Mesozoic iron-manganese and lead-zinc-copper-barium mineralization in South Wales

Four discrete types of mineralization characterize the Mesozoic to Recent mineral deposits of South Wales. Three of the mineralization events are of epigenetic origin with respect to their host rocks, whilst the fourth involved the supergene alteration of the earlier events. The epigenetic mineralization comprises oxide-facies iron and manganese ores (represented by the Mwyndy Mine GCR site) with superimposed, and often spectacular, metasomatic cavity-fill assemblages, well exposed at the Ton Mawr Quarry GCR site. Mississippi Valley-type (MVI) veins carry lead, zinc and minor copper sulphides with associated calcite, fluorite and barium- and strontium-bearing minerals, the age of which is constrained at the Ogmore Coast GCR site. The locally intense supergene weathering, which is particularly evident in the MVT veins, has produced mostly common secondary minerals, but locally some unusual assemblages have been recorded, the most complex of which is seen at the Machen Quarry GCR site.

References