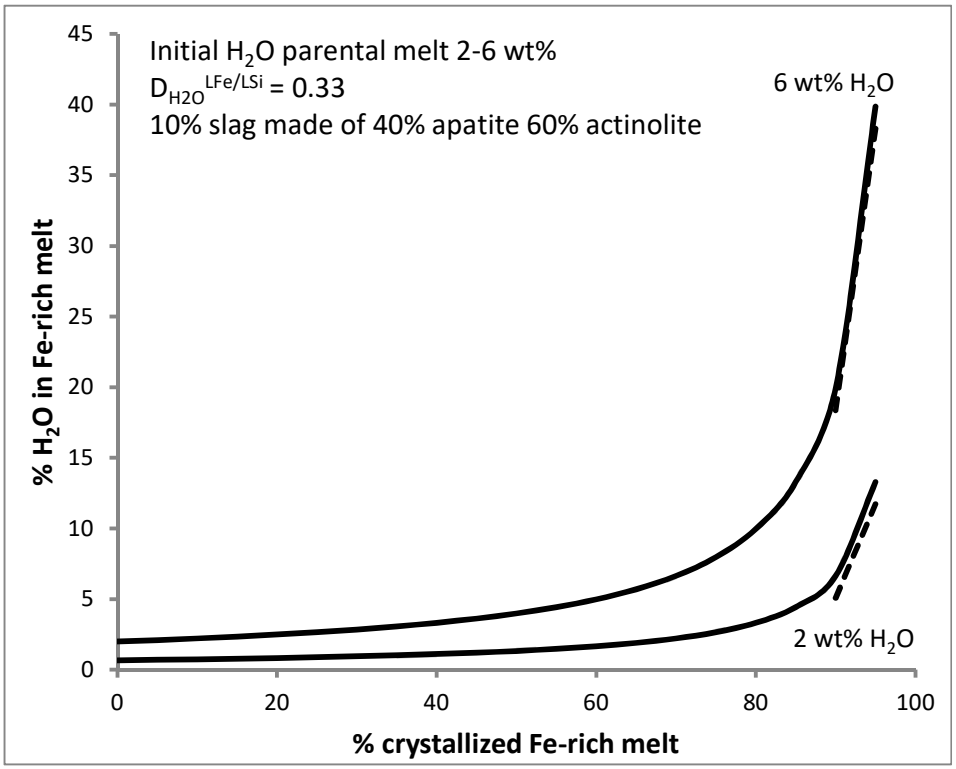

SI Figure 2. Calculation of the water content of the residual melt during the separation of the dense, magnetite-like liquid. The separation of anhydrous magnetite increases gradually the XH_2O of the residual melt leading to unavoidable fluid separation since both actinolite and fluorapatite are unable to host such large amounts of water. Calculations made assuming an initial water content of 2-6 wt% in the parental melt and a $D^{H2O}_{LFe/LSi}$ of 0.33. Crystallization of 10% "slag" made of 40% apatite and 60% actinolite (dashed line) does not significantly affect the calculated trends.