

# Potentiometric Surface Map of the Unconsolidated Aquifers of Elkhart County, Indiana

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Elkhart County, Indiana is located in the north-central portion of the state and is situated within two major drainage basins. A small portion of the southwest corner of the county is within the Kankakee River Basin and the rest of the county is within the St. Joseph River Basin. Major drainage systems include the St. Joseph River and Elkhart River along with several tributaries.

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.

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.

In Elkhart 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 25,400 water well records in the county of which, about 7,400 (29%) are located. About 5,850 (79%) of the located wells are less than 100 feet in depth. A total of 7,375 water well records were used to construct the groundwater equipotential lines. Potentiometric surface elevations range from a high of 880 feet mean sea level (msl) in the east-central portion of Elkhart County, to a low of 720 feet msl in the northwest. Generalized groundwater flow direction, therefore, appears to be from southeast to the northwest for most of the county. Groundwater flow for the extreme southwest portion of the county that is within the Kankakee River Basin appears to be to the west.

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