

## **Study for Establishing a Concept of Underground Mining in a Folded Deposit with Weathering**

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**Abstract :** Large metal mines operated with open-cast mining methods must transition to underground mining at the conclusion of the operation; however, this requires a period of a difficult time when production convergence due to interference between the two mining methods. A transition model with collaborative mining operations is presented and established in this work, based on the case of the South Kaliapani Underground Project, to address these technical issues of inadequate production security and other mining challenges during the transition phase and beyond. By integrating the technology of the small-scale Drift and Fill method and Highly productive Sub Level Open Stopping at deep section, this hybrid mining concept tries to eliminate major bottlenecks and offers an optimized production profile with the safe and sustainable operation. Considering every geo-mining aspect, this study offers a genuine and precise technical deliberation for the transition from open pit to underground mining.

**Keywords :** drift and fill, geo-mining aspect, sublevel open stopping, underground mining method

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