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A Muon Veto Shielded Cavern for Underground Experiments and Shower Studies NATHANIEL PASTIKA, PRISCILLA CUSHMAN, University of Minnesota — The Low Background Counting Facility at the Soudan Underground Lab includes a 33' x 42' x 100' experimental hall lined with proportional tubes from a former proton decay experiment. These tubes have been refubished and equipped with a modern data acquisition system which records the location and time-stamp of every muon which enters the room. The programmable logic allows a user to run in a customized trigger/veto mode or using offline hit registration. This large-area muon detector has also been used to study the muon angular distribution and resulting cosmogenic hadronic showers at 2100 mwe.

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