Low Temperature Specific heat of U$_2$PtC$_2$ ROMAN MOVSHOVICH, FRANZISKA WEICKERT, ERIC D. BAUER, JOE D. THOMPSON, NI NI, FILIP RONNING, Los Alamos National Laboratory — We present specific heat data of the moderately heavy superconductor U$_2$PtC$_2$ with $T_c = 1.34$ K, and normal state Sommerfeld coefficient $\gamma = C/T \approx 150$ mJ/mol K$^2$, at temperatures down to below 100 mK and in fields up to 9 T, exceeding the superconducting critical field. Zero-field data show systematic deviation from the weak-coupling BCS fit, with excess contribution at low temperature. The field evolution of the residual $\gamma(0,T=0)$ shows $\sqrt{H}$ dependence for $H < 1$ T. Together, these results suggest an unconventional nature of superconductivity in this compound.