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Dear Committee Member:

As a member of the rock mechanics community, and as a practitioner/researcher with an interest in underground science for the past quarter-century, I am declaring my interest in proposing and conducting experiments at the proposed Kimballton DUSEL site. Specifically, my interests are in better understanding the roles of stress and fluid chemistry in controlling the evolution of the strength and fluid transport behavior in fractured rocks. These effects exert important controls on diverse applications including resource recovery (petroleum, gas, water, ores *via in situ* mining, geothermal energy), aquifer remediation, natural hazards (earthquake mechanics), and on the stability of civil and mined structures underground.

In particular, I am interested in conducting large-scale block tests underground – as presented at prior DUSEL workshops. For some of these applications, the Kimballton site presents the greatest geological relevance due to its presence in sedimentary rock – despite a number of current and past US sites in igneous and metamorphic rocks, we still lack a laboratory for underground science in sedimentary rocks. Kimballton offers the possibility to rectify this deficiency.

Yours sincerelv.

Derek Elsworth

Derek Elsworth
Professor