

cene sands and gravels or, in the northern and western parts of the county, from similar Lafayette materials, but a few may enter the underlying Patuxent formation. A great many springs are in use, some large, some small, issuing from the Pleistocene or Lafayette sands. The water from this source is invariably soft and low in mineral matter. The deeper wells obtain their supply either from the sandy beds of the Patuxent formation or from the underlying basement rocks.

In the included table of well data will be found the more important facts concerning the deeper wells of the county.

Fayetteville has two systems of waterworks owned by different parties. The water from one is taken from springs on Haymount Hill and distributed through the town in hollow logs now replaced in part by iron pipes. This system is owned by the Fayetteville Water, Light and Power Company. The second system is owned and operated by the city. The source of supply is a sandhill stream (Cross Creek) rising from springs in the woods, and flowing over a coarse sand and gravel bed into a small pond located $11\frac{1}{2}$ miles northwest of the town. The springs issue from the sandy beds of the Coharie formation which rest upon the compact, partly indurated arkosic sands of the Patuxent formation. The water discharging at the lower end of the pond operates a small turbine which lifts a portion of the water to a standpipe on Haymount Hills, from which it is distributed through the town in iron pipes.

Several deep wells have been drilled in Fayetteville in the main part of the town. Slate is entered at from 200 to 260 feet below the surface and water is obtained within the slate. One of these wells situated on low ground has a slight overflow. No water was found in the overlying Patuxent formation, possibly owing to its compact character in this vicinity. A few open and driven wells 16 to 35 feet deep are also used.

At Hope Mills a well was sunk in the bed of Little Rockfish Creek to a depth of 175 feet. The driller reports a flow of 100 gallons a minute. The water rises 20 feet above the bed of the river. A ram is now connected to the well and supplies several houses. The ram furnishes about $11\frac{1}{2}$ gallons per minute.

Assays of waters from this county are given in Table 1, pp. 494-497, assays Nos. 64-73. These are discussed on pp. 486, 487.

Artesian Prospects.—The principal artesian water horizons in Cumberland County are furnished by the Patuxent formation. Good supplies are to be expected from the more porous sand beds of this formation at moderate depths (100 to 300 feet) over most of the county. Flowing wells are possible only at low levels in the southeastern part of the county. The well at Hope Mills drilled in the bed of Little Rockfish Creek overflowed 20 feet above the bed of the creek.