surface supply probably could be had only from Grande Rivière. Springs are doubtless preferable if they can supply enough water.

Les Cayes.—The water supply of Les Cayes was not examined but it was very unsatisfactory in 1921. Plans were under consideration in 1922 for the development of a better supply, probably either from a small spring-fed lake on the plain about 5 kilometers north by east from the city, or from the Source Moreau, a large spring that issues from a limestone cavern at the northern edge of the plain near Camp Perrin. Either of these sources doubtless would be a great improvement. As a temporary measure it is reported that a shallow well has been dug on the plain near the city. The water pumped from this well seems to be good, and it has considerably increased the supply.

As suggested on page 530 there is reason to expect that flowing wells can be obtained at Les Cayes and farther west along the coast of the plain. Artesian water might afford a satisfactory city supply at less cost than surface water or spring water.

Jacmel.—Jacmel is in a basin underlain by Pliocene rocks, from which flowing water might be obtained in a small area near the city. Such water, however, might be salty. Test wells should be sunk to a depth of 200 or 250 meters. The present supply of the city is derived from springs.

Saltrou.—Saltrou stands on a small alluvial plain at the rear of which there are high hills of limestone. Along the shore there are deposits of beach sand and shingle that are higher in altitude than the town. Some good water is carried to the town from a small stream several kilometers to the north, in the hills, but most of the water used is obtained from shallow wells in the alluvium in the town. This water is brackish and probably also unsanitary. Wells dug in the alluvium north of the town and farther from the sea would furnish better water.

Grand-Gosier.—The village of Grand-Gosier stands on a rocky limestone coast. The only source of water is a shallow hole on the beach less than 5 meters from the sea. The water is very salty. Along the coast northwest of the village, near the mouth of a ravine, there are several springs that yield a large flow of salty water. This ground water could be tapped by digging shallow wells in the ravine farther inland, at least 60 meters from the coast, where it probably would be fresh.

NOTES ON WATER POWER AND DAM SITES.

Considerable water power could be developed in the Republic, but accurate maps and reliable figures showing stream-flow are needed as a basis for any operations. Stream gaging on the larger streams should be undertaken at the earliest opportunity.

Northeastern part.—The mountains of the northeastern part of the Republic, from Grande-Rivière du Nord to the Dominican border, are composed of igneous rocks that would hold water at almost any site where

a dam could be placed on bedrock, and such sites are common. Several streams in the area would supply power.

Plaisance Valley.—Most of Plaisance Valley is underlain by impervious argillite, and a dam built at nearly any locality where the surface features are favorable should hold water. The principal stream, Les Trois Rivières, is rather large.

West of Pilate, at the place called Laporte, Les Trois Rivières passes through a gorge more than 60 meters deep, which might be a desirable site for a dam. This gorge, however, is cut in Eocene limestone, which might not hold water, though it might become tight enough through silting to afford a good power dam. (See notes on Grande Rivière du Cul-du-Sac below.)

Rivière Artibonite and tributaries.—Power could be developed on some of the larger tributaries of the Artibonite. Rivière Frio and Rivière Samaná at some places flow in cascades over limestone cliffs, but not much storage could be obtained on account of leakage through the porous limestone. A low dam on the Bouyaha in the little body of Oligocene beds and alluvium about 3 kilometers north of St.-Rafaël probably would hold water and afford some power. On some small streams near Saut d'Eau there are very high cascades.

On the Artibonite itself low power dams would probably be successful in the limestone gorge northeast of Mirebalais, but storage would not be practicable on account of leakage. Some cascades are reported in this stretch of the river and rapids occur at several places. Below Mirebalais several sites for low power dams probably could be found at places where the valley has a fill of fine alluvium that would prevent leakage.

Rivière Coupe-à-l'Inde.—The Coupe-à-l'Inde, a few kilometers east of Dessalines, passes through a gorge in limestone where rapids and low cascades are common. Some power could be generated here, but storage of water may not be possible.

Grande Rivière du Cul-de-Sac.—The Grande Rivière du Cul-de-Sac emerges from a deep, narrow gorge at the edge of the mountains about 600 meters upstream from Bassin Général. The sides of the gorge consist of massive limestone that rises in a sheer wall about 25 meters above the stream, and the slope of the sides of the valley above this wall is very steep. At the lower end of the gorge the limestone is massive, but both the overlying and underlying beds are thin-bedded. In the narrowest part of the gorge the limestone dips northward at an angle of 25°. Upstream from the narrowest part of the gorge the underlying thin-bedded limestone crops out and the gorge is wider and not so steep-walled. About 350 meters upstream from the mouth of the gorge the stream flows across the crest of a broken anticlinal arch. Upstream from the crest of this arch the beds dip southward—that is, upstream.

The gorge is a favorable site for the construction of a dam to develop power if the minimum flow of the stream is great enough to warrant its

construction. Leakage would prevent the storage of water. If the dam were constructed in vertical stages, silting might effectively prevent leakage and the level of the stream could probably eventually be raised to the desired altitude. Most of the water that would escape downward along solution channels along the northward-dipping bedding planes in the lower part of the gorge, above the level of effective silting, would probably again collect in the stream above the present diversion dam at Bassin Général.

Grande Rivière de Léogane.—South of the Léogane Plain the Grande Rivière de Léogane flows westward along the contact between limestone on the north and basaltic volcanic rocks on the south. This contact is apparently a fault. A favorable site for the construction of a diversion dam is available at the southern edge of the plain, but such a dam would extend across the probable fault, and as it is not known whether the fault is dead slight movements along the fault plane would injure or even destroy the dam. A small amount of water could also be stored, as it seems that the alluvial fill along the stream is thick enough to prevent leakage through the fault zone or through the limestone on the north side of the valley.

Farther upstream, southeastward, the river flows entirely in limestone, and a storage dam there would be impracticable. Still farther southeast the valley is in the large area of basalt in the central western part of the Massif de la Selle. If the valley is wide enough in the area of basalt a storage dam might be built there and a diversion dam in the lower part of the valley.

Grande Rivière de Jérémie.—About 10 kilometers from Jérémie, on the road to Moron, the Grande Rivière de Jérémie passes through a narrow gap in a low range of hills. The place looks favorable for a dam site with large storage capacity. The hills, however, are composed, at least in part, of beds of sand and gravel of Miocene age, which dip northward, and the dam might leak. The place should be more carefully examined.

Farther south, around the Sources Chaudes, good dam sites in basalt could be found. There are also high cascades in some of the small streams. This region, however, is very inaccessible.