

# **Potentiometric Surface Map of the Unconsolidated Aquifers of Dekalb County, Indiana**

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Dekalb County, Indiana is located in the northeastern portion of the state and is situated within two major drainage basins. A small portion of the northwest corner of the county is within the St. Joseph River Basin and the rest of the county is within the Maumee River Basin. Major drainage systems include the St. Joseph River and Cedar Creek along with several tributaries.

The generalized unconsolidated potentiometric surface map contour elevations represent lines of equal elevation to which groundwater levels will rise 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 Dekalb County well depths 100 feet or less were a priority in mapping the potentiometric surface. However, deeper wells were often compared and used in areas where data was sparse. There are approximately 4,411 water well records in the county of which, 2,204 (50%) are located. About 1,317 (60%) are wells less than 100 feet in depth. Potentiometric surface elevations range from a high of 960 feet mean sea level (msl) in the northwest, to a low of 780 feet msl in the southeast. Generalized groundwater flow direction, therefore, appears to be from northwest to the southeast for most of the county. Groundwater flow for the extreme northwest portion of the county that is within the St. Joseph River Basin appears to be to the northwest. However, this area is a groundwater high and some groundwater flow may be south and east.

In general, most of the potentiometric surface in Dekalb County is under confined conditions. However, some locations, such as positions close to the St. Joseph River, Cedar Creek and some tributaries, may be under semi-confined or unconfined conditions.