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(54) Title: FRACTURE DENSITY MODEL SYSTEM, METHODS, AND APPARATUSES

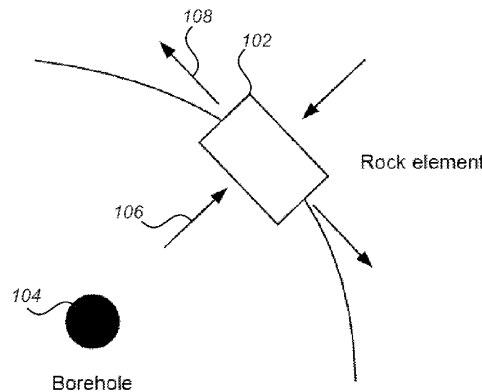


FIG. 1A

(57) Abstract: A fracture density model (FDM) system may predict the fragmentation size distribution for a blast. The FDM system may generate a model comprising a plurality of volume elements. The FDM system may determine pre-existing joint fractures in the volume elements. The FDM system may also simulate blasts and track fractures, for each of the volume elements, caused by the shock wave of the blast and a shock wave reflected off of a free face of the model. The FDM system may combine the pre-existing joint fractures and the blast induced fractures to determine a predicted fragmentation size for the distinct elements.

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