

Potentiometric Surface Map of the Bedrock Aquifers of Pulaski County, Indiana

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Pulaski County, Indiana is located in the northwestern portion of the state with most of the areal extent situated within the Upper Wabash River Basin. However, a portion of the northwest corner and the north-central part of the county is within the Kankakee River Basin.

The mapped potentiometric surface (PSM) contour elevations represent lines of equal elevation relative to the measured groundwater levels in wells. In general, wells completed in a confined aquifer system are bound by impermeable layers and will have static water levels under hydrostatic pressure causing the water level to rise above the elevation of the aquifer resource. In contrast, an unconfined aquifer system is not bound by impermeable layers; therefore, the water level will not be under hydrostatic pressure and will not rise above the aquifer resource. Static water level measurements in individual wells used to construct the potentiometric surface map are indicative of the water level at the time of well completion. Therefore, current site specific conditions may differ due to local or seasonal variations in measured static water levels.

Coordinate locations of water well records were physically obtained in the field, determined through address geocoding, or reported on water well records. Elevation data were either obtained from topographic maps or a digital elevation model (DEM). Elevation and location quality control/quality assurance procedures were utilized to refine or remove data where errors were readily apparent.

In Pulaski County depth to bedrock varies from 5 feet to 235 feet (Maier, 2008). Wells completed in bedrock are generally completed in carbonate deposits of the Silurian and Devonian Carbonates Aquifer System. There are approximately 295 located wells that are completed in bedrock and utilized towards the mapping of the bedrock potentiometric surface. However, portions of the county are lacking in data and/or covered by more prolific unconsolidated deposits that limit the necessity to complete wells in bedrock. Therefore, potentiometric surface elevations contours have not been extended through these areas.

Potentiometric surface elevations range from a high of 710 feet mean sea level (msl) in the southeast region of the county, to a low of 650 feet msl in the southwest part of the county along Monon Ditch. Generalized groundwater flow direction for Pulaski County is towards major drainage relevant to the basin. Therefore, in the Upper Wabash River Basin, groundwater flow is towards the Tippecanoe River. However, for portions of the county within the Kankakee River

Basin, groundwater flow is generally to the north and northwest out of the county towards the Kankakee River.

Maier, 2008, Bedrock Aquifer Systems of Pulaski County, Indiana: Indiana Department of Natural Resources, Division of Water, Aquifer Systems Map 51-B.