

the road to St.-Marc, about 12 kilometers southeast of Gonaïves, a well was drilled in 1920 by the Artibonite Trading Co. It is said to have penetrated several alternating strata of clay and gravel to a depth of 40 meters. Water, said to be of good quality, rose within 6 meters of the surface. No use has been made of the well.

Still farther north, in the immediate vicinity of Gonaïves, the plain is underlain by coarse alluvium and has a steeper but shorter seaward slope than that on the delta of the Artibonite. Some fresh water certainly is contained in these beds and could be obtained by pumping. Flowing wells might be obtained even close to the sea, but they might be brackish. This northern part of the plain, unlike the part farther south, probably does not receive much if any ground water by seepage from the Artibonite or the Estère, and it is supplied only by the flood run-off of the neighboring mountains and the infiltration from La Quinte and smaller brooks. This supply probably would not be sufficient to furnish a very large quantity of water for irrigation.

#### ARTIBONITE VALLEY.

The narrow and steep-sided valley lowland along the Artibonite from Petite-Rivière de l'Artibonite to Mirebalais is part of the Artibonite Valley. In this area there is some fertile farm land in the very narrow flood-plain of the river, much of which, however, is subject to overflow. The rest of the valley is dissected by ravines and broken by ranges of hills, so that the good agricultural land is divided into many small patches. Some of this land is irrigated from tributaries of the Artibonite by diverting water at places high enough to permit distribution by gravity, and probably the best plan for further development is to extend this practice, for most of the land is probably too broken to justify the expensive works necessary to irrigate it from the Artibonite. If dams were built in this area with a view to the reclamation of the lower plain, small areas in the valley might be conveniently served.

Structurally the valley is a deep syncline. It is underlain at most places by a considerable thickness of Miocene beds, consisting chiefly of limestone and sandy marl. Drilled wells that penetrate these beds at some places might yield flowing water but there is no information at hand by which these places may be determined. Flowing wells, if obtainable, would be restricted to very low areas, such as the flood plain of the Artibonite and the bottom of the series of parallel tributary valleys to the southwest, which are prominent features between La Chapelle and Verrettes. These parallel valleys are separated from the river flood plain by a prominent ridge of Miocene limestone. Unfortunately the areas where water is most likely to be obtainable are precisely those that have least need of it, as they are already well watered by near-by streams.