

Potentiometric Surface Map of the Unconsolidated Aquifers of Montgomery County, Indiana

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Montgomery County, Indiana is located in the west-central part of the state and is entirely within the boundary of the Middle Wabash River Basin.

The potentiometric surface mapped (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 obtained from 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.

Well depths 100 feet or less were a priority in mapping the potentiometric surface in Montgomery County. However, deeper wells were used to compliment the mapping in areas where wells at depths of less than 100 feet were sparse. There are 734 unconsolidated located water well records in the county with 602 within the priority depth range.

Potentiometric surface elevations range from a high of 890 feet mean sea level (msl) the in the southeast part of the county, to a low of 640 feet msl in the central part of the county to the west of Crawfordsville along a small section of Sugar Creek. Portions of Montgomery County have limited unconsolidated aquifer potential; therefore, potentiometric contours have not been extended throughout these areas.

Generalized groundwater flow direction for the county is towards major drainage relevant to the basin. Therefore, in Montgomery County groundwater flow is mostly towards Sugar Creek. However, in the northwest part of the county groundwater flow is west and northwest out of the county and towards the Wabash River. Also, in the southeast corner of the county groundwater

flow is towards Big Raccoon Creek and in the southwest corner of the county, groundwater flow is towards Little Raccoon Creek.