Abstract Submitted for the MAR16 Meeting of The American Physical Society

Scattering rates and specific heat jumps in high- $T_c$  cuprates<sup>1</sup> JAMES STOREY, Victoria University of Wellington — Inspired by recent ARPES and tunneling studies on high- $T_c$  cuprates, we examine the effect of a pair-breaking term in the self-energy on the shape of the electronic specific heat jump. It is found that the observed specific heat jump can be described in terms of a superconducting gap, that persists above the observed  $T_c$ , in the presence of a strongly temperature dependent pair-breaking scattering rate. An increase in the scattering rate is found to explain the non-BCS-like suppression of the specific heat jump with magnetic field. A discussion of these results in the context of other properties such as the superfluid density and Raman spectra will also be presented.

<sup>1</sup>Supported by the Marsden Fund Council from Government funding, administered by the Royal Society of New Zealand

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Date submitted: 05 Nov 2015

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