

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

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Porter County, Indiana is located in the northwest portion of the state and is situated within two major drainage basins. The county is split between the Lake Michigan Region to the north and the Kankakee River Basin to the south.

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 Porter County well depths 100 feet or less were a priority in mapping the potentiometric surface. However, deeper wells were used in areas where data was sparse. There are approximately 10,088 water well records in the county of which, 7,779 are within the priority depth range. Approximately 2,636 (34%) of wells within the priority depth range are located. Potentiometric surface elevations range from a high of 760 feet mean sea level (msl) in the east-central region of the county near the Lake Michigan Region-Kankakee Basin Divide, to a low of 590 feet msl in the north part of the county near Lake Michigan. Generalized groundwater flow direction for most of Porter County is towards major drainage relevant to the basin. Therefore, in the Lake Michigan Region, groundwater flow is north-northwest towards Lake Michigan, and to the south towards the Kankakee River for the Kankakee River Basin.

Much of northern Porter County includes lake sediments and dune sands at the surface. Southern portions include outwash plain and valley train sediments at the surface. Therefore, most of the potentiometric surface for these areas of the county is generally under unconfined or semi-confined conditions. Approximately 39% of located wells are in these areas. However, most of central Porter County include ground and end moraine sediments at the surface. Therefore, the potentiometric surface in this region is more commonly considered under confined conditions. The remaining 61% of located wells are in this area.