

HEINRICH, PAUL V., Louisiana Geological Survey, Louisiana State University, Baton Rouge, LA 70803

Origin of a Circular Depression and Associated Fractured and Shocked Quartz, St. Helena Parish, LA

In 1996, geologic mapping of the Amite 1:100,000 quadrangle revealed an anomalous circular depression, now called the “Brushy Creek feature” within southwestern St. Helena Parish, Louisiana. The Brushy Creek feature consists of a circular depression about two kilometers in diameter with a low and dissected rim. Petrographic study of sand from this feature revealed the presence of both highly fractured and shocked quartz, not found in adjacent outcrops of the Citronelle Formation.

A review of the regional geology of the area found no evidence of tectonic processes, e.g., volcanism and salt diapirism, which could account for the development of this depression. In addition, the geomorphic setting of the Brushy Creek feature is incompatible with the development of siliciclastic karst that has created similar depressions, e.g., the Carolina Bays. At this time, the Brushy Creek feature is hypothesized to be a dissected late, possibly terminal, Pleistocene meteorite impact crater.