

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

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Vigo County, Indiana is located in the west-central part of the state along the border with Illinois and is mostly within the Middle Wabash River Basin. However, the southern third of the county is within the Lower Wabash River Basin and the southeast part of the county is within the White and West Fork White 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 Vigo 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 1511 unconsolidated located water well records in the county with 1448 within the priority depth range.

Potentiometric surface elevations range from a high of 610 feet mean sea level (msl) in the west-central and northeast parts of the county, to a low of 440 feet msl in the southwest part of the county along the Wabash River. Portions of Vigo County are either lacking in well data or 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 Vigo County groundwater flow is mostly towards the Wabash River.

However, to the southeast part of the county within the White and West Fork White River Basin, groundwater flow is to the southeast towards a minor tributary to the Eel River in Clay County.