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COURSE BROCHURE

Exploration to Mineral Processing Value Chain Training Course

18 – 22 April 2027
Cairo

Exploration to Mineral Processing Value Chain Training Course

Ref: 2371_88957 **Date:** 18 – 22 April 2027 **Location:** Cairo **Fees:** 3500 GBP

Exploration to Mineral Processing Value Chain training is a 1-week course for managers and non-technical staff new to mining operations, who leave with an Ore-to-Product Value Chain Map of their own site or project. Mining organisations now rely on people outside geology to question grade, recovery and tailings choices early. Jupiter Prime Training presents the Exploration to Mineral Processing Value Chain as one connected sequence of decisions.

Why Exploration to Mineral Processing Value Chain Matters Now

Three forces shape this chain today. Ore bodies are becoming lower in grade and harder to treat, so every tonne moved carries more waste and more energy. Communities, investors and insurers now examine tailings storage and water use as closely as output. An operation that links its geological model to its plant performance protects margin and licence to operate; one that treats each stage in isolation loses recovery, schedule and trust. The course rests on the resource-to-reserve classification logic and the mine-to-mill concept used across the industry.

Who Gains Most from Exploration to Mineral Processing Value Chain

- Staff who approve budgets and contracts for drilling, haulage or plant services
- Coordinators who schedule people, equipment and supplies around mine and plant activities
- Specialists who report production, cost and recovery figures to leadership
- Staff who handle community, environmental and permitting questions about extraction and tailings
- Newly appointed supervisors who move into operations from other industries

A mixed group from one site gains most, because each person sees how the stage they support affects the stages downstream.

Exploration to Mineral Processing Value Chain Capabilities

Participants learn to read each link from drill hole to concentrate.

- Interpret a drill-hole log and a block model summary — the go or no-go decision on further exploration spend
- Distinguish resources from reserves and explain cut-off grade — investor and board reporting
- Assess a mine plan's strip ratio, dilution and haulage profile — equipment and contractor commitments
- Follow the crushing, grinding and flotation circuit on a flowsheet — throughput and recovery targets
- Weigh tailings storage and water balance options — community and environmental stakeholders
- Communicate site safety and critical control priorities — supervisors and frontline crews

Key Exploration to Mineral Processing Value Chain Terms

- Ore grade — the concentration of valuable mineral in rock.
- Cut-off grade — the lowest grade at which rock is worth mining and processing rather than sending to the waste dump.
- Ore reserve — the part of a mineral resource that a feasibility-level mine plan shows can be extracted economically.
- Comminution — the crushing and grinding stages that reduce rock to particles fine enough to free the valuable mineral.
- Flotation — a separation process in which air bubbles carry treated mineral particles to the surface to form a concentrate.
- Tailings — the fine waste left after processing, stored in engineered facilities.

Exploration to Mineral Processing Value Chain Day by Day

Day 1: From Prospect to Ore Body

- Mining Lifecycle Map — Where Each Stage Creates or Loses Value
- Geological Mapping and Geochemical Sampling — Choosing Where to Drill
- Core and Reverse Circulation Drilling — Cost Versus Confidence in Results
- Drill-Hole Logs and Assay Tables — Reading Early Exploration Evidence
- Exploration Stage Gates — Funding the Next Campaign or Stopping

Day 2: Estimating What Lies Underground

- Block Models and Grade Interpolation — How Tonnes and Grade Are Estimated
- Resource and Reserve Classification — Confidence Levels Behind Reported Figures
- Cut-Off Grade and Grade-Tonnage Curves — Ore Versus Waste Boundaries
- Metallurgical Test Work — Early Signals of Recovery and Treatment Cost
- Scoping, Pre-Feasibility and Feasibility Studies — Commitment at Each Study Level

Day 3: Planning and Running Extraction

- Open-Pit and Underground Methods — Matching Method to Ore Body Shape
- Strip Ratio, Dilution and Ore Loss — Effect on Mill Feed Quality
- Drill, Blast, Load and Haul Cycle — Fleet Size and Contractor Choices
- Grade Control and Stockpile Blending — Steady Feed to the Plant
- Critical Control Management — Preventing Fatal Hazards at the Face

Day 4: Turning Rock into Product

- Crushing and Grinding Circuits — Energy Use and Throughput Limits
- Froth Flotation and Gravity Separation — Recovery Versus Concentrate Grade
- Leaching and Hydrometallurgy Routes — When Chemistry Replaces Physical Separation
- Tailings Storage and Water Balance — Long-Term Liability and Community Trust
- Plant Metallurgical Accounting — Reconciling Mine Forecast With Mill Results

Day 5: Practising the Ore-to-Product Value Chain Map

- Exploration Evidence Review — Testing a Site's Drilling Confidence
- Reserve and Mine Plan Linkage — Tracing Grade From Model to Pit
- Flowsheet Walk-Through — Spotting Recovery Losses Across the Circuit
- Mine Closure and Rehabilitation Planning — Final Landform and Handover Decisions
- Ore-to-Product Value Chain Map — Completing the Site Map and Questions

Applying Exploration to Mineral Processing Value Chain After the Course

- Lead a reconciliation conversation between mine and plant colleagues.
- Walk a new colleague through the site flowsheet and tailings facility.

Exploration to Mineral Processing Value Chain Questions FAQ

What is the Exploration to Mineral Processing Value Chain and why does it matter now?

It is the sequence that turns a geological discovery into a saleable mineral product. It matters now because lower ore grades, tailings scrutiny and digital monitoring mean decisions at one stage quickly change costs, recovery and risk at the next.

Which roles gain most from Exploration to Mineral Processing Value Chain training?

Managers and non-technical staff in commercial, finance, administrative, community and supervisory roles gain most. You can then question drilling, reserve and plant decisions with confidence.

How does Exploration to Mineral Processing Value Chain training differ from a mining finance course?

It follows the physical flow of rock and the technical choices at each stage. A mining finance or project economics course concentrates on valuation, funding and cash flow.

What do you bring back from Exploration to Mineral Processing Value Chain training?

You bring back a value chain map of your own site or project. It shows each stage, the figures to watch and the questions to raise with technical teams.

Exploration to Mineral Processing Value Chain: The Way Forward

The Ore-to-Product Value Chain Map first informs how a manager reads the monthly reconciliation between mine forecast and plant output. Supervisors and commercial staff use it to locate losses. After its first use, it is worth revisiting the tailings and closure links, since these shape long-term obligations.