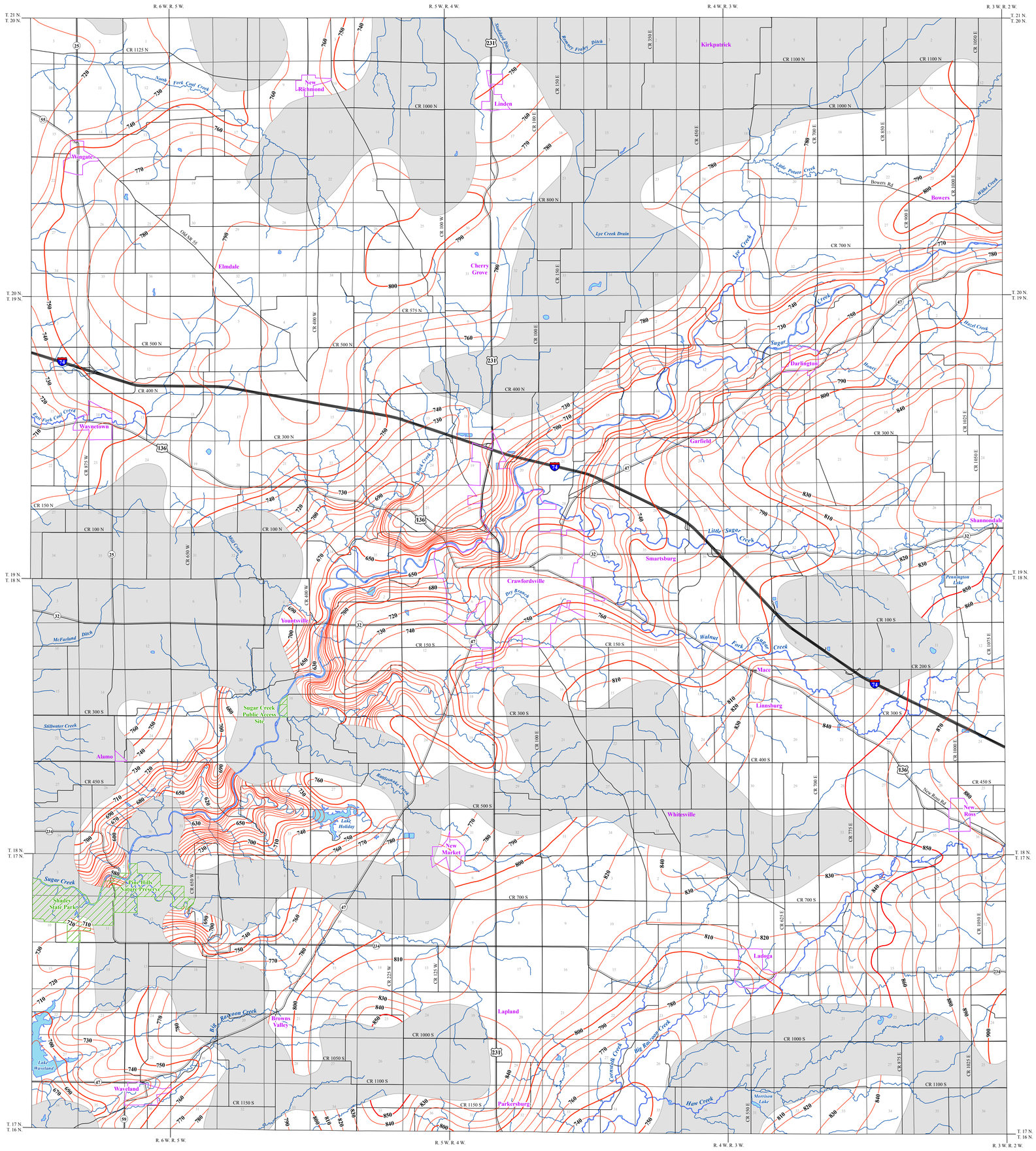
POTENTIOMETRIC SURFACE MAP OF THE BEDROCK AQUIFERS OF MONTGOMERY COUNTY, INDIANA



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.

Wells producing from bedrock deposits 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 these areas of the county.

Bedrock for the majority of the county includes siltstone and shale associated with the Mississippian Borden Group. Along a small portion of the southwestern edge of the county, bedrock includes sandstone and shale of the Pennsylvanian Raccoon Creek Group and in the southwest corner, limestone and dolomite of the Mississippian Blue River and Sanders Groups. There are 830 located wells that are completed in bedrock and are utilized towards the mapping of the bedrock potentiometric surface. Total well depths generally range from 27 to 460 feet with depths to the bedrock surface at 4 to 235 feet.

Potentiometric surface elevations range from a high of 900 feet mean sea level (msl) in the southeast part of the county, to a low of 570 feet msl in the southwest along a small section of Sugar Creek.

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.

N
W E
S

1 0.5 0 1 Mile

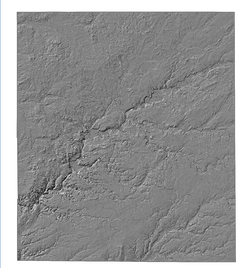
1 0.5 0 1 Kilometer

EXPLANATION

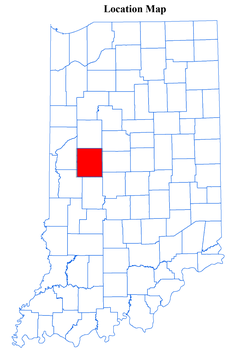
- 900 — Line of equal elevation, in feet above mean sea level Potentiometric Contour interval 10 feet
- Stream
- County Road
- 32 — State Road
- 231 — US Highway
- 74 — Interstate
- Municipal Boundary
- State Managed Property
- Lake & River
- No Aquifer Material or Limited Data

INDIANA DEPARTMENT OF NATURAL RESOURCES

Hillshade Map of Montgomery County, Indiana



Location Map



Map generated by Reuben Q. Arvin and Randal D. Maier
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Map Use and Disclaimer Statement

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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 (NHD) (line shapefile, 20081218), Rivers (NHD) (polygon shapefile, 20081218), and Lakes (NHD) (polygon shapefile, 20081218) are from the U.S. Geological Survey and based on a 1:24,000 scale. Managed Lands IDNR IN (polygon shapefile, 20100920) is from the Indiana Department of Natural Resources and based on a 1:24,000 scale. The Hillshade image is derived from the Indiana Ortho/LiDAR Statewide Collection Program (2013). Montgomery County Bedrock No Aquifer Material or Limited Data (polygon shapefile, Maier, 2015) and Potentiometric Surface Contours of the Bedrock Aquifers of Montgomery County, Indiana (line shapefile, Maier, 2015) are based on a 1:24,000 scale.

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

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