Thermopower across the pseudogap critical point of La(1.6-x)Nd(0.4)Sr(x)CuO(4): Evidence for a quantum critical point in a hole-doped high-Tc superconductor OLVIER CYR-CHONIERE, RAMZY DAOU, FRANCIS LALIBERTÉ, DAVID LEBEOUF, NICOLAS DOIRON-LEYRAUD, Université de Sherbrooke, JIAQIANG YAN, JIANSHI ZHOU, JOHN B. GOODENOUGH, Texas Material Institute, U of Texas at Austin, LOUIS TAILLEFER, Université de Sherbrooke — The thermopower $S$ of the high-Tc superconductor La(1.6-x)Nd(0.4)Sr(x)CuO(4) was measured as a function of temperature $T$ near its pseudogap critical point, the critical hole doping $p^*$ where the pseudogap temperature $T^*$ goes to zero. Just above $p^*$, $S/T$ varies as $\ln(1/T)$ over a decade of temperature. Below $p^*$, $S/T$ undergoes a large increase below $T^*$. As with the temperature dependence of the resistivity, which is linear just above $p^*$ and undergoes a large upturn below $T^*$, these are typical signatures of a quantum phase transition. This suggests that $p^*$ is a quantum critical point below which some order sets in, causing a reconstruction of the Fermi surface, whose fluctuations are presumably responsible for the linear-$T$ resistivity and logarithmic thermopower. We discuss the possibility that this order is the “stripe” order known to exist in this material.