

ROOM AND PILLAR MINE

Room-and-pillar is a widely used mining method that has found application in various types of ore bodies. The method involves extracting ore from the face while leaving behind protective pillars throughout the section. These pillars represent a direct loss of ore, as they are left in place to support the roof of the workings and prevent roof collapse. An idealized layout of a room-and-pillar mining section is shown in the figure below.

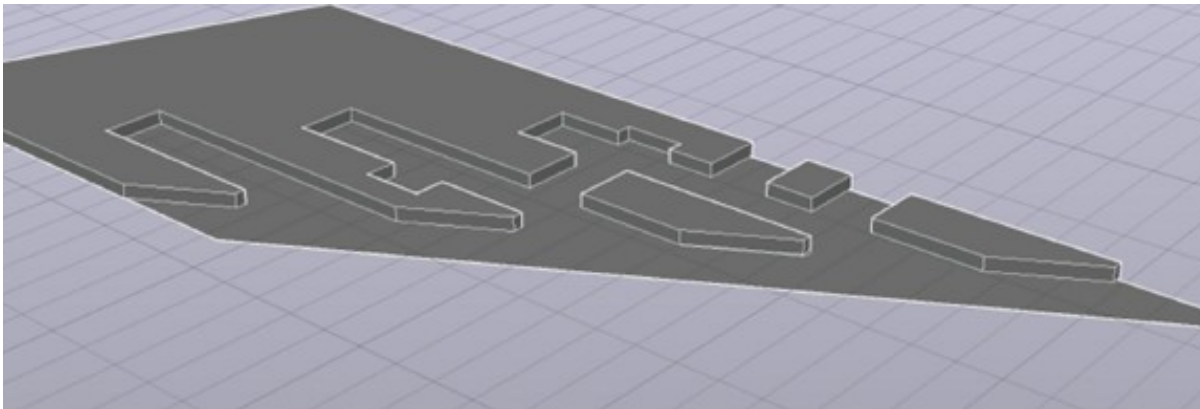


Figure 1 Room and Pillar layout

Thinner ore bodies often face the challenge that conventional equipment available on the market cannot operate in rooms with a height of less than **2 meters**. Taking this into consideration, it can be concluded that a mine planning to use conventional equipment and the room-and-pillar method in a thinner ore body is effectively forced to **dilute the ore** in order to accommodate the machinery.

DOK-ING MINING machines and equipment provide an effective solution to this challenge. Their compact design enables mechanized mining in low-height workings, allowing mines to maintain lower mining heights while reducing unnecessary ore dilution. An example of optimizing the mining height can be found at **Zimplats' Mupani Mine**, where the NRE fleet operated at reduced mining heights of down to **1.7 m**, allowing the equipment to extract only the ore-bearing reef horizon.

Similarly, the **XLPD** was used at the **Krasnokamensk Uranium Mine**, where it reduced ore dilution by as much as **35%**. An example illustrating this concept is shown in the images below.

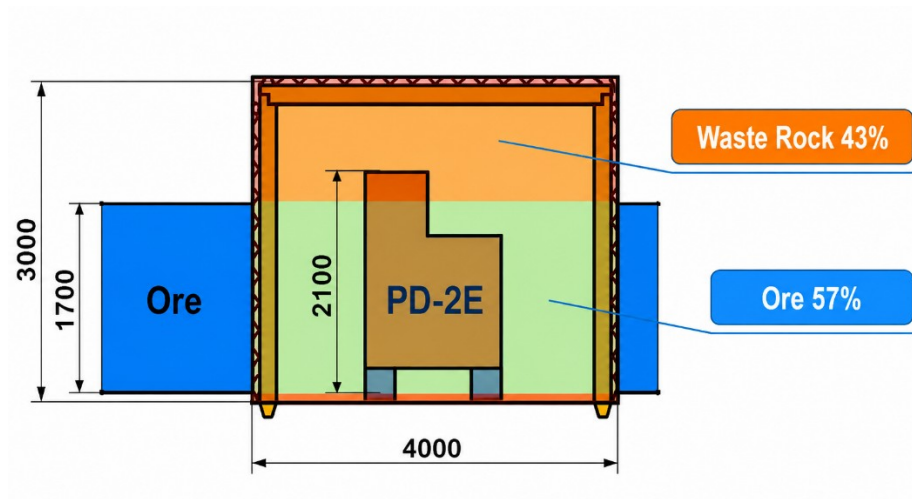


Figure 2 Comparison between old and new stoping height

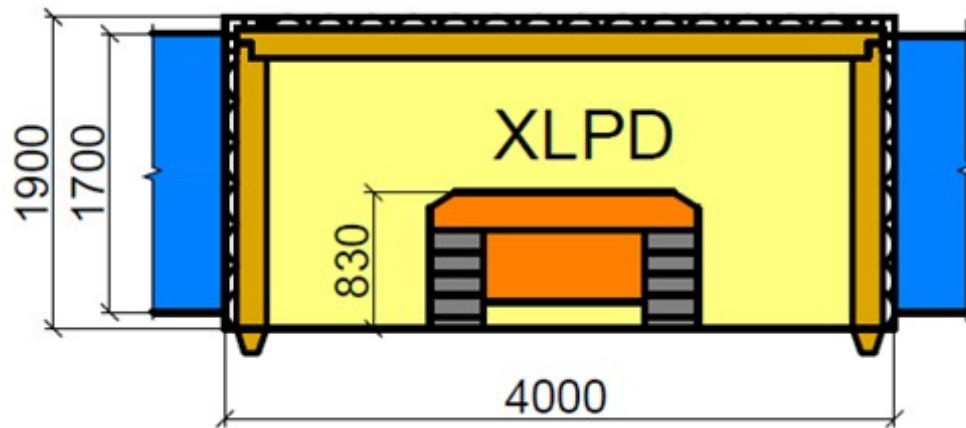


Figure 3 XLPD machine in room and pillar layout