The Mississippian -- Borden Group Aquifer System in Jackson County is a carbonate aquifer located in the eastern part of the county. The aquifer is composed of Mississippian-age limestones and dolomites that are overlain by unconsolidated deposits of sand and gravel. The Mississippian -- Borden Group is less than 75 feet thick in the county. However, it is possible that the yield of materials is considered low. The New Albany Shale Aquifer, which overlies the Mississippian -- Borden Group, is also present in the county. The permeability of shale materials is considered low. The New Albany Shale Aquifer is less than 250 feet thick in the county and thicken as the underlying Silurian carbonates range from 100 to 250 feet thick and also thicken as the units of Silurian and Devonian age are similar, and cannot easily be distinguished on the surface.

The permeability of shale materials is considered low. The New Albany Shale Aquifer is overlying by unconsolidated deposits of sand and gravel, greenish gray shale, and eolian derived loess, colluvium and floodplain deposits. The yield of materials is considered low. The New Albany Shale Aquifer is considered a poor aquifer, drillers bypass the shale and complete wells in the underlying bedrock aquifers.

Due to the availability of very limited thickness of the New Albany Shale Aquifer, a few domestic wells have been completed in this system due to the availability of relatively limited thickness of the New Albany Shale Aquifer, a few domestic wells have been completed in this system. However, a few domestic wells have been completed in this system. However, a few domestic wells have been completed in this system. However, a few domestic wells have been completed in this system.