

GEOHYDROLOGY

Brielle is searching for an answer to its fast diminishing water supply from among the available aquifers. There are four principal geological formations which underlie Brielle that can be classified as AQUIFERS (water producers). Each is listed along with its respective characteristics below:

1. RARITAN FORMATION

- large supply of water
- over 1,000 feet below the surface (necessitating deep and expensive wells)
- subject to salt water encroachment* near the coast
- iron content problem
- recharged by rain on outcrop areas north of Monmouth County

2. ENGLISHTOWN FORMATION

- subject to salt water encroachment
- declining level of supply due to overdraft on system

- recharged by rain on outcrop areas in northern Monmouth County (due to development of area much of the rain runs off, instead of being absorbed, see illustration).
- excellent water quality found at depth of 700 feet

3. MOUNT LAUREL FORMATION

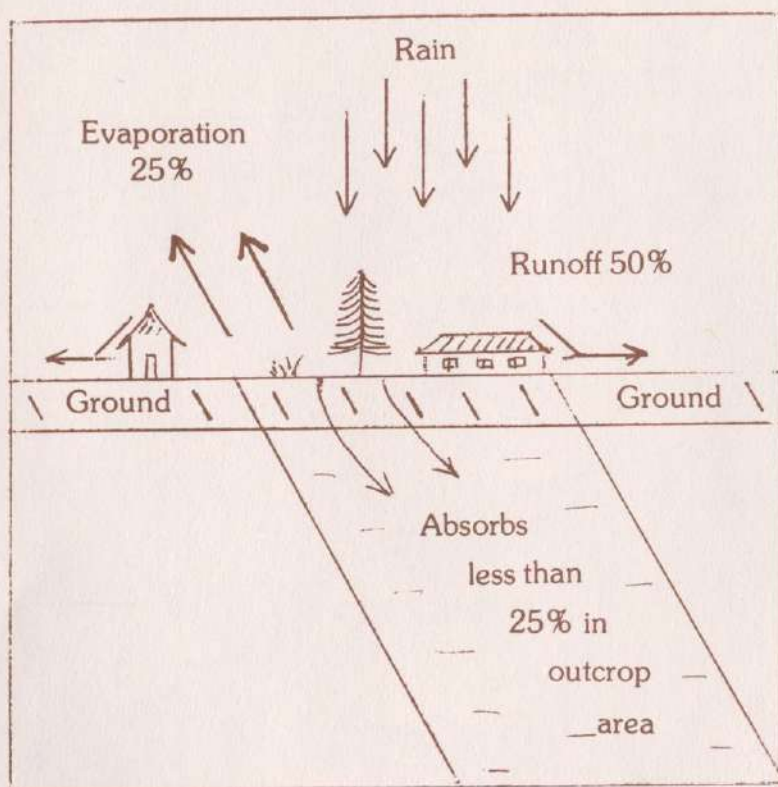
- reliable, but low level of water supply
- found at a depth of 500 feet
- no sea water intrusion discovered to date
- recharged by vertical leakage
- not used in Monmouth County

4. KIRKWOOD FORMATION

- good supply of water
- found at a depth of 100 feet
- no indication to date of salt water intrusion
- recharged by rainfall
- serious iron content problem

*See geohydrologic section

RECHARGE OF AQUIFER



Excess runoff due to development (roads, parking lots, roofs, etc.).

DISCUSSION

Since both the Raritan and Englishtown formations are suffering from salt water encroachment, solutions to the supply and demand problem must be sought elsewhere. Other choices include the poor supply in the Mount Laurel formation, or the expensive treatment facility necessary if the Kirkwood formation is selected, due to iron content and acidity.

If either is selected, however, it will still become obsolete within an approximate ten year period, due to the continuing upward spiral in demand. Thus money invested can never be fully recovered, and merely serves to postpone the necessity of a long-term solution.

CONCLUSION

Since present indications are that development of the water resources of the Upper Manasquan River area will become necessary in the future, even if a short-term solution (wells) is employed, it is suggested that such long-term remedial efforts be started as soon as possible.

GEOHYDROLOGIC SECTION

NORTHERN MONMOUTH COUNTY

ASBURY PARK

BRIELLE

SEASIDE HEIGHTS

