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(54) **MEMORY DEVICE CONTAINING CONSTRICTED CHANNEL ENDS AND METHODS OF MAKING THE SAME**

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(57) **ABSTRACT**

A memory die includes an alternating stack of insulating layers and electrically conductive layers, a dielectric spacer layer underlying the alternating stack, memory opening vertically extending through the alternating stack, and through the dielectric spacer layer, a memory opening fill structure located in the memory opening and including a dielectric core, a vertical semiconductor channel having a hollow portion which surrounds the dielectric core and a pillar portion which does not surround the dielectric core, and a memory film, and a source layer located under the dielectric spacer layer and contacting the pillar portion of the vertical semiconductor channel.