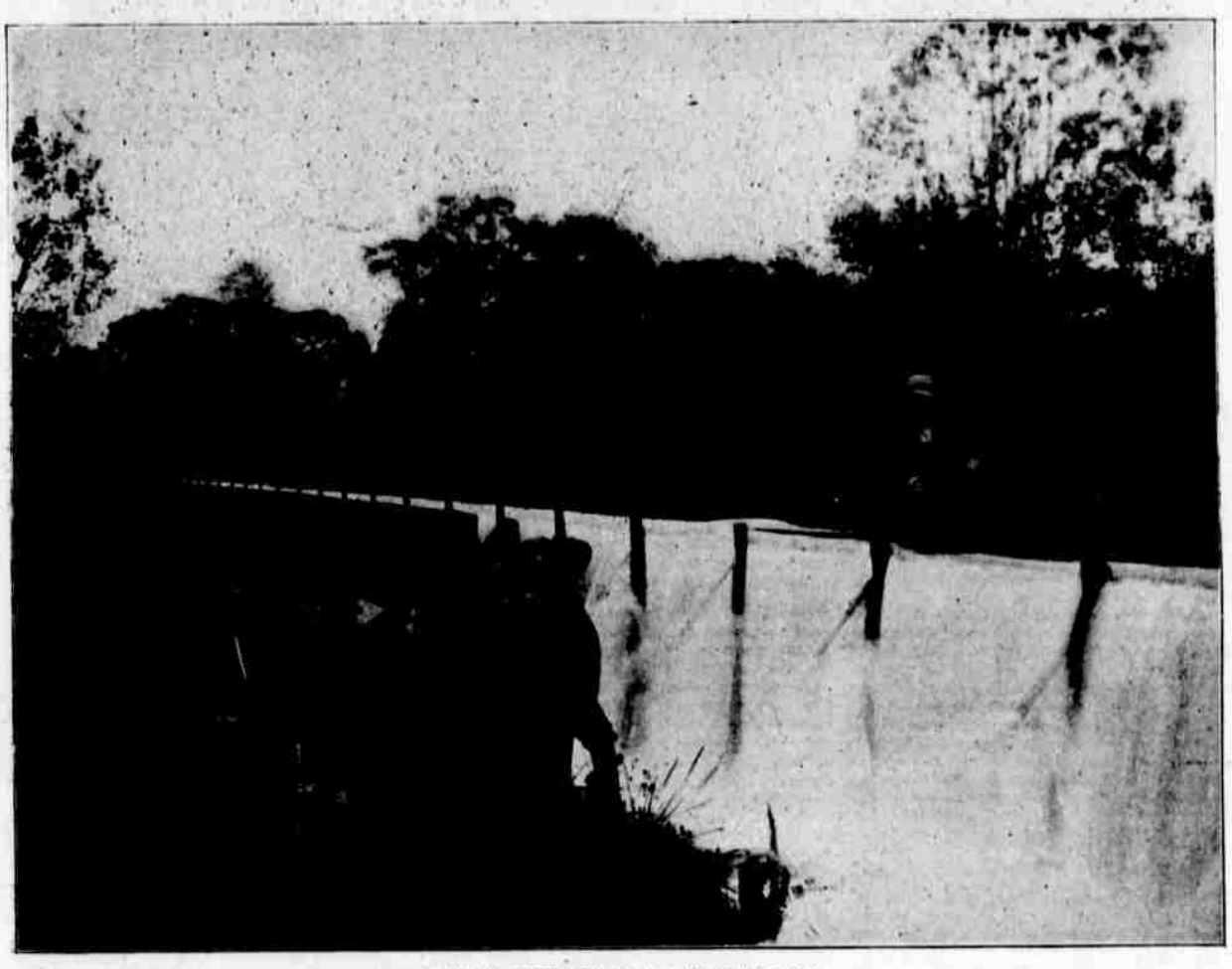
OLAA PLANTATION.

One of the Leading Sugar Estates Recently Established

SITUATED about eight miles from Hilo and extending along the Volcano road about fifteen miles, with an average width of five miles, and separated from Puna plantation by a lava flow nine miles in width, and interspersed throughout with islands of arable land to a greater or lesser extent, some of which will average as high as a thousand acres, are the vast holdings of the Olaa Sugar Company, Limited, who hold in fee simple 16,000 acres and by lease 5000 acres, giving a total of some 21,000 acres.

The first crop of cane is 3806 acres, and below the 14 1-2 mile point the land is planted with Lahaina cane, while above that point the Rose, Yellow Bamboo and Yellow Caledonia canes are planted.



WATER SUPPLY, OLAA PLANTATION

The problem of rocking the fields of the lower portion of the plantation has been partially solved by building fifteen miles of road through the fields, giving access to every portion thereof for the handling of seed, fertilizers, flume material, etc.

It is proposed to handle the first crop largely by means of flumes, for which purpose water is being brought over from Kaumana, which lies back of Hilo. The flume constructed for this purpose is a 32-inch box flume on a grade of ten feet to the mile, thus delivering water at about the 18-mile point on the Volcano road, and covering about three-quarters of the plantation with this system. The lands above this point will be handled by rail; the Hilo Railroad system is now being rapidly pushed to completion as far as the 22-mile point, which for the present will be the terminus of this road.

The completion of this railroad system will enable not only the taking off of cane above the flume line, but also such as may be necessary below that point, the plantation now being equipped with about thirteen miles of track, which may be used in that connection.

The mill is in fair shape for completion during the month of December should no untold or foreseen accident or delay occur. The mill was designed and constructed by the Honolulu Iron Works, who have a contract for furnishing the entire plant in complete running order, which plant when in operation will be the most modern equipped sugar mill in the Hawaiian Islands or in any other cane sugar producing country. All of the numerous buildings are constructed of skeleton steel framework with sheet-iron covering, absolutely fire-proof and made of sufficient size to double the present capacity of the mill. These buildings were erected by Milliken Brothers of New York.

The water supply of the mill has received careful consideration, as about 6,000,000 gallons will be required to meet the necessities of this large mill, which will have a capacity equal to 200 tons of raw sugar in twenty-four hours.

For temporary use there will be installed a 6,000,000-gallon pumping plant for the purpose of utilizing the water which flumes the cane to the mill. Later on a sufficient quantity of water will be diverted from the main box flume at the point where it enters the Olaa lands, and will be carried direct to a reservoir from which the water will be piped to get head.

The lay of the land in the vicinity of the mill is of such even grade that the pipe line will be carried back about one and one-half miles to obtain the desired pressure. The water flume has now been completed for about nine miles, which point is at the new Olaa road. The capacity is about 24,000,000 gallons, which should in addition to supplying the mill furnish ample water for all necessary purposes.

As regards the first crop to be taken off by the mill, it is estimated that it will reach 22,500 tons of raw sugar, figuring the average sugar return at five tons to the acre. In this estimate, of course, is included the cane to be ground from the Puna Plantation, now under contract.

The clearing of the forest lands is being proceeded with to allow an equalization of crops, and it is expected that the second crop will be from not less than 4000 acres. In the clearing of land, steam power is used to considerable extent, in conjunction with which is a saw mill plant turning out ties, car material, scantling, material for plow beams, etc., by means of which the running expense of the mill is made good and the clearing incidental thereto a profit.

The location of the plantation in this district is unusually fortunate, as all the elements necessary to success are to be found there. The rainfall, which is well distributed throughout the year, amounts to about 150 to 160 inches in twelve months. The sub-stratum of "aa" furnishes a drainage, while retaining a certain amount of moisture which carries the cane through any short dry spells that may occur, the temperature being on an average warmer than the Kau and North Hilo districts, which lie on either side.

The extreme fertility of the soils produces a wonderful evenness of growth at the extreme ends of the plantation, canes planted in August, 1900, in fields at elevations severally of 300 and 1600 feet, showing an evenness of growth that is remarkable, there being no difference perceptible.

Back of the Olaa Company lands lies a large territory belonging to the Government and also to individual owners, and comprising about 15,000 acres. To meet any developments that might occur in this direction, the mill is being so constructed that its capacity can be doubled with additional expense for machinery only. The time will come when the company will plant up to an elevation of 3000 feet.

The labor problem has been met on this plantation by a system of co-operative labor contracts, which appears at present to be working in an entirely satisfactory manner, applications being now in hand for newly planted areas. The entire area of first plant excepting such portions as are reserved for seed has been let out, and the plantation labor pure and simple is only such as is required on the plow, dump cart, or cultivation, and with the engines on the clearing and flume, and such small force as is rendered necessary to assist the contractors in the performance of their agreements.

Some 1700 laborers of all classes are employed upon the plantation, including contractors, etc., while 500 head of well-fed horses and mules are constantly employed in plowing and placing the land in condition for planting. In the operation of these vast holdings the management has laid out and planned his method of handling the maturing cane and the vast acreage that will be ready for the mill from time to time in a thorough manner.

At the present time the company has in process of being rocked and plowed ready for planting for second crop some 4000 acres.

The clearing of the forest lands at about the 1000-foot elevation is being pushed rapidly ahead with the aid of steam power and endless wire cables. With this system, land that would cost $150 per acre to clear by hand labor is performed by steam at an expense of from $80 to $85 per acre. In the working of all portions of the plantation it is the aim of the management to take advantage of every known labor-saving device. Riding through the almost endless fields of sugar cane, some of which is higher than a man's head when on horseback, one becomes immediately impressed with the advanced appearance of the cane, which in many cases was planted from May to December of last year.

The question of a future water supply for the Olaa plantation has been practically solved by the development of large bodies of channel water at Kaumana, as likewise at several points along and contiguous to the recently constructed flume some nine miles in length, and of ample dimensions to carry a surplus of water over the estimate of requirements.

That such a valuable adjunct to the Olaa Plantation actually exists cannot be fully appreciated without a personal examination. At the head of Kaumana gulch several shafts have been sunk to a limited depth, and at a given point a tunnel fully 300 feet in length has been driven. From this tunnel a cross-cut has been driven where a large body of water has been developed. From here the company continued to drive ahead for several hundred feet, where a still greater supply is in process of development.

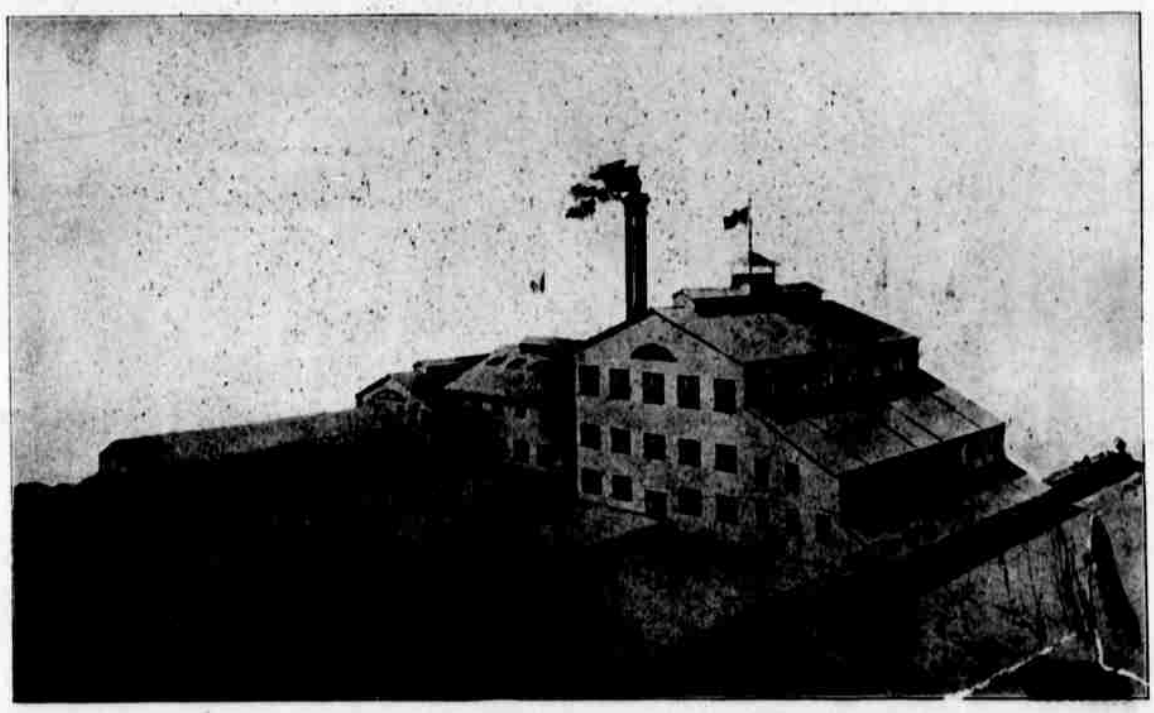
This tunnel was run in good standing ground, so that no timbering will be required. It is at the head or fountain of this water development, which has an elevation of some 2000 feet, where the main flume has its beginning.

Along the line of this flume has been established headquarters for the men engaged in its construction, and as one passes along the flume the eye is greeted with fields of maturing sugar cane, and then comes in view thousands of acres of rich soil, where the sound of the woodman's ax has never been heard, and where the soil is peculiarly adapted for the successful cultivation of sugar cane when once cleared of the forest trees and dense undergrowth.

At a point some three miles or more below Kaumana the Olaa Company have opened up a magnificent body of water which in itself is apparently of sufficient magnitude to supply water for all flume purposes. This bountiful supply is being still further developed, and a box flume with a capacity of several million gallons is now being constructed, which will connect with the main flume.

As to the permanency of this magnificent water supply there is absolutely no question, as all indications go to show that the supply emanates from subterranean streams or passages, and holding a general course northeast and southwest, while an analysis of the supply shows no excess of salts or other ingredients which is a very objectionable feature in some sections where the water supply is utilized for irrigating sugar cane. As there were no appliances at hand to measure accurately the amount of flowing water at the time this report was made, a conservative estimate was made approximately of 30,000,000 gallons, which is far in excess of the amount required by the Olaa Plantation.

The construction of the flume system to utilize this vast body of water and convey



GENERAL VIEW OF OLAA MILL