



Mineral Resource Estimation and JORC Reporting Course: Classification and Ore Reserves



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Introduction:

Mineral Resource Estimation and JORC Reporting, from classification to Ore Reserves, is the subject of this 5-day course for resource geologists, mining engineers and mining investment analysts, ending with a Mineral Resource Statement and Competent Person Report Plan. Companies and investors lose credibility and capital when resource figures rest on loose geological interpretation, unsupported classification or disclosure that a CRIRSCO-aligned code would not accept. Nominees already interpret drilling data, build block models or assess mining projects, and teaching is by modelling build on a case deposit. CoreConcept Training Center delivers this mineral resource estimation course.

Course Objectives:

- Explain how the CRIRSCO International Reporting Template, the JORC Code and the SAMREC Code define Exploration Results, Mineral Resources and Ore Reserves
- Construct geological wireframes and estimation domains that justify the continuity assumed in a resource model
- Build and validate a block model with composited grades, density values and a defensible estimation method
- Classify estimated blocks as Measured, Indicated or Inferred using documented confidence and data spacing criteria
- Apply Modifying Factors to convert Mineral Resources into Probable and Proved Ore Reserves
- Prepare public resource disclosure with Table 1 criteria and a Competent Person sign-off plan

Target Audience:

- Resource geologists who interpret drilling results and maintain resource block models
 - Mining engineers who turn resource models into mine designs, schedules and reserve estimates
 - Geologists preparing to act as Competent Persons for public resource and reserve statements
 - Project evaluation staff who review exploration licences, technical reports and resource upgrades
 - Investment and corporate development analysts who compare mining assets using published resource statements
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Course Outline:

Day 1: Mineral Resource Reporting Foundations and Code Landscape

- CRIRSCO International Reporting Template Structure and Member Codes
- JORC Code Principles of Transparency, Materiality and Competence
- SAMREC Code Scope Compared With JORC and PERC
- Exploration Results, Mineral Resources and Ore Reserves Definitions
- Current Resource Disclosure Gap Review for a Listed Project

Day 2: Geological Interpretation, Domaining and Block Model Framework

- Drillhole Database Review Before Geological Wireframe Construction
- Implicit and Explicit Wireframing of Lithology and Mineralisation
- Estimation Domain Definition Using Contact Analysis and Statistics
- Compositing, Top Cutting and Outlier Grade Treatment Decisions
- Block Model Parent Cell Size and Sub-Blocking Selection

Day 3: Grade Estimation, Bulk Density and Model Validation

- Inverse Distance and Ordinary Kriging Method Selection Criteria
- Bulk Density Measurement Methods and Tonnage Assignment
- Swath Plots and Visual Validation of Estimated Blocks
- Grade Tonnage Curves and Cut-Off Grade Sensitivity Reporting
- Reasonable Prospects for Eventual Economic Extraction Pit Shell Test

Day 4: Resource Classification, Modifying Factors and Ore Reserve Conversion

- Measured, Indicated and Inferred Classification Criteria and Drill Spacing
- Modifying Factors for Mining Dilution, Recovery and Metallurgy
- Probable and Proved Ore Reserve Conversion From Resource Categories
- Reconciliation of Resource Model Against Grade Control and Production
- Common Reporting Failures Flagged in Technical Report Reviews

Day 5: Modelling Build on a Mineral Resource Statement for a Case Deposit

- Case Deposit Domain and Block Model Build Exercise
 - Case Resource Classification Using Confidence and Spacing Evidence
 - Case Table 1 Disclosure Checklist Completion by Section
 - Competent Person Consent, Scope and Peer Review Planning
 - Mineral Resource Statement and Competent Person Report Plan Completion
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Skills You Will Gain:

- Geological Wireframing
- Estimation Domaining
- Block Model Construction
- Resource Model Validation
- Resource Classification
- Ore Reserve Conversion
- Public Resource Disclosure
- Resource Reconciliation

Why Attend This Course:

- Deliver a Mineral Resource Statement and Competent Person Report Plan to the technical director, the board and investor relations
- Decide which blocks can be reported as Measured, Indicated or Inferred and which belong only in exploration targets
- Avoid restated resources, rejected technical reports and investor challenges caused by unsupported estimates or incomplete disclosure
- Coach geology and mine planning colleagues on domaining rules, validation checks and Table 1 documentation

Conclusion:

Back at work, the participant presents the Mineral Resource Statement and Competent Person Report Plan to the technical director, the board and investor relations, who use it to approve a public resource update, a reserve study or an investment decision on an exploration licence. Mine planners use the classified block model to scope reserve work. After the first statement is released, the unit should review reconciliation results, reviewer comments and drilling needed to upgrade Inferred material, then revise the domaining and classification rules.

Frequently Asked Questions FAQ:

What should participants know before a mineral resource estimation and JORC reporting course?

Participants should already work with drilling data, geological models or mining project evaluations. Basic statistics and familiarity with mining software help. Bringing an anonymised drillhole dataset or a published resource statement is useful for the case work.

How does a mineral resource estimation and JORC reporting course differ from a geostatistics course?

It follows the whole path from geological interpretation to classified, publicly reported resources and reserves. A geostatistics course goes deeper into variogram modelling, kriging theory and simulation, while this course treats estimation as one step inside a reportable resource statement.

Why must a Competent Person sign off mineral resource estimation under JORC and SAMREC?

Codes aligned with CRIRSCO require public resource and reserve figures to be prepared by a qualified, experienced professional who accepts responsibility for them. This supports transparency, materiality and competence, so investors can rely on the reported categories.

What do participants take back from the mineral resource estimation and JORC reporting course?

Participants take back a Mineral Resource Statement and Competent Person Report Plan, with a domaining checklist, block model validation pack, classification criteria sheet and Table 1 disclosure template adaptable to their own deposits.