ABSTRACT

This study used fracture mapping to identify magma chamber-related fractures in the Cambrian Jordanian Sandstone in a borehole at the Afton site in Minnesota. Fracture characterization was performed using natural gamma logs and hydraulic heads from an instrumented borehole at Afton. The study reveals that fractures above and below points of termination (PTHs) in these examples typically cross regional boundaries and suggest the presence of a PTH in the uppermost 2m of sandstone and shale in parasequences. Reconnaissance work at scattered Cambrian outcrops elsewhere in the region also suggests the presence of a PTH in the uppermost 2m of sandstone and shale in parasequences.

BACKGROUND

PREVIOUSLY TRIGGERED BOUNDARIES OF VERTICAL FRACTURES HAVE IMPORTANT IMPLICATIONS ON GROUNDWATER FLOW.

• Underwood et al. (2000) concluded that the comprehensive vertical fractures are the product of tectonic uplift and erosion and suggested that such terminations may be the result of the regional tectonic uplift and erosion.

• Meyer et al. (2002) and Runkel et al. (2003) have shown that the regional tectonic uplift and erosion process is responsible for the regional tectonic uplift and erosion process.

• The study area is characterized by a high percentage of terminations, although some terminations may be associated with local tectonic uplift and erosion.

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FRACTURE MAPPING: PLATTEVILLE FORMATION (ORDOVICIAN)

Both have a well parallel macropore network that continues down-flow (Fig. 7). All measurements are made using the Thiele equation. They may be used as a reference for fracture-pervious sandstone and shale in the central midcontinent.

FRACTURE MAPPING: JORDAN SANDSTONE (CAMBRIAN)

All measurements are made using the Thiele equation. They may be used as a reference for fracture-pervious sandstone and shale in the central midcontinent. FRACTURE STRATIGRAPHY IN LOWER PALEOZOIC BEDROCK OF THE CENTRAL MIDCONTINENT, NORTH AMERICA

FIGURE 7.

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DISCUSSION: RELATIONSHIP BETWEEN PRIMARY SUBSURFACE-INDUCED FRACTURES AND TERMINATION PROPERTIES

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