6 January, 2026

New Models:

- This release introduces normative mineralogy calculations. There are currently two calculation schemes available: Petrolog Default and Verma et al., 2003. A brief description of the Petrolog Default scheme is provided in the manual. The full list of included minerals is provided in the output files.
- H_2O-CO_2 fluid - silicate melt equilibrium model of Allison et al., 2019
- H_2O fluid - silicate melt equilibrium model of Lesne et al., 2011
- Fe oxidation model in silicic melts of Borisov et al., 2025

Improvements to the algorithm:

- In Dixon (1997) fluid solubility model, (1) changed the upper SiO_2 limit for the application of the alkaline correction to 53 wt% from 49 wt%, and (2) increased the lower limit for Π from 0 to 0.4.
- Calculations using equilibrium crystallisation with high-CO2, very low-H2O fluids no longer produce periodic sharp small changes in the fluid composition, displaying a smooth evolutionary path instead.

Changes to the GUI:

- ‘Normative Mineralogy’ tab is added to the main Petrolog4 window.

Bug fixes:

- Setting the oxidised sulphur (SO3) content manually using the Volatiles and Trace Elements form, led to an incorrect conversion to the S content in the starting composition. This is now fixed.