

“Skarn”

1. Originally a term applied to coarse-grained calc-silicate gangue associated with the iron ore deposits of Sweden
2. It include a variety of calc-silicate rocks rich in calcium, iron, magnesium, aluminium, manganese that formed by replacement of originally carbonate-rich rocks.
3. Skarn deposits result from the hydrothermal interaction of hot silicate magmas and cooler sedimentary rocks

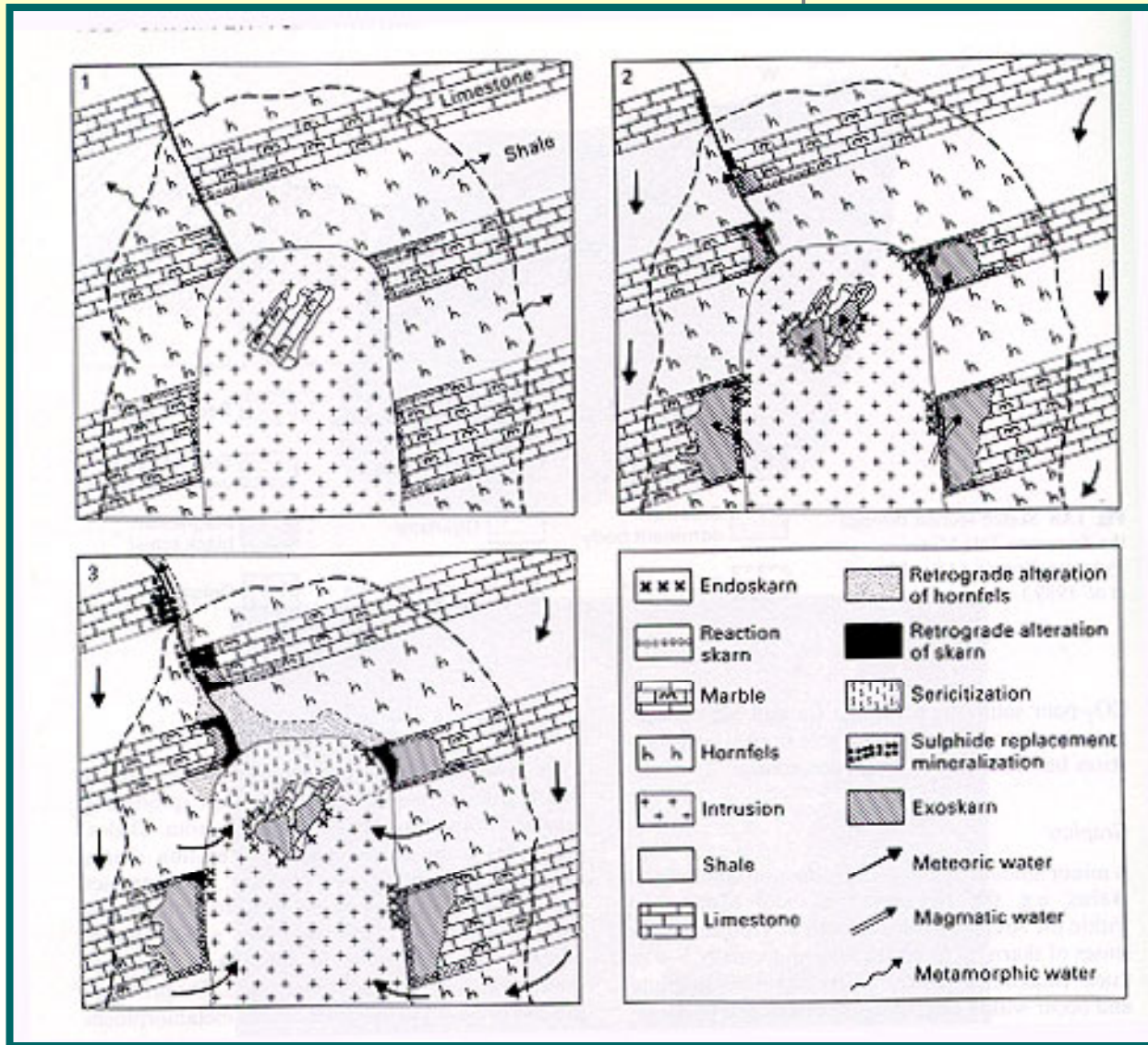


Fig 1. Stages in the development of skarn deposits

The type of skarn deposits

(Enaudi *et al.*, 1981)

1. Gold type
2. Iron type
3. Copper type
 - : nonporphyritic, small-size, high- gold grade in high sulfide content, intense retrograde alteration
4. Porphyry copper type
 - : Large-scale and low-gold grade
5. Lead-zinc type
 - : very little gold contain

Summary and Exploration Criteria

1. Skarn mineralogy (especially, garnet and pyroxene) is the key to explore skarn deposits.
2. The abundance of pyroxene relative to garnet and the high ferrous/ferric ratios reflect the generally reducing environment of gold skarns.
3. Reducing conditions and subsequent oxidation is important in skarn gold deposition

4. Most gold skarns are associated with relatively mafic reduced plutons and contain anomalous of As, Bi, and Te.
5. Explorationists should noted that the more proximal gold-poor, garnet-rich part of a skarn deposit is likely to be more resistant to erosion and thus more likely to crop out and be sampled than the more distal gold and pyroxene-rich skarn.
6. Economic gold skarns should be sought in the distal part of under reducing conditions.