



# MINING FOR NON MINERS (COAL)

## PROFESSIONAL DEVELOPMENT COURSE

### PURPOSE

The aim of this course is to provide those from a non-mining background with a comprehensive understanding of the coal mining industry. As a result of attending this course participants will have a greater understanding of the operational practices pivotal to the coal mining industry, be able to interpret essential terminology and feel more comfortable interacting with core coal mining staff.

### WHO SHOULD ATTEND?

Those from a non-mining background who wish to achieve a greater understanding of mining operations. In particular, those who are looking to achieve effective working relationships with core mining staff or who have peripheral contact with the mining industry.

### PRE-REQUISITE SKILLS

No pre-requisite skills are required for this course.

### DURATION

1 Day

### DATES & LOCATIONS

This course is delivered regularly at a variety of international venues. For further information please refer to the Calendar section of this web site.

### LEARNING OUTCOMES

At the completion of this course participants will be able to:

- Appreciate the significance of the coal mining industry
- Understand frequently used terminology
- Describe the use of open cut and underground coal mining methods
- Understand the principles of mine design and planning
- Understand pit optimisation
- Describe the impact of rehabilitation and environmental considerations
- Understand the use of drilling and blasting
- Describe essential pit services and safety operations
- Describe the impact of Geotechnical considerations
- Explore the costing implications of mining operations

### DELIVERY METHOD

Interactive classroom-style delivery with focussed workshops.



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### COURSE CONTENT

#### Module 1: The Coal Story

- The financial and economic significance of the coal mining industry
- Resource locations
- Mining methods
- Key players in the market

#### Module 2: Geology & Ore Reserves

- Geology
  - What is coal?
  - Types of coal and coal formation
- Exploration techniques
- An overview of ore reserves
  - Formation and discovery
- Ore reserve modelling & its limitations
- Grades of ore & rock quality
- Mineral resources Vs ore reserves
-  Workshop: Defining resources

#### Module 3: Open Cut Mining

- An overview of open cut mining
  - Why open cut?
  - Examples of open cut operations
- Mine planning & its role in the mining process
  - Coal or waste?
- Economics and the cost of mining operations
- Scheduling
- Equipment & uses
- Drilling & blasting
- Mine services & safety
- Environmental considerations
-  Case studies: Open cut mining operations

#### Module 4: Underground Mining Methods

- An overview of underground mining
  - Why underground?
- Underground mining methods & design
  - Bord & pillar
  - Longwall
  - Design considerations
  - Recovery & dilution
- Economics & the cost of mining operations
- Mine development
  - Shafts Vs declines
  - Ventilation
  - Dewatering
- Underground Equipment
  - Continuous miners
  - Longwall
- Mine services & safety
- Environmental considerations
-  Case studies: Underground mining operations

#### Module 5: Coal Handling & Preparation Plant (CHPP)

- Mineral processing & its role in the mining process
- Overview of coal handling & preparation plant
  - Crushing & screening
  - Differences in coal and its processing
- Equipment
- Separation methods to extract coal
- Tailings Dams