

The mineral has the formula $PtAs_2$, being amorphous with FeS_2 , and the name sperrylite has been given to it. The mineral is found as small silver white crystals among a decomposed greenstone, which has been milled for the free gold contained in it.

Gold.

Gold has been discovered in a great many places in the ancient rocks of the province, in veins cutting syenites, granites, greenstones, and Huronian green schists, for the most part. The places where gold has been found extend from the extreme east to the extreme west of the province. Development is at present going on in only three districts, one in the east, one in the centre, and the third in the extreme west.

All of the gold occurrences are in the Huronian system, unless the measures in the east, in the Marmora district, are correctly classed as Upper Laurentian, in which case that division of the Archaean formation can claim veins of this precious metal. Another exception may also be quoted, where a quartz vein containing bornite, occurring in the Laurentian near Parry Sound, is found to yield coarse gold.

From the small amount of development which has taken place up to the present time, it would appear that disappointment in not finding an equal amount of free milling ore in depth at, or near, the surface has largely been the factor in discouraging operations. With the great advance in modern methods for treating ores of a refractory nature, we may look forward to gold-mining operations being permanently established in the province on a scale which has not hitherto been attempted.

Free milling ores, however, are by no means lacking.

The character of the arsenical gold-bearing veins in eastern Ontario, in the Marmora district, has been described under the remarks on arsenic. In the same locality, veins carrying gold in association with iron pyrites and no mispickel are also found, one of which is being developed at present. The mispickel ores appear to be more particularly associated with veins in syenite, while those veins whose chief mineral is iron pyrites seem more generally associated with diorites and talcose or chloritic schists, the latter generally as a lining to the vein.

Confusion frequently arises as to the rock in which the gold veins occur. Mining engineers, and even geologists, have failed to recognize that sometimes the schists forming the walls of the veins are the product of the chemical decomposition of the true walls, along the fissure in which the vein has formed, and this schistose lining, sometimes extend-