

Underground Mine: Introduction, terminologies, Layout and Planning

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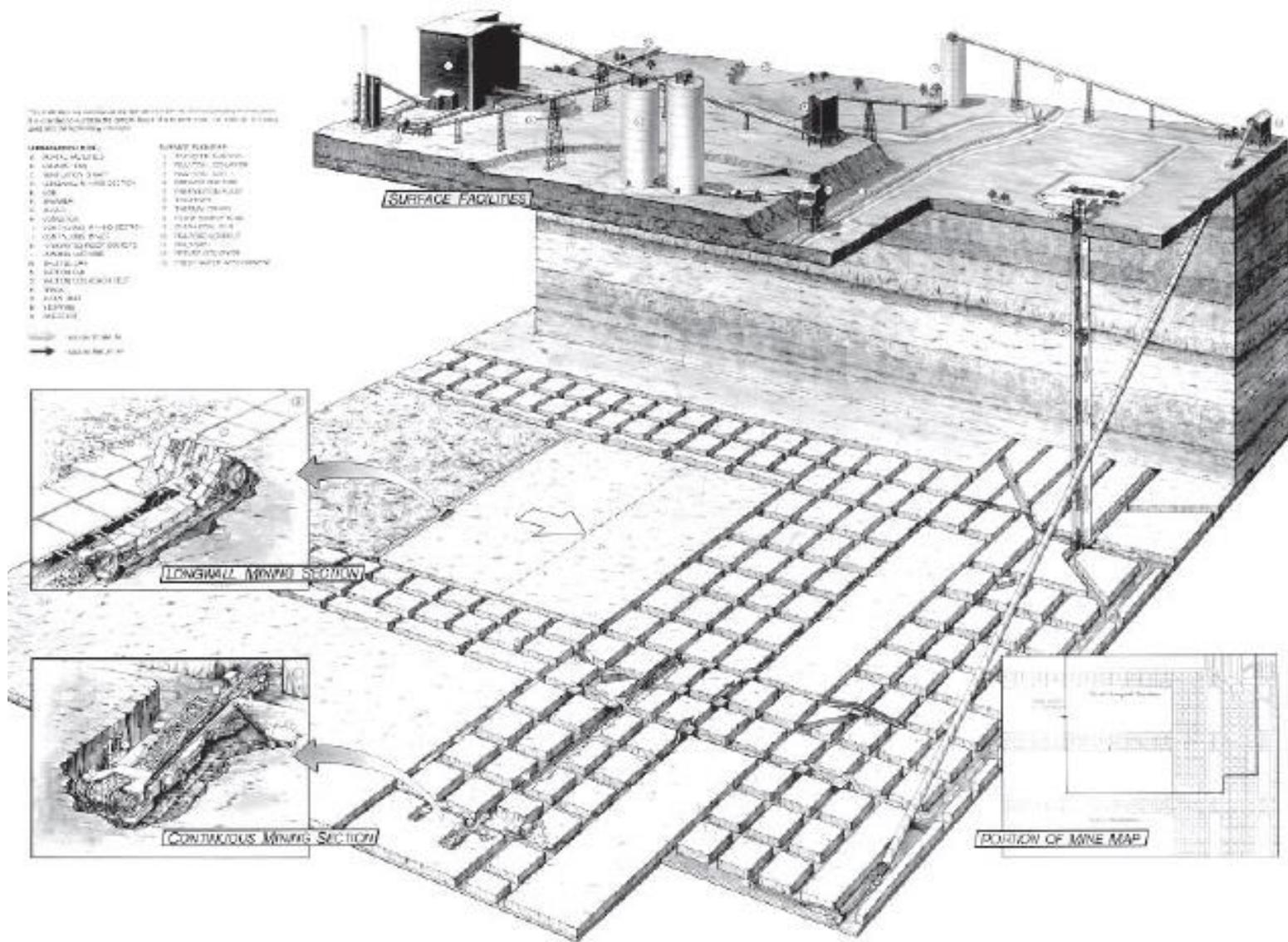


FIGURE 3-5 A conceptual representation of the general layout of a modern mine, the methods of mining, and the technology used. SOURCE: CONSOL, Inc. (now CONSOL Energy, Inc.)

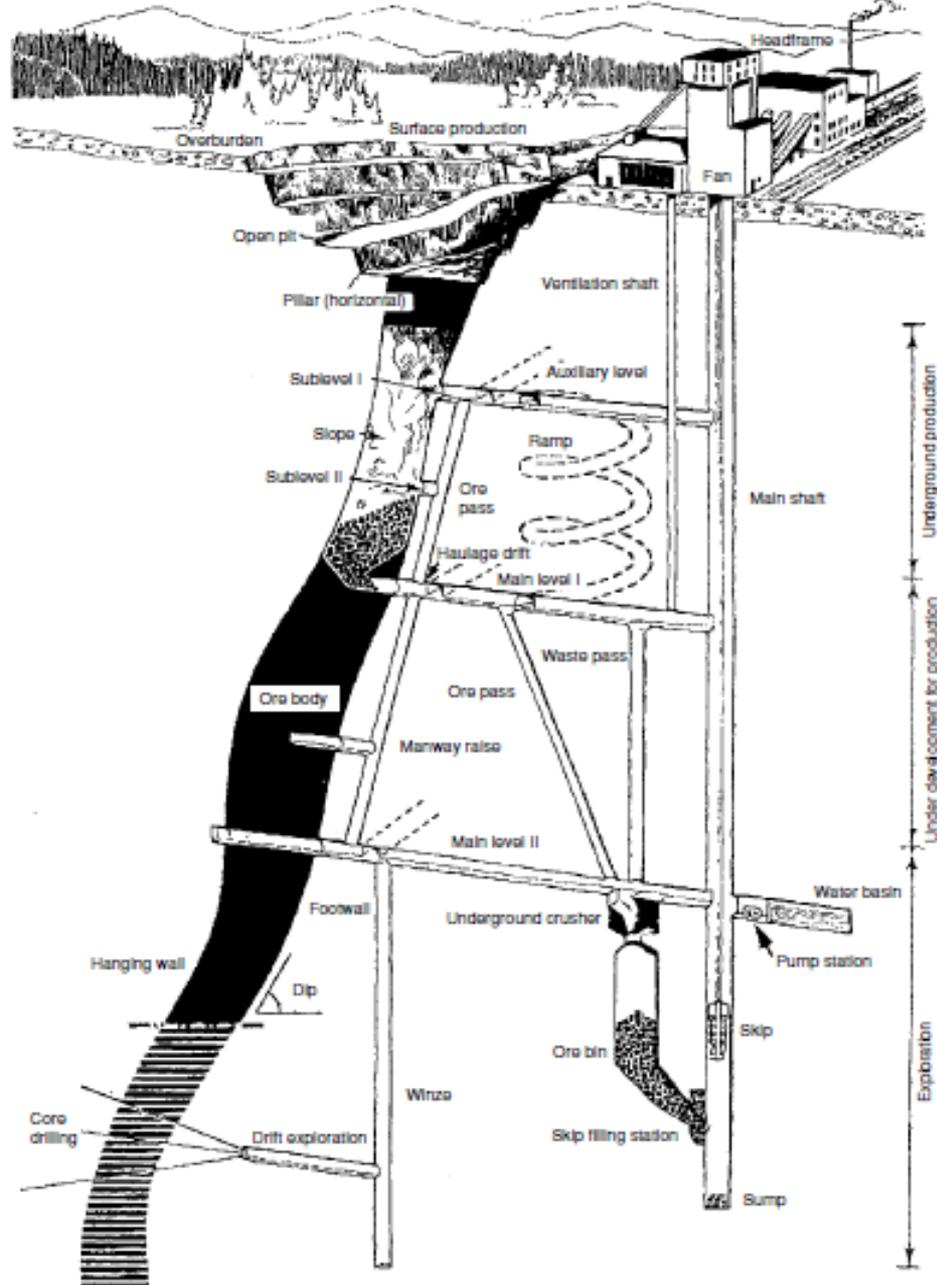
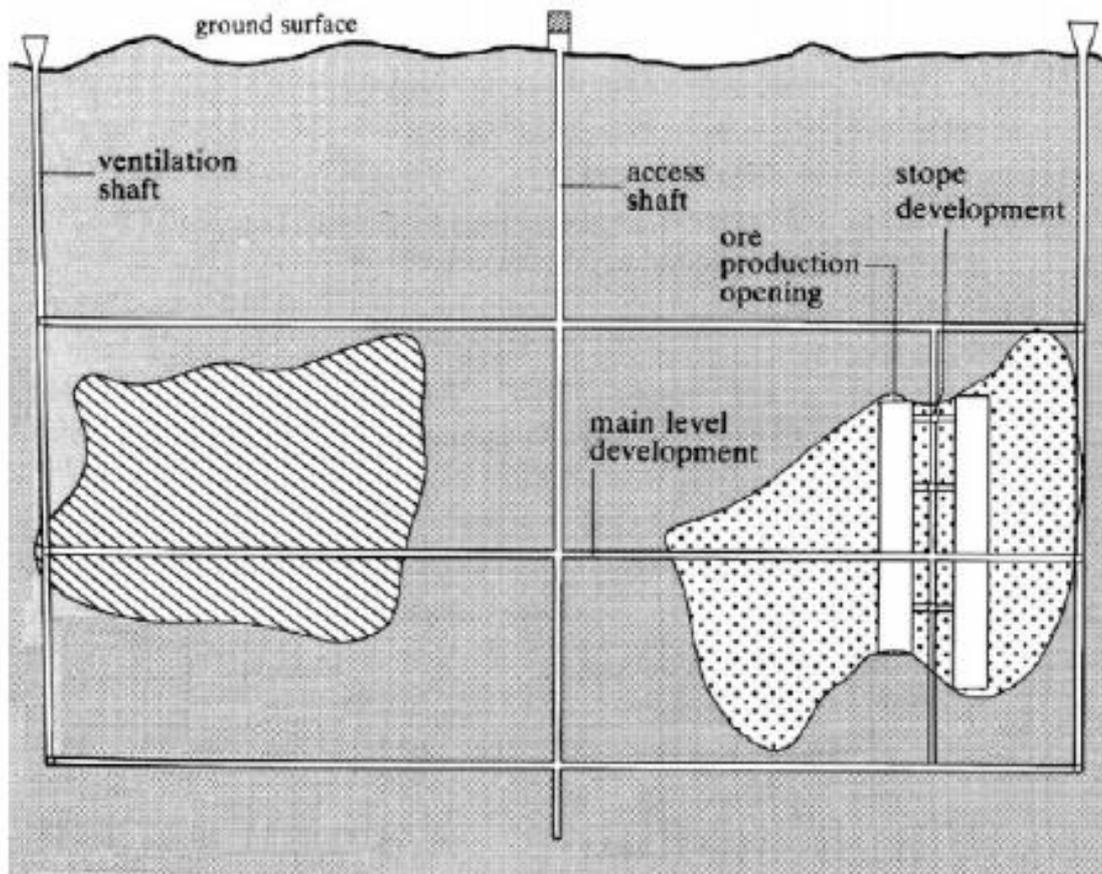
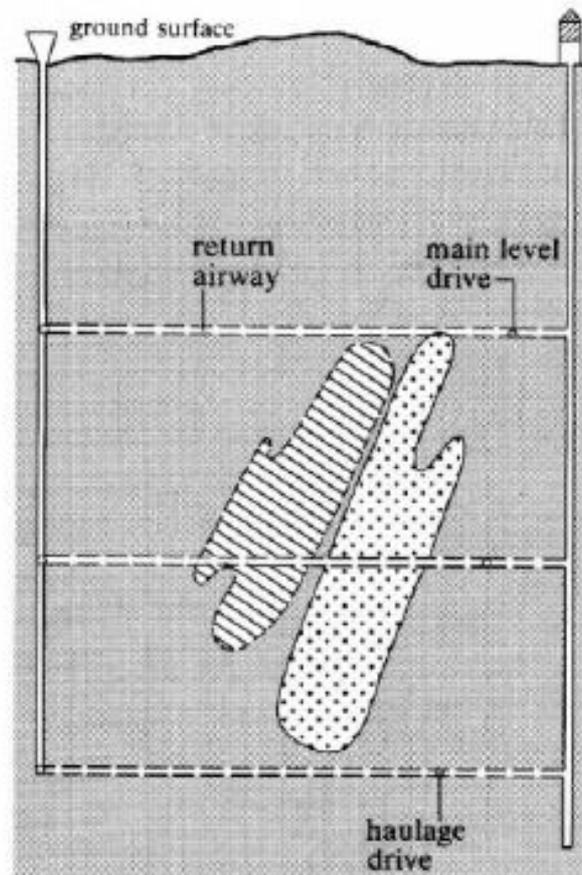


FIGURE 3-6 Sample layout of an underground mine, identifying various mining operations and terms. SOURCE: Hustrulid, 1982.

Longitudinal projection



Cross section



 No. 1 orebody

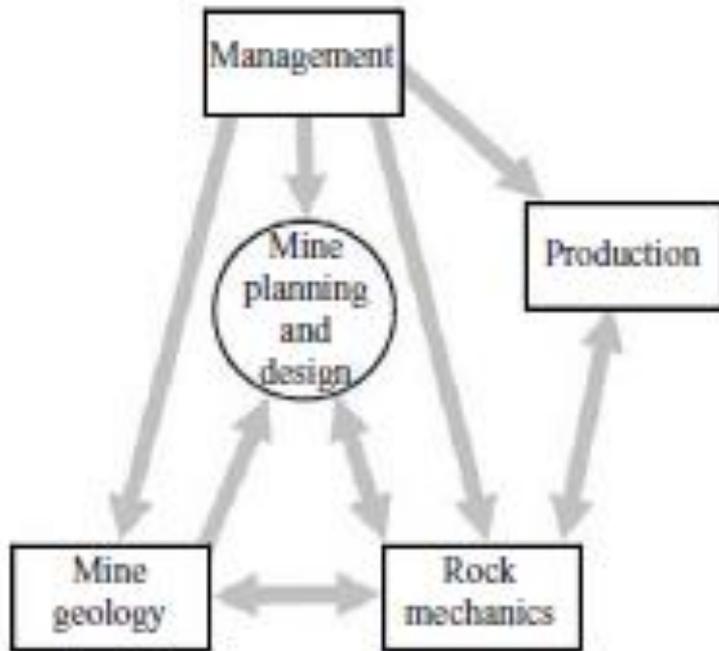
 No. 2 orebody



FIGURE 3-7 Photograph of longwall coal mining. SOURCE: CONSOL, Inc. (now CONSOL Energy, Inc.)



Figure 1.5 Definition of activities and functions in underground mine engineering (after Folinsbee and Clarke, 1981).



- Management
- Geology
- Planning
- Rock Mechanics

Figure 1.6 Interaction between technical groups involved in mine engineering.

Implementation of a rock mechanics program

- (a) to ensure the overall stability of the complete mine structure, defined by the main ore sources and mined voids, ore remnants and adjacent country rock;
- (b) to protect the major service openings throughout their designed duty life;
- (c) to provide secure access to safe working places in and around the centres of ore production;
- (d) to preserve the mineable condition of unmined ore reserves.

Implementation of a rock mechanics program

