Cerro Galan ignimbrite is a large volume ignimbrite (~630 km³) located in the Puna plateau of northwestern Argentina, erupted ~2.1 Ma from the Cerro Galan caldera. The ignimbrite is rhyodacitic in composition, characterized by massive facies and up to 200 m thick.

The emplacement temperature of the ignimbrite was evaluated by progressive thermal demagnetization (PTD) analysis on the lithic clasts incorporated into the deposits. Clasts have generally one single magnetic component, oriented close to the expected geomagnetic field, suggesting that during their deposition they have been heated up to close or above the Curie temperature of the magnetic minerals (T>=550-630°C). We conclude that the Cerro Galan ignimbrite was emplaced at temperatures equal or higher than 630°C, assuming a thermal homogeneity of the deposit after the emplacement.

Anisotropy of Magnetic Susceptibility results show a strong uniformity throughout the ignimbrite, with the exception of sites where the topographic control on the emplacement mechanism is dominant. Flow directions results show a radial pattern around the caldera, in proximal sites, whereas in distal sites the directions are strongly deviated by the paleotopography. The strong control of the paleotopography revealed in this study, together with field evidences of low level of turbulence and high emplacement temperatures estimations, indicate that the flow was highly concentrated throughout the flow path.