

POTENTIOMETRIC SURFACE MAP OF THE BEDROCK AQUIFERS OF CLARK COUNTY, INDIANA

Clark County, Indiana is located in the southeast part of the state and is almost entirely within the Ohio River Basin. Two areas of north-central Clark County are within the East Fork White River Basin.

The mapped potentiometric surface contours 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. Elevation and location quality control assurance procedures were utilized to refine or remove data where errors were readily apparent.

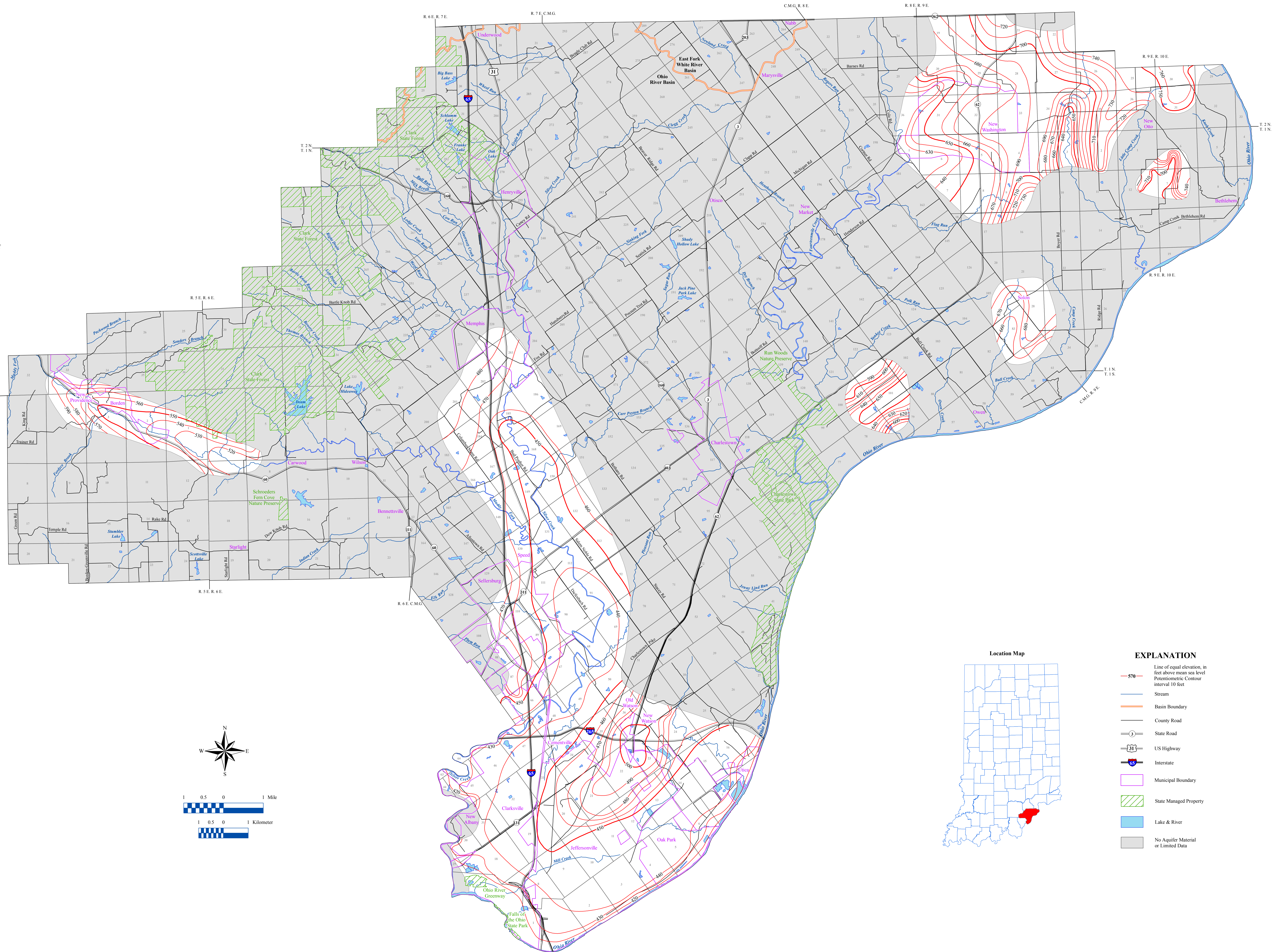
Wells producing from bedrock are limited with parts of the county lacking in data. This is primarily due to bedrock as a limited aquifer resource, and/or available overlying unconsolidated materials. Therefore, potentiometric surface elevation contours have not been extended throughout areas of the county.

Bedrock throughout the county includes shale, limestone and sandstone of the Mississippian Buffalo Wallow, Stephenson, and West Baden Groups; limestone and sandstone of the Mississippian Blue River and Sanders Group; siltstone and shale of the Mississippian Borden Group; the Devonian and Mississippian New Albany Shale; limestone and dolomite of the Silurian and Devonian Carbonates; and shales and limestone of the Ordovician Maquoketa Group.

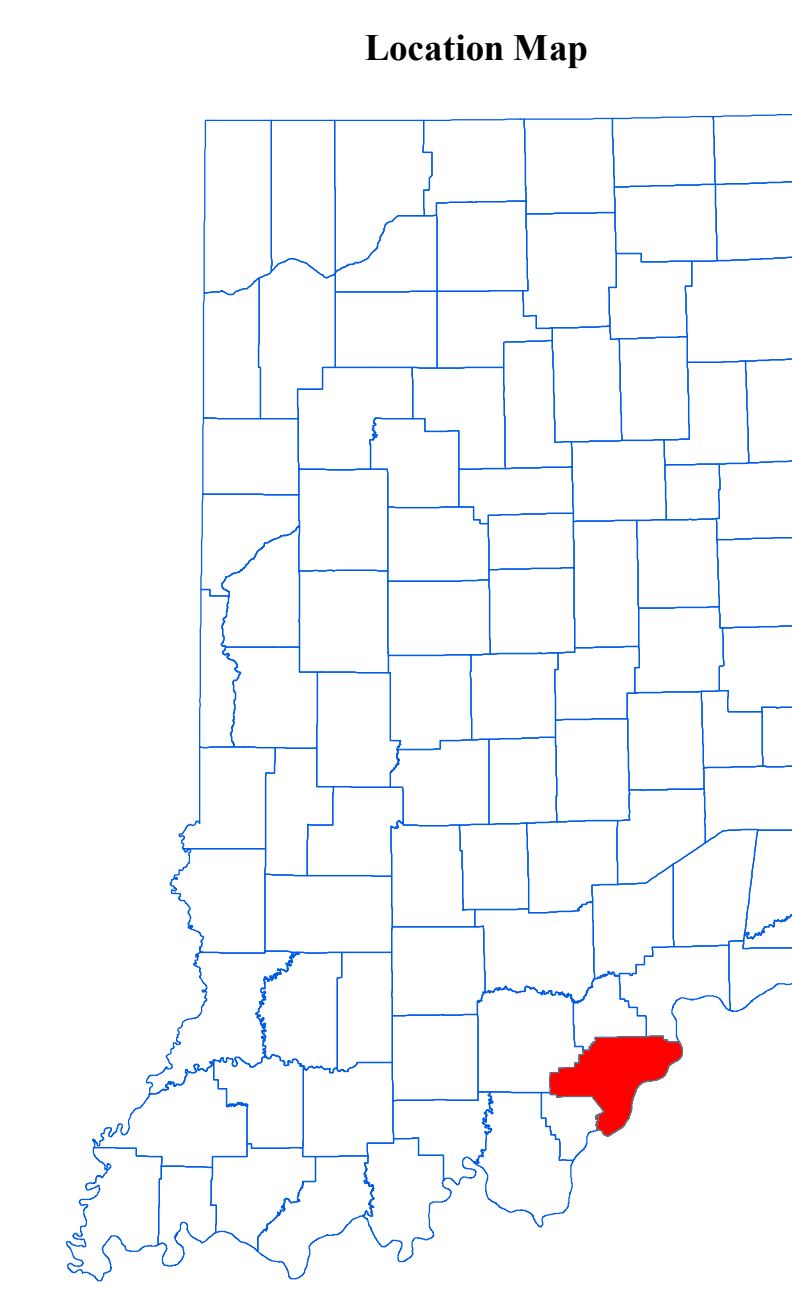
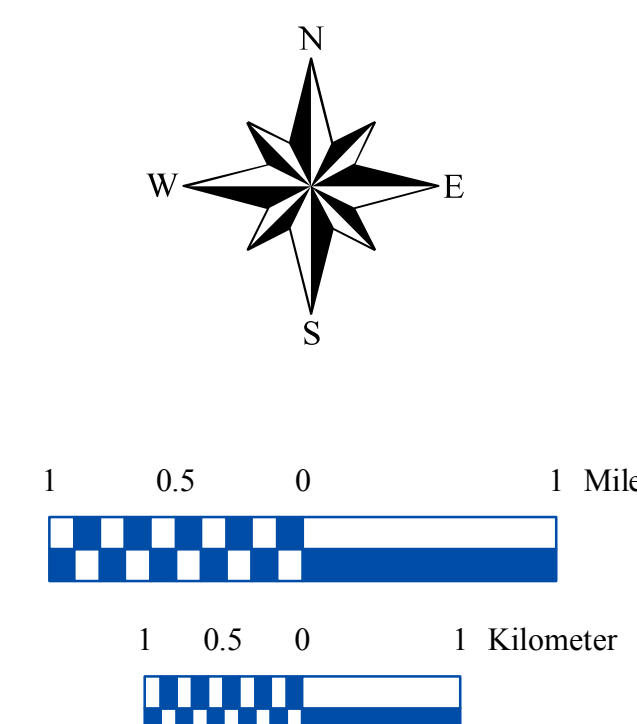
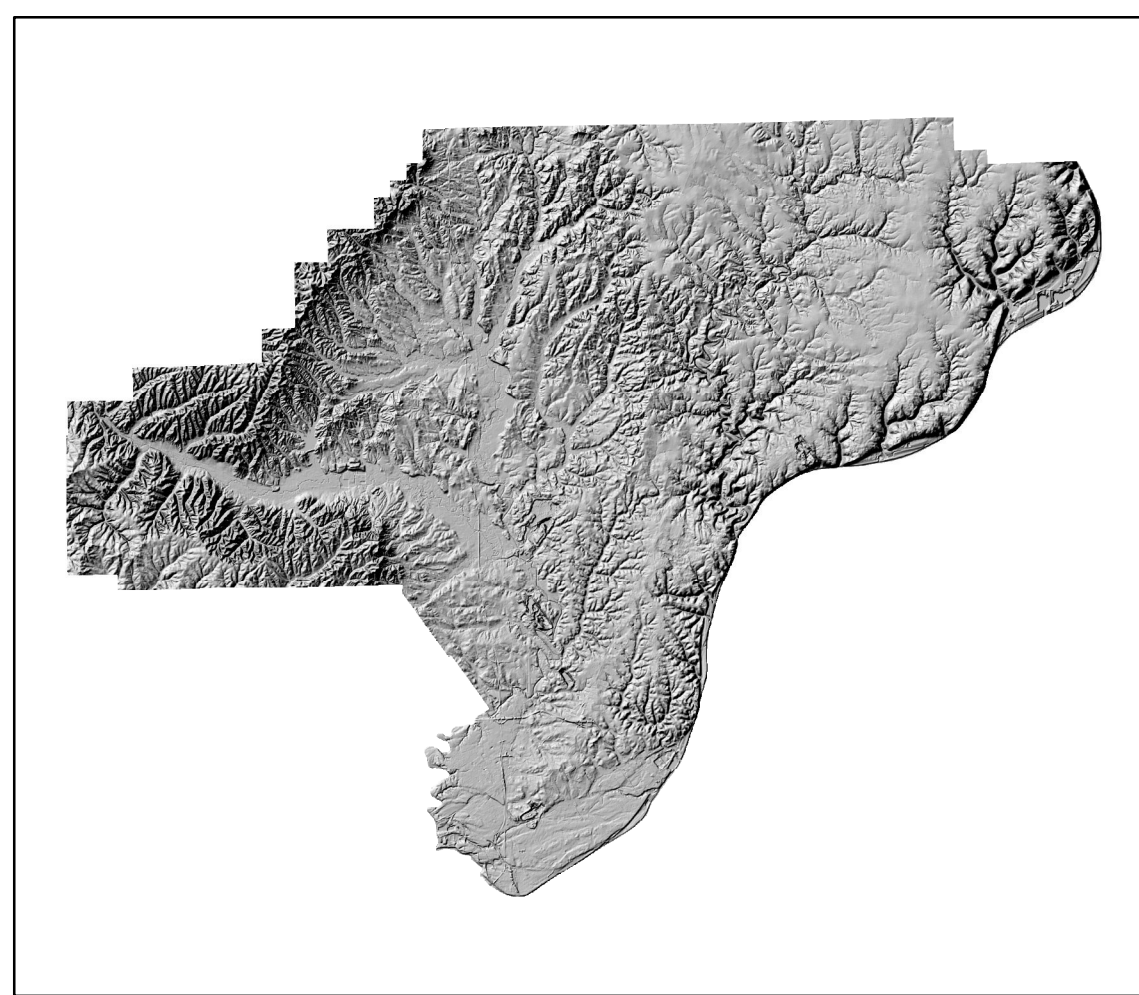
There are 176 located wells that are completed in bedrock and are utilized towards the mapping of the bedrock potentiometric surface. Total well depths range from 26 to 243 feet with depth to the bedrock surface from 2 to 76 feet below surface. Due to the extreme difference in reported static water levels of deeper wells that likely transused into a different aquifer system, reported depths of 200 feet or less were considered a priority in the mapping of the contours where such differences are present.

Potentiometric surface elevations range from a high of 760 feet mean sea level (msl) in the northeast area of the county, to a low of 420 feet msl along the Ohio River to the south.

Generalized groundwater flow direction for the county is towards major drainage relevant to the basin. Therefore, in Clark County groundwater flow is towards the Ohio River and its related tributaries.



Hillshade Map of Clark County, Indiana



EXPLANATION

- 570 — Line of equal elevation, in feet above mean sea level
- Potentiometric Contour interval 10 feet
- Stream
- Basin Boundary
- County Road
- State Road
- US Highway
- Interstate
- Municipal Boundary
- State Managed Property
- Lake & River
- No Aquifer Material or Limited Data

Map Use and Disclaimer Statement

We request that the following agency be acknowledged in products derived from this map: Indiana Department of Natural Resources, Division of Water.

This map was compiled by staff of the Indiana Department of Natural Resources, Division of Water using data believed to be reasonably accurate. However, a degree of error is inherent in all maps. This product is distributed "as is" without warranties of any kind, either expressed or implied. This map is intended for use only at the published scale.

This map is created from several existing shapefiles. Township and Range Lines of Indiana (line shapefile, 20020621), Land Survey Lines of Indiana (polygon shapefile, 20020621), and County Boundaries of Indiana (polygon shapefile, 20020621) are all from the Indiana Geological Survey and based on a 1:24,000 scale. Roads (TIGER and INDOT) (line shapefile, 2005) is from the Indiana Department of Transportation and based on a 1:100,000 scale. System1 (line shapefile, 2003) is from the Indiana Department of Transportation and based on a 1:24,000 scale. Incorporated Boundaries in Indiana (polygon shapefile, 20060501) is from the Graphics and Engineering Section, Indiana Department of Transportation. Hydrography, Streams (NHID) (line shapefile, 20081218), Rivers (NHID) (polygon shapefile, 20081218), and Lakes (NHID) (polygon shapefile, 20081218) are from the U.S. Geological Survey and based on a 1:24,000 scale. Managed Land: DNR IN (polygon shapefile, 20100220) is from the Indiana Department of Natural Resources and based on a 1:24,000 scale. The Hillshade image is derived from the Indiana OrthoLIDAR Statewide Collection Program (2013). Clark County Bedrock No Aquifer Material or Limited Data (polygon shapefile, Maier, 2010) and Potentiometric Surface Contours of the Bedrock Aquifers of Clark County, Indiana (line shapefile, Maier, 2018) are based on a 1:24,000 scale.

Potentiometric Surface Map of the Bedrock Aquifers of Clark County, Indiana

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