MINING.

AURIFEROUS ALLUVIAL IN SURINAM,

From the Financial Mining Record.

An English mining engineer, Mr. William Groville Wears, in some notes contributed to the *London Mining Journal* of the 9th of July, writes instructively of the mineral resources of that portion of South America known as Surinam or Dutch Guiana, which we hope may prove to be one of the future sources of gold supply. We extract the following, touching the alluvial or placer districts of Surinam :—

"Although the existence of auriferous alluvial was ascertained as far back as 1862, it was not until 1875 that local attention was given to its working. The results were so extraordinary that by the following year over 500,000 acres of land were applied for and conceded, and the arrival in the country of a few Californian miners gave an impetus to the industry. But it would appear that for many years there was a local desire and intention to keep secret the marvellous richness of the country in this particular—not only to avoid a rush of foreigners, but from the fear that it would attract and draw away labor from the other industries—which indeed was subsequently the case. But of late years a great number of emigrants have been attracted from the West Indian Islands, so that with the imported coolie labor there is now no difficulty to be apprehended from any extension of mining enterprise. At the present time over two million acres of land are held by local concessionaries, but as the auriferous area of the country, *i. e.*, commencing about fifty miles from the coast and stretching to the Brazilian frontier, exceeds 30,000,000 acres, it is evident that there is room for a considerable expansion of the present dimensions of the industry.

The auriferous alluvial deposits are shallow and are covered by a loam deposit from six to ten feet deep, which is easily stripped. They occur in channels of dry rivers and lakes, also in valley bottoms and the slopes of hills underlying the course of the mountain streams. The beds of the main tributaries of the large rivers have also proved to be auriferous, and if, as is frequently done in Honduras, the waters could be diverted from their course, would pay handsomely to work. The occurrence of these deposits may be traced to the enormous auriferous quartz bodies that intersect the mountains, and the pay stuff, although varying in different districts, is more generally a quartzose gravel; and in the northern limit of the gold fields of Midrinetti they appear to be of recent deposition. Some of the auriferous gravel channels are of almost indefinite length and continuity, but their widths vary according to the configuration of the locality from 80 to 500 feet. They are generally from 6 to 15 feet in thickness, and lie on a clay stratum, which I found is never penetrated in general operations. But having experience of similar deposits in Columbia, Honduras and Venezuela, I sunk a pit through the clay in one property and found another deposit lying upon a stratum of decomposed schist, which was superincumbent on the country rock. In the pay gravel boulders of quartz (floating reef) are frequently found, which when broken show large patches of gold. The fine quartz gravel also contains gold which, however, could not be separated from it in bulk without finer crushing and amalgamation. And on many properties there are thousands of tons of this gravel amongst the sluice tailings, which from assays I have made of the stuff yield over one-half ounce to the ton, and with milling machinery near at hand must pay to work, as it would cost practically little to extract. In the pay drift the gold is found in coarse nuggets, and no attention seems to be given or attempt made to save the fine gold; hence at almost every property the tailings would pay to rewash, with a view to securing the fine gold, which I found is generally more abundant in the gravel than nuggets such as they may have already yielded. The common nuggets vary in size and weight from 2 dwts. to 15 dwts., but occasionally some weighing 40 to 50 ounces are found, and some have been found which have weighed over 200 ounces. A nugget of 40 ounces is no uncommon find in Surinam, and when pay drift carelessly worked averages over 4s. per cubic yard and only costs about 2d. to be treated, it is not surprising that fine gold is not sought after. The method of winning the gold from the alluvial deposits is by 'ground-sluicing' and the use of 'long toms.' The latter are generally used when there is a scarcity of water or for stuff, which is believed to be rich and requires particular attention, or for gravel, which may be argillaceous and otherwise difficult to disintegrate. The 'long toms' require much greater attention than the ordinary sluices, and the stuff is puddled more than otherwise, and as the tailings are not run off so quickly, it is practicable to examine it more closely to discover particles of gold which, however careful they can be with the sluices, frequently escape. The stuff cannot be treated *in situ*, but being dug out is thrown into the sluices, but the native methods of sluice washing, although in many respects crude, is entitled to every respect, and, indeed, compares favorably with those of other gold fields, which are so well known as to need no description. As to the loss of gold in the tailings, I may parenthetically observe that the tailings in the gold fields of North America and Australia have always repaid when worked over.

"The gold production of Surinam from the inception of the industry in 1875 to the end of 1890 exceeded £2,600,000, and the annual average is now about £150,000. This result is obtained entirely from drift deposits and is highly satisfactory and encouraging when it is considered to be solely the result of local capital and native enterprise. No foreign capital has ever been spent towards obtaining any portion of these returns, and it can be easily imagined that not much local capital was ever adventured in the industry. No mining machinery of any kind is known in Surinam. The noise of crushing machinery has never been heard in the land, nor has a rock drill ever been landed in the country. With the exception of one property, underground workings are unknown. That placer mining has been profitable is evidenced by the fact that the number of local prospectors