Supplementary material for

Soil type, bulk density and drainage effects on relative gas diffusivity and N₂O emissions

Camille Rousset^{A,D}, Tim J. Clough^A, Peter R. Grace^B, David W. Rowlings^B, and Clemens Scheer^{B,C}

^ADepartment of Soil and Physical Sciences, Lincoln University, PO Box 85084, Lincoln, 7647, New Zealand.

^BQueensland University of Technology, Institute for Future Environments, 2 George Street, Brisbane, Qld, 4000, Australia.

^CInstitut für Meteorologie und Klimaforschung, Department Atmosphärische Umweltforschung (IMK-IFU), KIT-Campus Alpin, Garmisch-Partenkirchen, Germany.

^DCorresponding author. Email: <u>Camille.Rousset@lincolnuni.ac.nz</u>

Figure S1. Relationship between measured N₂O-N fluxes and measured matric potential (-kPa) for each soil separately and at varying soil ρ b (Mg m⁻³). Numerals in the legend indicate soil ρ b treatments applied (Mg m⁻³). Error bars = s.e.m., n = 4.



Figure S2. Relationship between measured N₂O-N fluxes and volumetric water content (m³ m⁻³) for each soil separately and at varying soil ρb (Mg m⁻³). Numerals in the legend indicate soil ρb treatments applied (Mg m⁻³). Error bars = s.e.m., n = 4.

