CHAPTER 2. OBJECTIVE

OBJECTIVE

2.1   General

In the proposed context, the main goals of the present study are to find the performance of roof bolts in terms of axial load with the placement of different roof bolt patterns. The behaviour of immediate strata in the form of rock load height (RLH) focused during various stages of mining operation in mechanised bord and pillar panels.

2.2   Key Objectives

The primary goal of the study/research is to propose the roof support guideline for a mechanised depillaring panel.

Sub-objectives of the study are summarized below:

1. Assessment of the status of the roof during depillaring operation.

2. Study on bolt performance during mechanised mining operation for the given geo-mining condition through three-dimensional simulated models.

3. Optimisation of design of suitable support pattern for a given geo-mining condition in mechanised operation through investigation of simulated models.

4. Validation/comparison of model for different case studies of mechanised underground coal mining using continuous miner and semi-mechanised SDL/LHD technology.

5. Parametric study of the different simulated models has been conducted considering various factors such as RMR, gallery size, depth of seam, and different combinations of the bolt pattern.

6. Formulation of optimum support design guideline for mechanised operation using statistical analysis of data observed by simulated model results.