

STRATIGRAPHY OF BRECCIA HILL SECTION, WETUMPKA IMPACT STRUCTURE, ALABAMA.

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Introduction: Stratigraphy of the breccia hill outcrop section, Wetumpka impact structure, Elmore County, Alabama, consists of a 10.5 m-thick section of interbedded layers bearing crystalline and sedimentary mega-blocks and smaller clasts. This key outcrop occurs at the top of several hills in the interior floor of the impact structure. The figure below shows the stratigraphic section and its various components. The section was exposed by bulldozer and then naturally weathered for several years before we measured and described it [1, 2].

Description and interpretation: Most of the section is matrix-supported, but there are minor intervals of grain-support as well. Crystalline mega-blocks (schist, gneiss, and quartzite) are derived from the lower crystalline base-

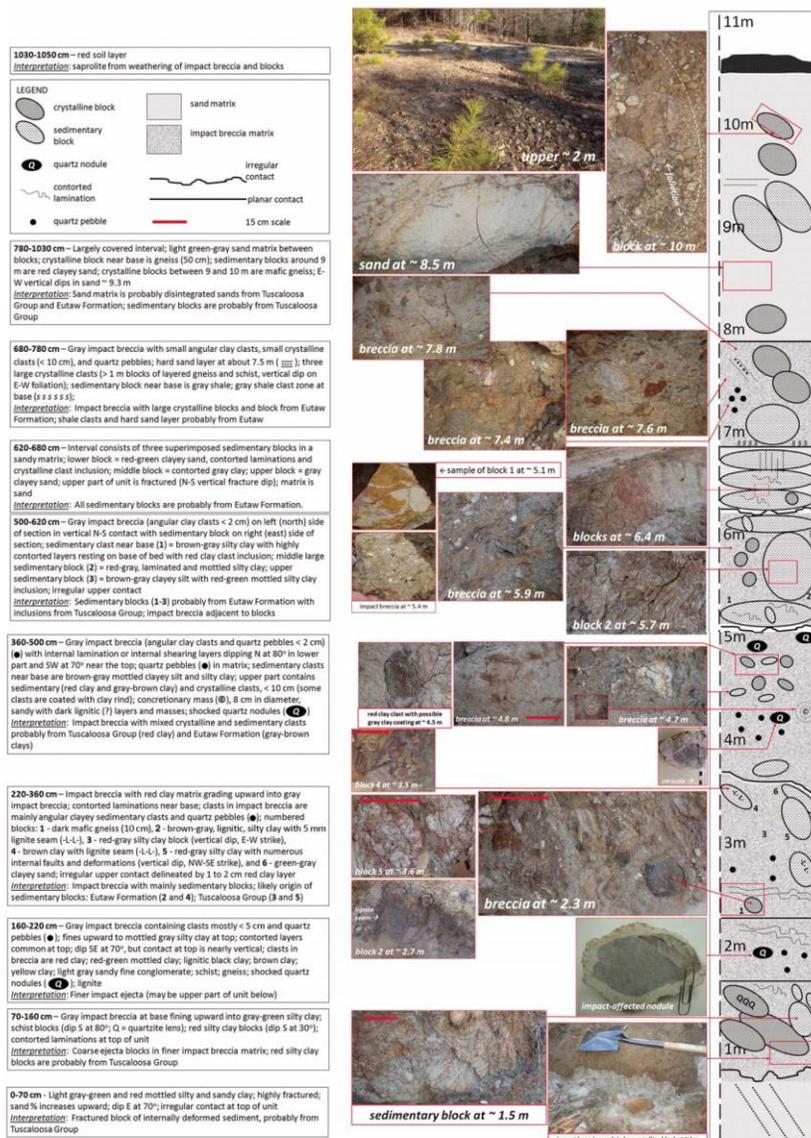


Figure 1. Measured and described stratigraphic section at Breccia Hill. Description of each sedimentological unit in the section is given in the box at left.

ment target. Sedimentary mega-blocks are derived from the overlying Upper Cretaceous sedimentary target, including the Tuscaloosa Group and Eutaw Formation. Low shock levels are indicated by feather features [3] within numerous angular to rounded quartzite pebbles, ranging in diameter from less than one cm to 40 cm [1, 2]. Higher shock levels are indicated by sand-sized quartz grains in the matrix that display typical shock-induced planar deformation features (PDFs), particularly the {10-13}, {10-12}, and {10-11} planes. This deposit is interpreted as a proximal ejecta deposit that was transported back into this marine target impact structure's interior area by mass movement processes [1, 2].

References: [1] King et al. (2015) *GSA Spec. Paper 518* 90:149-164. [2] Petruny et al. (2011) *LPSC abst. # 2406*. [3] Poelchau and Kenkmann (2011) *Jour. Geophys. Res.* 116:B02210.