Aquifer	Formations comprising aquifer	Dominant lithology	Recharge area	Occurrence of water	Movement of water	Depth to water	Most favorable test drilling areas	Depth of wells	Capacity of wells	Problems	Possible solutions	Additional data needed and suggestions for future studies
A	Chepultepec Dolomite and Copper Ridge Dolomite undifferentiated; Tuscumbia Limestone and Fort Payne Chert undifferentiated.	Chert debris and cavernous limestones and dolomites.	Outcrop areas of formations. See geologic map.	In chert debris and in cavities of limestone and dolomite.	Downdip and from higher to lower topographic areas.	Water table at or near surface in lower topographic areas but is as much as 75 below land surface in some of the higher topographic areas.	Downdip and in lower topographic areas.	Should be drilled to depth of cavity development which is estimated to be less than 300 feet in most areas.	Wells in lower topographic areas should commonly have capacities of 0.1 to 1.0 mgd.	(1) Construction of wells in chert debris requires screens or perforated casing and development of some wells requires pumping to clear water. (2) Water too hard for some uses.	(a) Contract reputable drillers with necessary equipment for well construction and development. (b) Treat for hardness.	(a) Subsurface geologic data to help delineate aquifer (b) Quantitative data on aquifer characteristics. (c) Relationship of thrust fault to hydrology in Sanford Valley. See hydrologic section for trace of fault.
B	Tuscumbia Limestone and Fort Payne chert undifferentiated; Hartselle Sandstone; and lower part of Bangor Limestone.	Cavernous limestones, chert, and sandstone.	Outcrop areas of formations. See geologic map.	In cavernous limestone, weathered chert, and pore space of sandstone.	Downdip and from higher to lower topographic areas.	Water table at or near surface in lower topographic areas but as much as 50 feet below land surface in some of the higher topographic areas.	Downdip and in lower topographic areas.	Should be drilled to depth of cavity development, or to the "Black Shale" (Chattanooga Shale) whichever comes first.	Properly constructed wells in lower topographic areas should commonly have capacities of 300 to 500 gpm.	(1) Water too hard for some uses. (2) Water is easily polluted because of shallow water table and rapid infiltration in the Fort Payne Chert.	(a) Treat for hardness. (b) Awareness of problem and efficient control and treatment of sewage and other waste.	(a) Geologic data to help delineate aquifer (b) Quantitative data on aquifer characteristics.
C	Conasauga Formation; Chepultepec Dolomite and Copper Ridge Dolomite undifferentiated; Chickamauga Limestone; Tuscumbia Limestone and Fort Payne Chert undifferentiated; Hartselle Sandstone; and Bangor Limestone.	Limestone, chert, and sandstone.	Outcrop areas of formations. See geologic map.	In cavities of limestone, weathered chert, and pore space of sandstone.	Downdip and from higher to lower topographic areas.	Water table at or near surface in lower topographic areas but as much as 50 feet below land surface in some of the higher topographic areas.	Downdip and in lower topographic areas.	Should be drilled depth of cavity development which is estimated to be less than 300 feet in most areas.	Wells in lower topographic areas should commonly have capacities of 0.03 to 0.07 mgd.	(1) Water is too hard for some uses.	(a) Treat for hardness.	(a) Geologic data to help delineate aquifer (b) Quantitative data on aquifer characteristics.
D	Pottsville Formation	Sandstone and shale.	Outcrop area of formation. See geologic map.	In pore space, fractures, and along bedding planes.	Downdip and from higher to lower topographic areas.	Generally less than 30 feet in lower topographic areas and from 30 to 50 feet in higher topographic areas.	In lower topographic areas	Generally wells should not be drilled more than 200 feet. Sandstones below that depth yield only small quantities of water.	Wells in the higher topographic areas have small cones of depression and may fail to supply adequate water for domestic supply wells in lower topographic areas generally supply several gallons per minute and some have capacities of as much as 0.3 mgd.	(1) Small capacities of many wells in higher topographic areas. (2) High iron concentrations.	(a) Drill wells in lower topographic areas. (b) Treat for iron-in places it is possible to drill a new well and obtain water with a low iron concentration at a relatively short distance from a well producing water with high iron concentration.	(a) Quantitative data on aquifer characteristics.
E	Parts of many formations that probably have low permeabilities.	Sandstone, shale, limestone, dolomite, and chert.	Outcrop area of formations. See geologic map.	In pore space, fractures, solution cavities, and along bedding planes.	Generally from higher to lower topographic areas.	Water table is near surface in lower topographic areas. Depth is difficult to estimate in some of the rugged topographic areas.	In lower topographic areas	Drilling of wells is not advised-if wells are drilled they probably should not exceed 200 feet.	Some wells may have capacities adequate for domestic water supplies, but generally these rocks are unimportant as sources of ground water.	(1) Small capacities of wells.	(a) Drill well in a more productive aquifer.	

77-453

EXPLANATION

- Nonflowing domestic or stock well and number
- Flowing domestic or stock well and number
- Industrial, irrigation, municipal, or public supply well and number
- Spring and number
- Industrial, irrigation, municipal, or public supply spring and number
- Oil test well and number
- Bench mark and altitude

The numbering of wells is based on the Federal subdivision of land into townships, ranges, and sections. Each township is assigned a letter beginning with A in the northeast corner of the county and ending with DD in the southeast corner. Wells and springs are assigned numbers consecutively in each township beginning in section 1 and continuing through section 36 as shown above.

EXPLANATION (Hydrogeologic Sections)

Fault (A/Hanging Side; D/Footwall Side)

- Pottsville Formation
- Pottsville Formation and Pennington Formation undifferentiated
- Bangor Limestone
- Hartselle Sandstone
- Pride Mountain Formation
- Tuscumbia Limestone, Fort Payne Chert, and Maury Formation undifferentiated
- Chattanooga Shale
- Red Mountain Formation
- Chickamauga Limestone
- Attalla Chert Conglomerate Member of the Chickamauga Limestone
- Knox Dolomite
- Conasauga Formation
- Chepultepec Dolomite and Copper Ridge Dolomite undifferentiated
- Ketona Dolomite
- Conasauga Formation

Base map compiled from Alabama Highway Department maps and field notes.

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HYDROGEOLOGIC SECTIONS

Figure 2.-- AVAILABILITY OF GROUND WATER IN BLOUNT COUNTY, ALABAMA