

One of these, consisting of a thin seam in gneiss, containing galena or sulphuret of lead and sulphuret of zinc, was discovered in one of the quarries on Jones' Falls, near Baltimore, many years ago, but was never explored. It is probable that it was not worth working.

A serpentine formation, about seven miles N. N. West from Baltimore, contains chrome in the state of an oxide combined with oxide of iron. The district is called the Bare Hills, because of its sterility, owing to the large quantity of magnesia in the soil.

It was there that chrome ore was first obtained in sufficient quantity to be manufactured into a paint. It is still a very rare mineral in Europe, except at a few points in Russia and in Turkey, from whence it is transported to England, France and Germany, so that our people now find rivals in the trade. A few years since the world was supplied exclusively from Maryland and from points in Pennsylvania adjacent to Cecil county.

A copper mine was opened near the eastern border of the Barehills, and, after being worked a few years, the mining was suspended. A good deal of ore was taken out, and it was certainly a promising mine when I saw it before the working ceased. It has recently changed hands, and will doubtless be fully examined and worked if it shall prove productive, which is highly probable.

Southwestward of the Barehills, about six miles, is another formation of serpentine, called Soldier's Delight, from which chrome ore, as well as a magnesian mineral, used for making Epsom salts, was formerly obtained.

When we reach the northwestern edge of the mica slates, (No. 5) we find what may be termed a metalliferous range, extending from the northern part of Cecil county, through Harford, Baltimore, Carroll, Howard and Montgomery counties.

In addition to the magnetic iron ores of this range already referred to, there are ores of copper, chrome, manganese, and gold.

Indications of copper may be seen at various points, and several mines have been opened in Carroll county, one of which, at Springfield, near Sykesville, continues to be efficiently carried on.

Near Finksburg, in Carroll county, a copper mine was successfully worked during several years, and, when I examined it, was certainly quite promising. When I passed it, a short time since, it was idle, but I am strongly inclined to the opinion that if the proper skill and sufficient capital were applied, it will prove productive. The ore consisted of yellow or pyritous copper, and one still richer called purple copper ore.

I first discovered sulphuret of cobalt among the products of this mine, but this rare and valuable material occurred in very small quantity, and has not been found elsewhere in this State.

Other mines were opened in this range, between Finksburg and Sykesville, but I believe they are not in operation at the present time. At one of them native gold was discovered.

Northeastward from Finksburg there are indications of copper at many points, especially near the forks of the Gunpowder river, about twenty-two miles north from Baltimore. Some explorations and diggings have been made without discovering the ore in quantity. It appears to be associated with the magnetic oxide of iron of this formation.

The map shows several formations of serpentine, near the northwestern borders of this range, and it is in connection with these that chrome ore is always found. There are, however, but two localities wherein it has been extensively mined, although it has been attempted in numerous places. A mine was worked with large profits for many years near Cooptown, in Harford county, and then suspended because of the discovery of still more productive mines in Cecil county, and the adjacent parts of Lancaster county, Pennsylvania.

Harford and Cecil county have largely contributed the magnesian mineral from which nearly all the Epsom salts, sold in this country, is made.

I have had little opportunity to examine this range in Montgomery county. We know, however, that good oxide of manganese exists therein, but the working did not prove profitable. Gold also occurs in that county, and a mine