








MISSOURI GROUNDWATER

MISSOURI DEPARTMENT OF
NATURAL RESOURCES
DIVISION OF GEOLOGY AND LAND SURVEY
P.O. Box 250, Rolla, MO 65402

2002

PRODUCTION REGIONS AND AQUIFERS

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MISSOURI AND MISSISSIPPI RIVER ALLUVIUM
 Yield is normally 1,000+ gallons per minute (gpm), water is suitable for irrigation. Softening and iron removal recommended for drinking water.
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GLACIAL DRIFT AND ALLUVIUM
 Yield is normally 1-15 gpm. Drift-filled preglacial channels locally yield 200 to 500 gpm. Alluvium in lower reaches of major rivers can locally yield 400+ gpm. Iron removal and disinfection is recommended. Bedrock aquifers generally yield mineralized water.
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CRETACEOUS AND TERTIARY SANDS, AND ALLUVIUM
 Alluvium typically yields 1,000+ gpm; Tertiary sands, 500 to 1,000 gpm. Both contain high iron. Wells in Cretaceous sands typically produce 150 to 1,000 gpm, have lower iron, are softer, have higher temperature waters, and may be artesian.
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PENNSYLVANIAN AND MISSISSIPPIAN LIMESTONES AND SANDSTONES
 Yield 1 to 15 gpm to depth of about 400 feet. Aquifers below 400 feet yield mineralized water. Wells in shallow Mississippian limestones yield 1 to 10 gpm. Deeper high-yield aquifers yield mineralized water.
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MISSISSIPPIAN LIMESTONES (SOUTHWEST MISSOURI), ORDOVICIAN AND CAMBRIAN DOLOMITES AND SANDSTONES
 Yield 15-500 gpm, depending on depth and producing formations. Yields locally exceed 1,000 gpm in some areas including Springfield, Columbia and Rolla. Yields diminish substantially east of the St. Francois Mt. region. Highly-productive aquifers become mineralized north of freshwater-salinewater transition zone.
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CAMBRIAN AND PRECAMBRIAN ROCKS
 Dolomites typically yield 15 to 50 gpm. Lamotte Sandstone locally yields 300+ gpm. Precambrian igneous rocks normally yield 0 to 15 gpm.
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FRESHWATER-SALINEWATER TRANSITION ZONE
 North of this line, high-yielding aquifers contain water too mineralized to be used without extensive treatment.

