

Process mineralogy of unconventional mineral deposits - examples of applications and challenges

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Process mineralogy is an important field within the mining industry. It is widely known that the application of process mineralogy can be used to solve problems and challenges, and as a tool for optimization, in the mineral processing plant. The field also contributes to increased value of ore concentrates produced. However, how can the knowledge from, and experience with process mineralogy be applied to unconventional mineral deposits? “Unconventional mineral deposits” is here used for non-metallic industrial mineral deposits, construction materials, and for the different types of deep-sea mineral deposits.

Case examples will be provided from quartz and quartzites used for silicon production, deep-sea minerals, and the pyrrhotite problem in aggregates for concrete. Emphasis will be on important parameters for mineral deposits, where grades are at different scales than for many metallic ores. Or where grade is not even relevant, but other mineralogical properties are crucial for the performance.