

# **Potentiometric Surface Map of the Bedrock Aquifers of Boone County, Indiana**

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Boone County, Indiana is located in the central portion of the state and is situated within two major drainage basins; the Middle Wabash River Basin to the northwest and the White and West Fork White River Basin to the southeast.

The generalized potentiometric surface map (PSM) contour elevations represent lines of equal elevation relative to the measured groundwater levels in wells. 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 Boone County depth to bedrock varies from outcropping along sections of Sugar Creek in the western part of the county, to 350 feet in the north-central area (Grove, 2008). Wells are generally completed in shale and siltstone bedrock deposits of the Mississippian Borden Group, the Devonian and Mississippian New Albany Shale or carbonate deposits of the Silurian and Devonian Carbonates. There are approximately 273 located wells that are completed in bedrock and utilized towards the mapping of the bedrock potentiometric surface. However, much of the central and northern portions of Boone County is 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 940 feet mean sea level (msl) in the south-central region of the county near the basin divide, to a low of 800 feet msl in the northwest part of the county. Generalized groundwater flow direction for Boone County is towards major drainage relevant to the basin. Therefore, in the White and West Fork White River Basin, groundwater flow is southeast towards Eagle Creek, and northwest towards Sugar Creek for the Middle Wabash River Basin.