

# Mining Modeling 1

## Create a Dynamic Model of a Stand-Alone Mining Project

### Summary

This course focuses on the skills required to design and create a dynamic financial model of a mining project that is developing an open-pit mine.

Issues related to mining, milling and processing will be discussed.

The course material includes model design, logic, construction and operational concepts to create a best-in-class financial model of a mining project.

Various intermediate Excel tools along with helpful keyboard shortcuts will also be covered throughout the course.



#### Prerequisites

Participants should have a basic working knowledge of Excel and the mining sector prior to taking this course.



#### Timing

This course requires 8 hours.

### Learning Topics

#### 1. Design and Structure a Financial Model

- ✓ Design and layout a mining project model clearly and logically
- ✓ Discuss the need for a model to serve as a marketing tool
- ✓ Create clearly defined inputs and assumptions sections

#### 2. Build Powerful Scenarios and Financial Statements

- ✓ Use switches to create effective scenarios and value drivers
- ✓ Forecast and build-up the project's revenues and expenses
- ✓ Construct all necessary schedules, including:
  - Mine sequencing showing waste, ore and strip ratio
  - Commodity pricing for primary and secondary metals
  - Variable and fixed operating costs (including mining, milling and refining charges)
  - Development and maintenance capital costs
  - Depreciation schedule using a unit of production method
  - Resource tax (includes regional resource tax rules)
  - Working capital schedule
- ✓ Discuss by-product accounting for secondary metals
- ✓ Develop a cash flow projection for the mining project

#### 3. Evaluate the Project and the Company

- ✓ Incorporate a schedule to evaluate the project's returns:
  - Pre-Tax Unlevered Free Cash Flow ("UFCF")
  - Net Present Value ("NPV")
- ✓ Use various sensitivity tools to sensitize the project's returns
- ✓ Conditionally format output tables to highlight specified results
- ✓ Build a dynamic summary page to display results for the project