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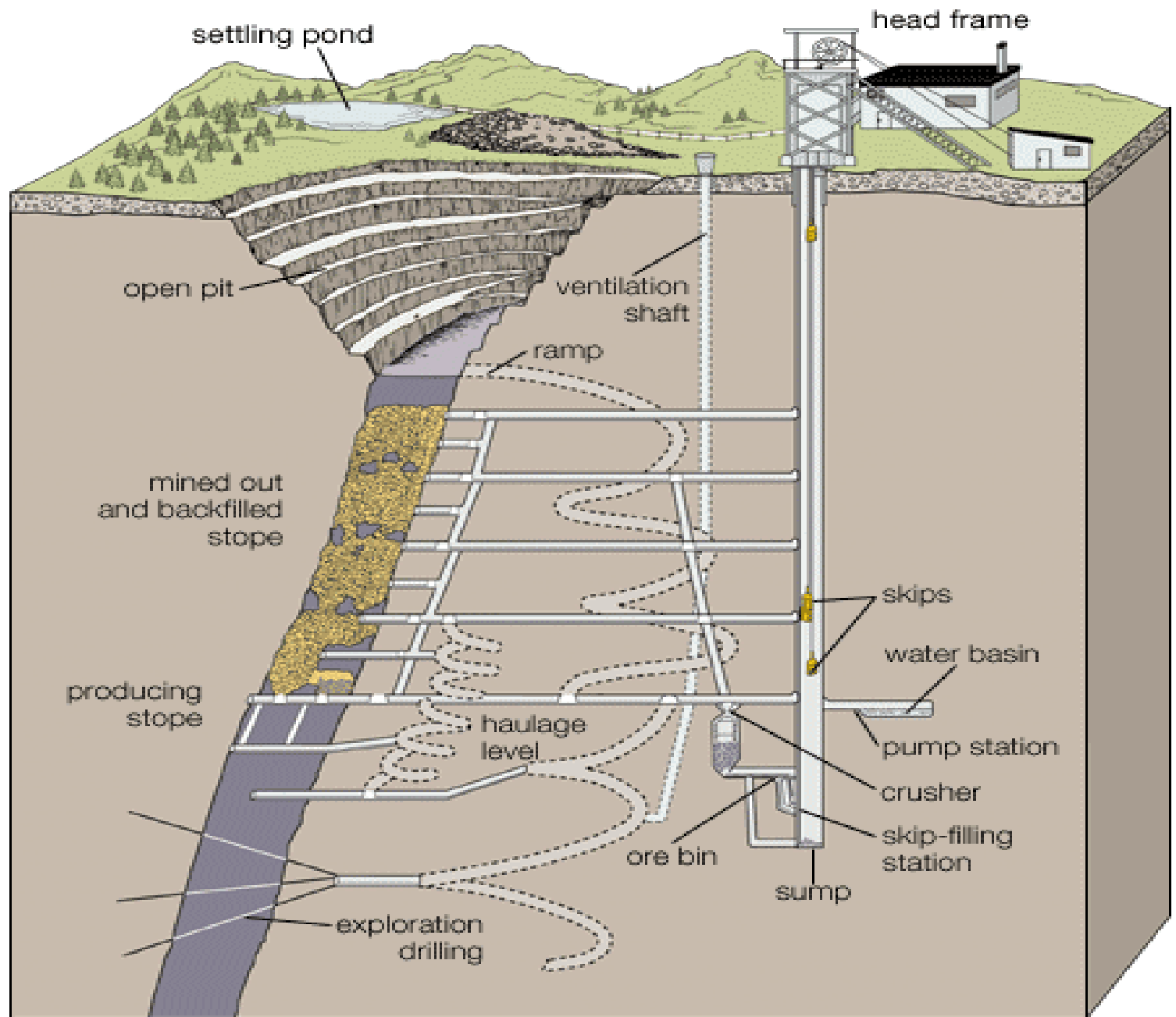
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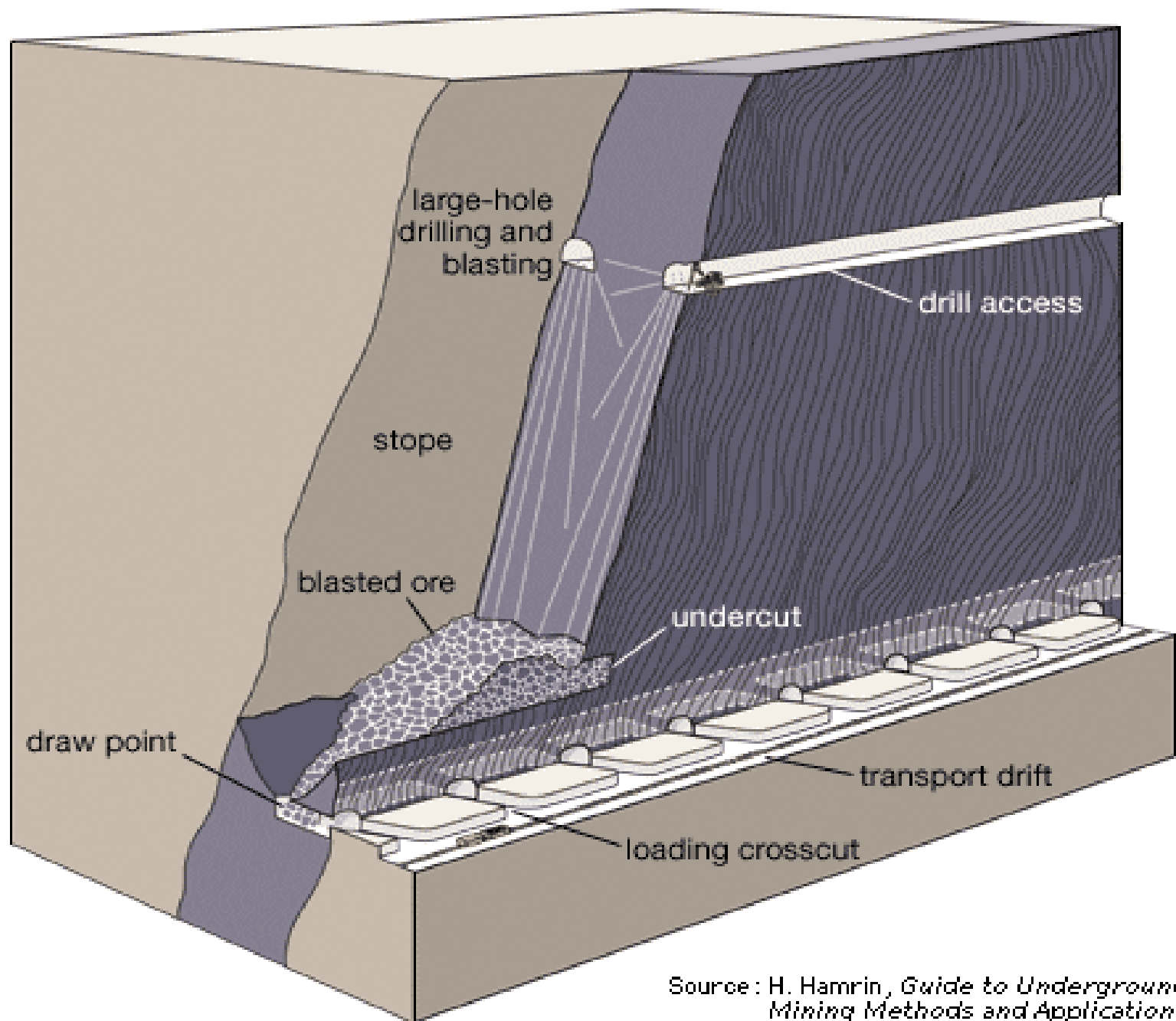
# Metalliferous Mining

## **Terminologies**

## ➤ Stope

In metalliferous mining stope is the area where we plan to extract minerals, stope means deposition of minerals.





Source: H. Hamrin, *Guide to Underground Mining Methods and Applications* (Stockholm: Atlas Copco, 1997)

## ➤ Crown pillar

For a stope crown pillar is a horizontal pillar and it is a horizontal layer of mineral *below which mineral was extracted, leaving some* portion of ore in form of pillar.

## ➤ Sill pillar

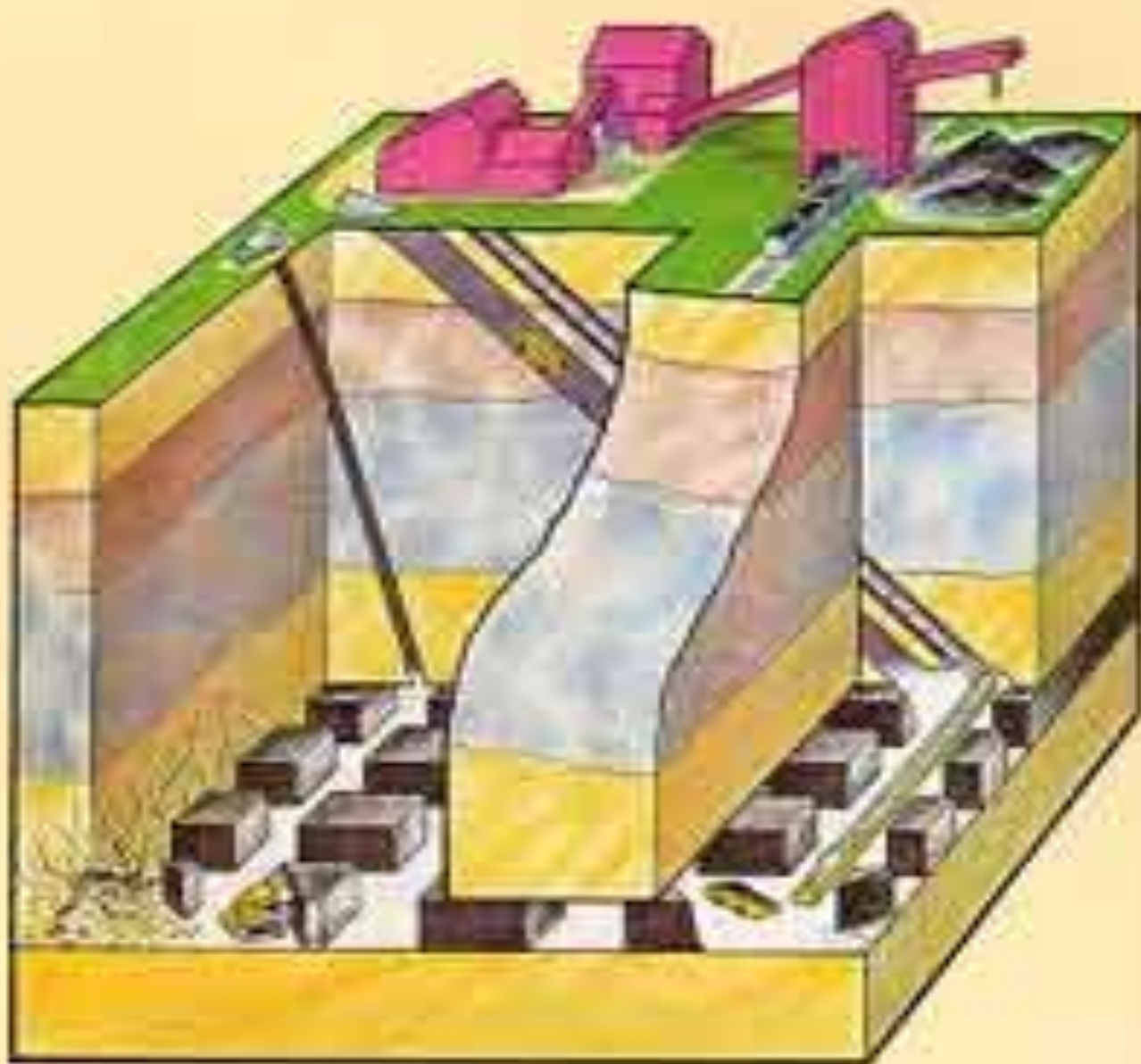
Sill pillar refers to horizontal layer of ore which is left at the bottom of the stope. Sill pillar can also be called crown pillar for the stope below.

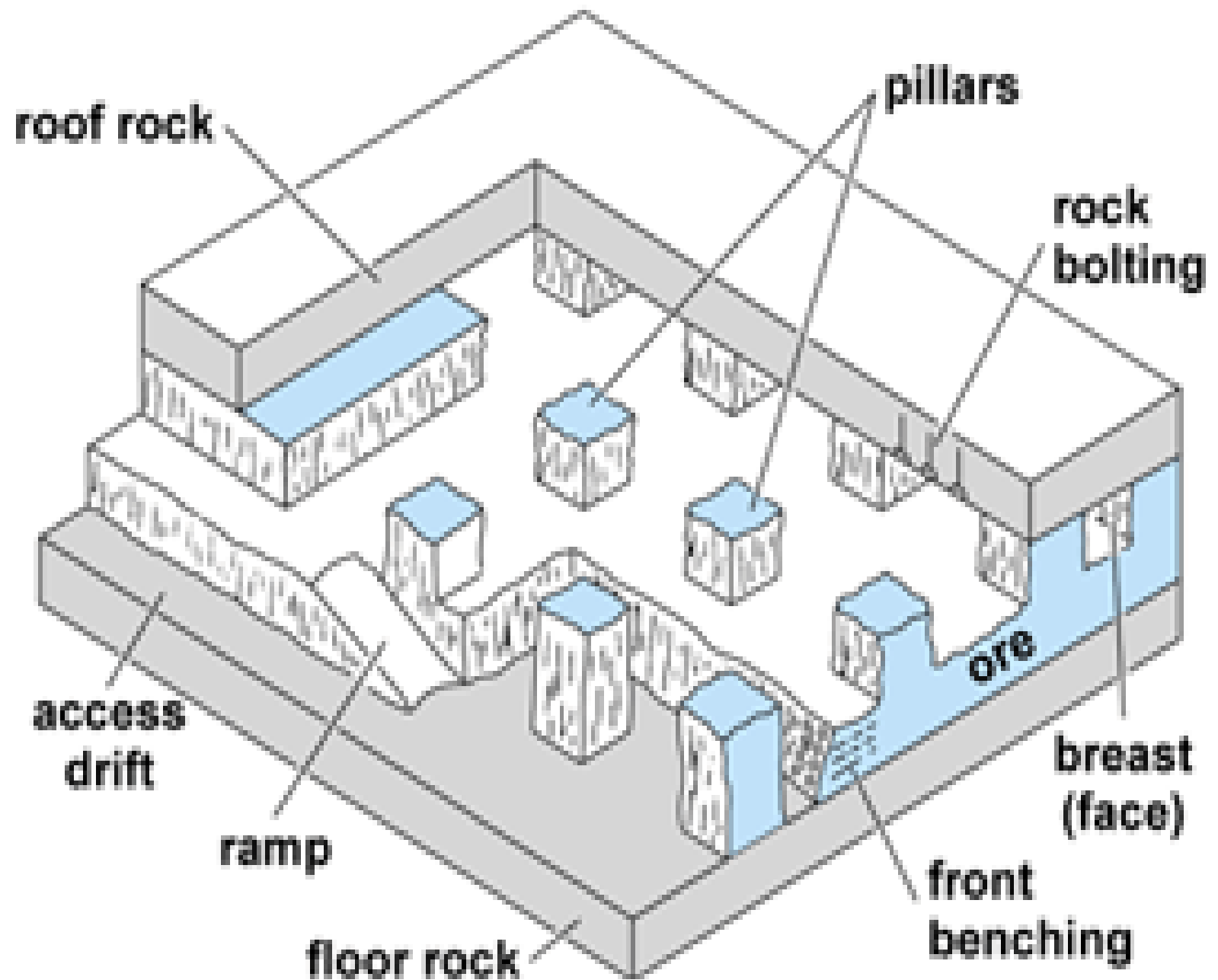
## ➤ Rib pillar

Rib pillar is vertical pillar of mineral alongside the stope to provide support to the roof.

So vertical pillar is rib pillar and horizontal pillars are crown and sill pillar.

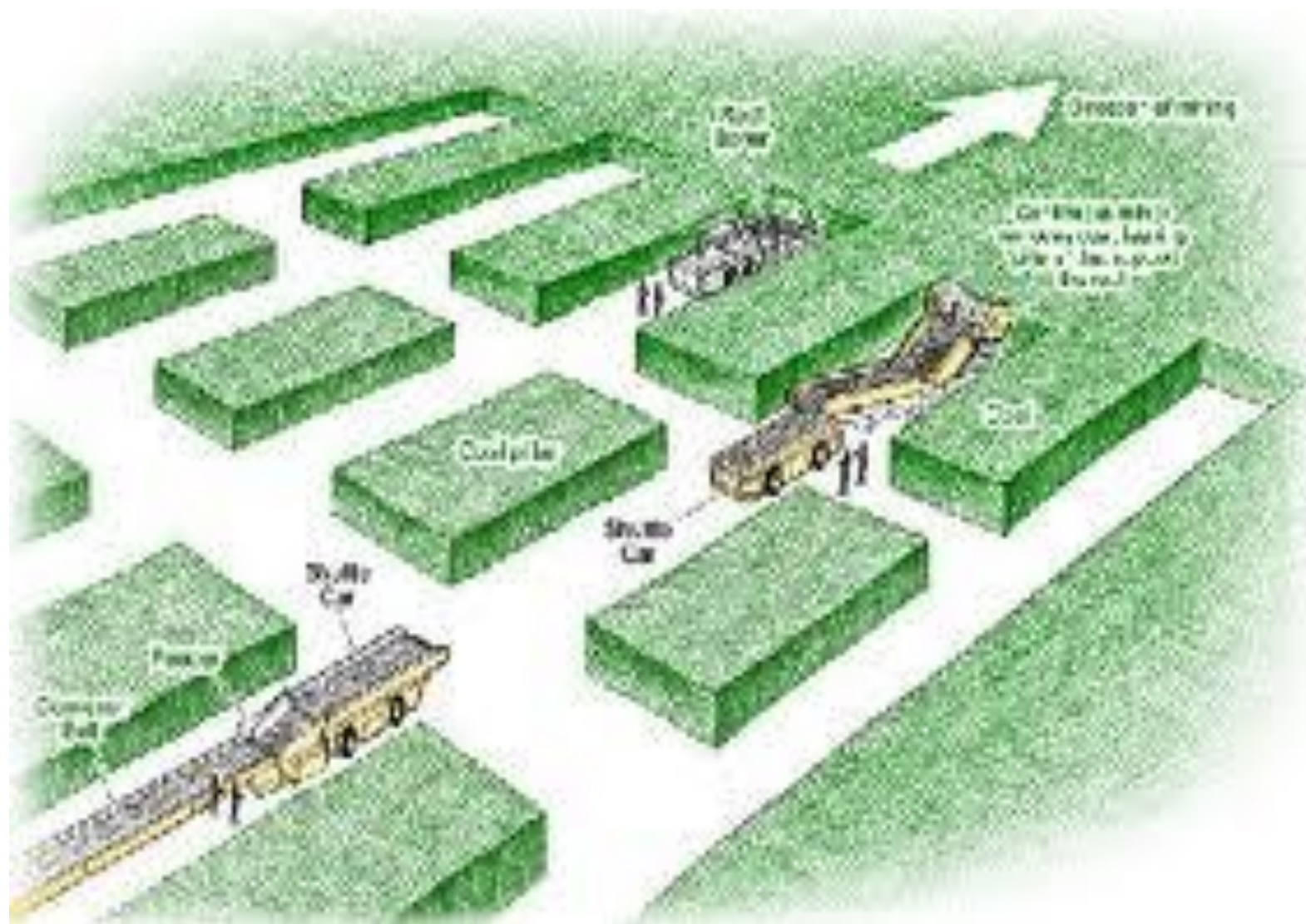












## ➤ sump

Sump is deepmost area to collect water and pump out that water for human purpose in underground mining. Needed inclines are made so as to ensure water collection in the sump and subsequent removal by pumps and motors.





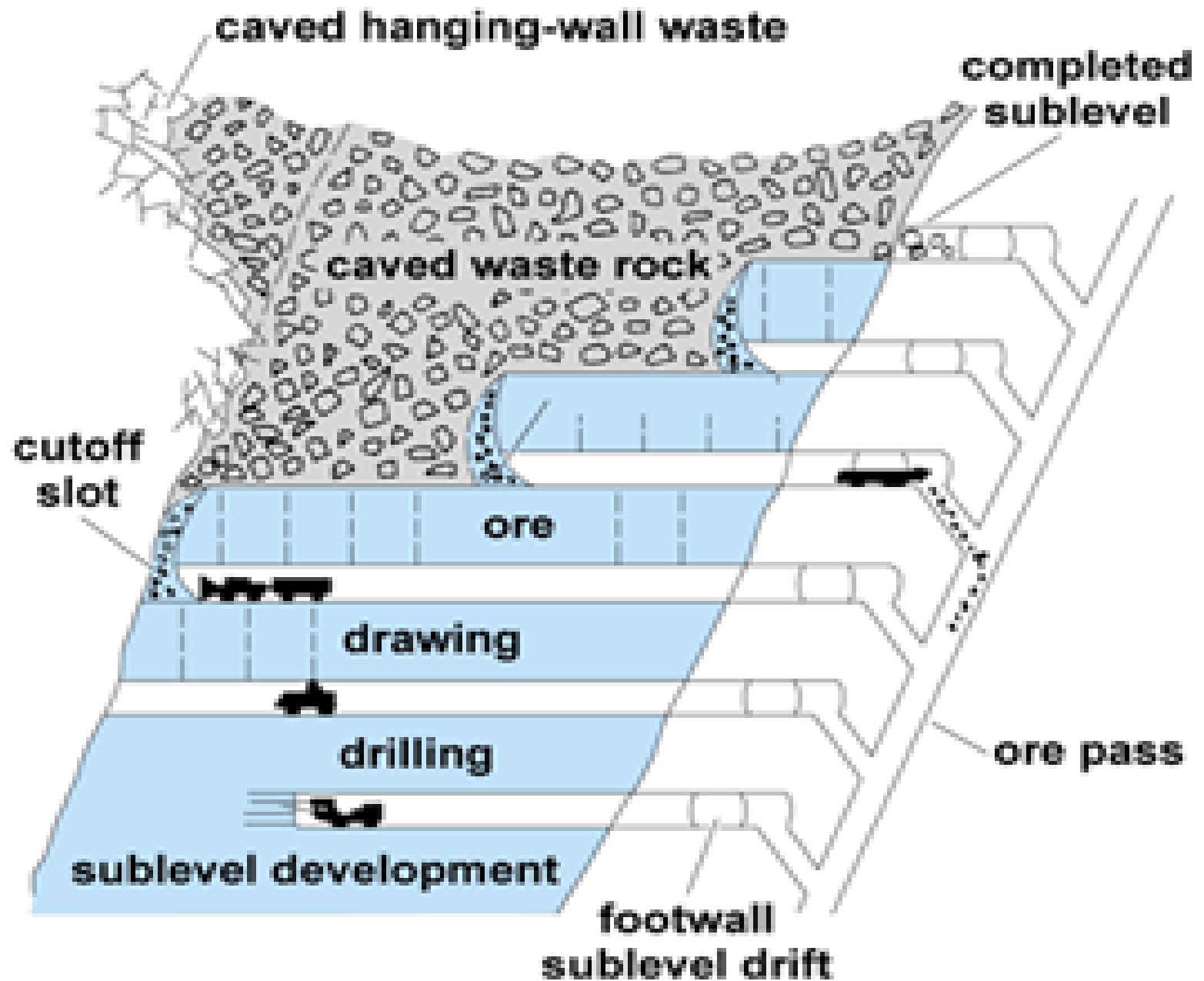


## ➤ Ore pass

Ore that is mined on the different levels is dumped in to vertical or near vertical openings called ore pass, through which it falls under gravity to the lowest level of the mine. There it is stored in an ore bin and extracted to the surface.







## ➤ Raise

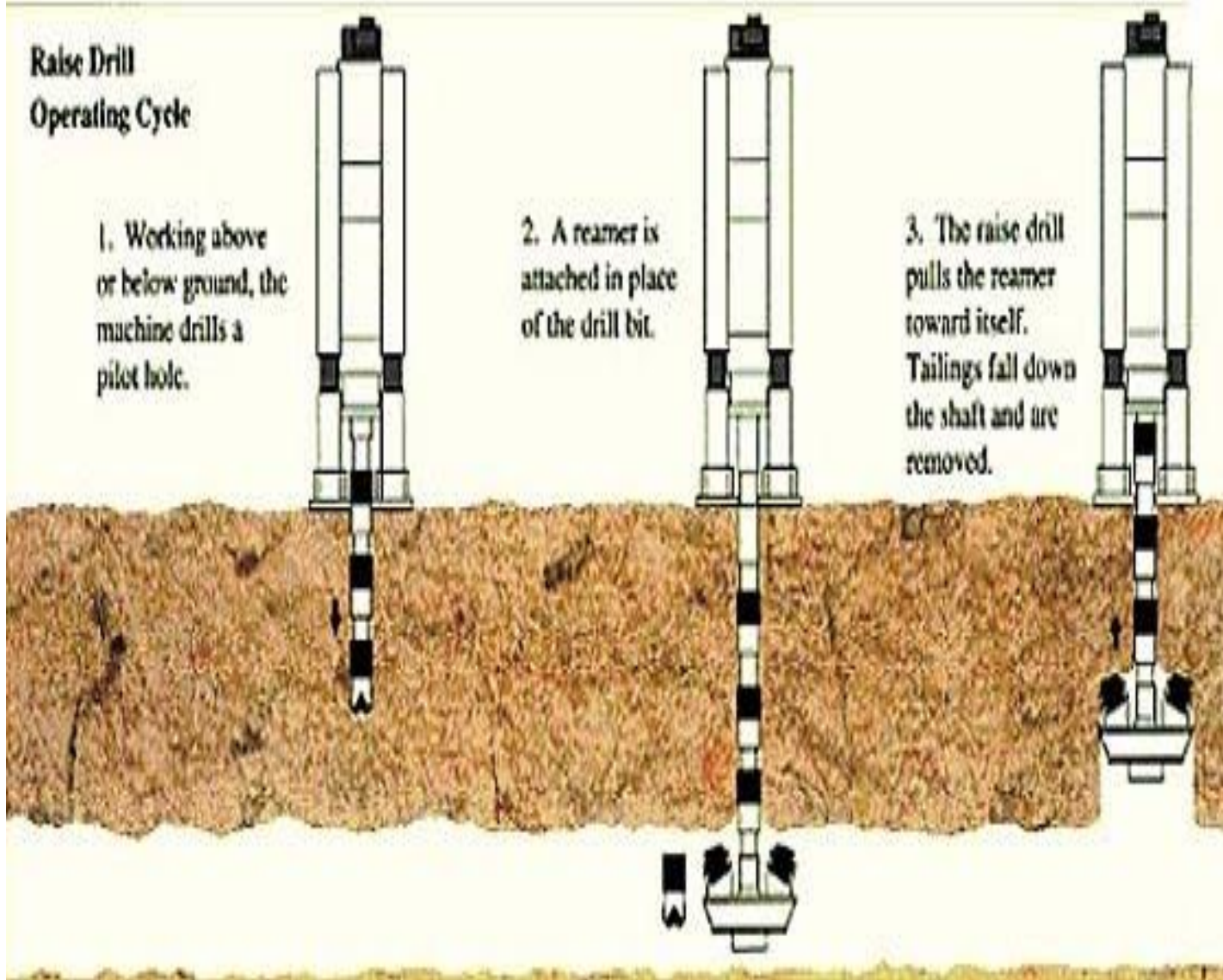
If we vertically connect two level of stope then the structure from lower to upper level is referred to as raise.

## Raise Drill Operating Cycle

1. Working above or below ground, the machine drills a pilot hole.

2. A reamer is attached in place of the drill bit.

3. The raise drill pulls the reamer toward itself. Tailings fall down the shaft and are removed.







*THANKS*