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Coexistence Between Large-scale Mining (LSM) and Artisanal and Small-scale Mining (ASM) in Peru and Colombia

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Artisanal and small-scale mining (ASM) is common in mineral-rich locations in the developing world, generating a significant share of production for commodities such as gold. ASM has expanded due to economic and environmental pressures. Large-scale mining (LSM) companies will also need to expand to meet future demand for minerals and metal resources. The likelihood that these expansions will result in further points of contact between the LSM and ASM sectors is high. In this scenario, coexistence between ASM and LSM is key and should be seen as the capacity to build synergies and operate together. We built a database of sites in Colombia and Peru where ASM and LSM both occur, documenting the technical characteristics such as deposit and mineralization type, mining methods, recovery process and the social context including ethnicity, demography, economic activities, and social organizations. We observed that coexistence occurs between ASM and both junior and senior LSM companies, covering all the stages of the mining cycle. Coexistence scenarios are most common in gold projects but cover a wide variety of mineralization and deposit types including epithermal, porphyry and VMS among others. We conclude that the use of ASM activities by LSM companies as exploration vectors is the main cause of convergence between LSM and ASM in developing countries. Governments have taken significant efforts to create tools for LSM companies and holders of mining titles to reach agreements with ASM miners. Nevertheless, the success of these agreements largely depends on the willingness of the parties. To reduce the risks of social harm in developing countries while reducing the social risk to the exploration and mining projects economic geologists must be aware of the different strategies that governments and LSM companies are implementing to address the coexistence in order to incorporate this knowledge in project evaluation and risk assesment.