

# Mineral Resources: A CRIRSCO/CP Perspective

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# CRIRSCO: Key Aspects and Definitions

- Its an Advisory Template (Not a Code) summarising international best practice
- Governing Principles; Transparency, Materiality, Competence
  - Transparency: Sufficient, clear and unambiguous information reported
  - Materiality: Relevant information required to make a reasoned and balanced judgement upon is reported
  - Competence: Responsibility of a suitable qualified and experienced person, who are subject to an enforceable professional codes and rules
- Exploration Results, Mineral Resources and Mineral Reserves
- Covers all Solid Minerals
- Competent Person (CP): Professional body Membership, minimum 5 years relevant experience in relation to the mineralisation and activity
- Estimation of Mineral Resources may be a team effort, and therefore multiple Competent Persons clearly divided
- *“Mineral Resource estimates are not precise calculations”*
- *“The words 'ore' and 'reserves' must not be used in stating Mineral Resource estimates”*

**Non-Prescriptive in general, consideration of many aspects the judgment and responsibility of the Competent Person (CP), Exact definitions/requirements/parameters not provided**

**Geological  
Understanding**

**Statistics and  
Geostatistics**

**Mineral Resource  
Classification**

**Geological & Grade  
Continuity**

**Tonnage and Grade  
Estimation**

**Reporting Economic  
Extraction**

**Data Quality &  
QAQC**

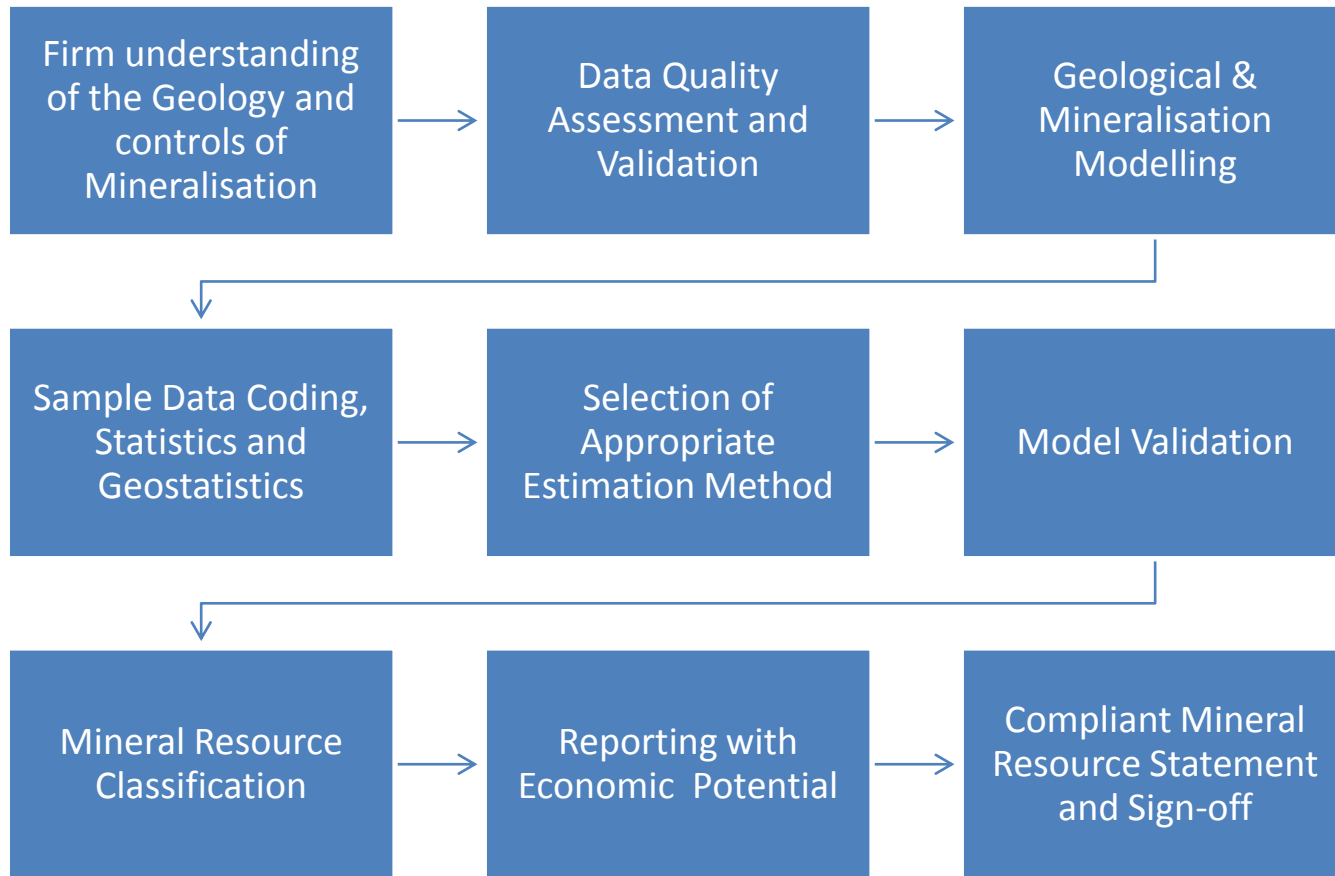
**Validation of  
Estimates**

**Competent Person  
Sign-off**

# Auditing and Reviewing of Mineral Resource estimates, a Competent Persons (CP) Perspective

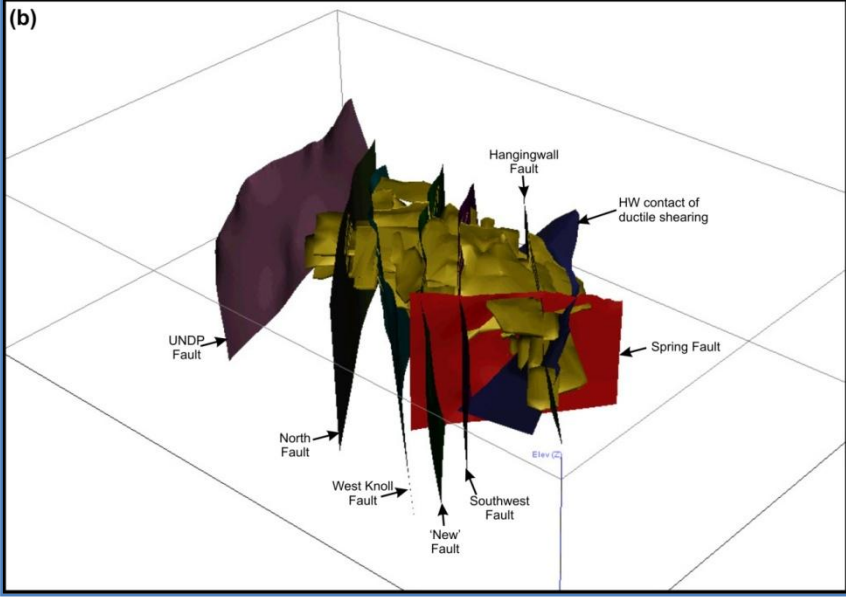
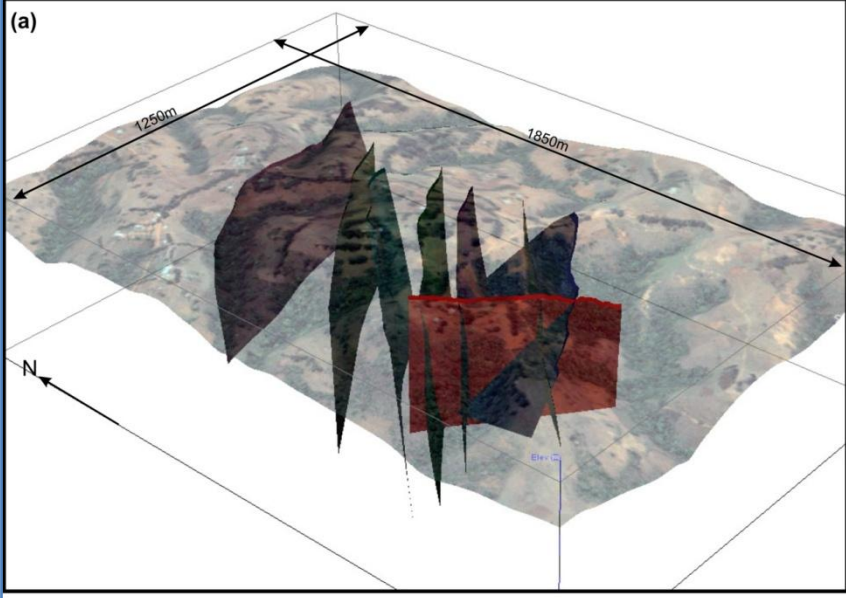
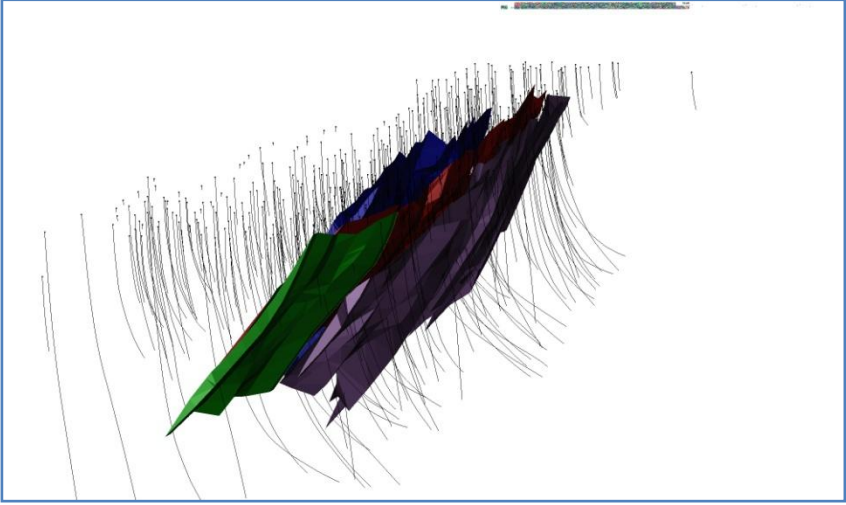
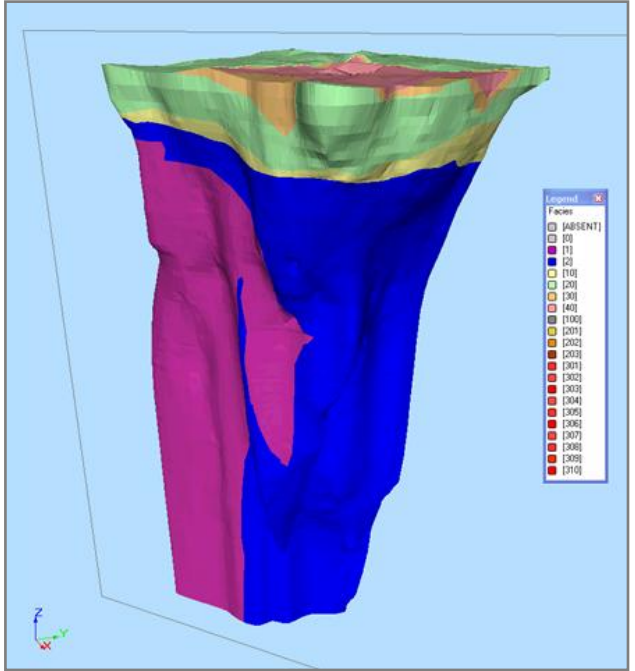
**The Important Workflow/Checklist for the Competent Person**

## Generic Workflow For a Mineral Resource Estimate:

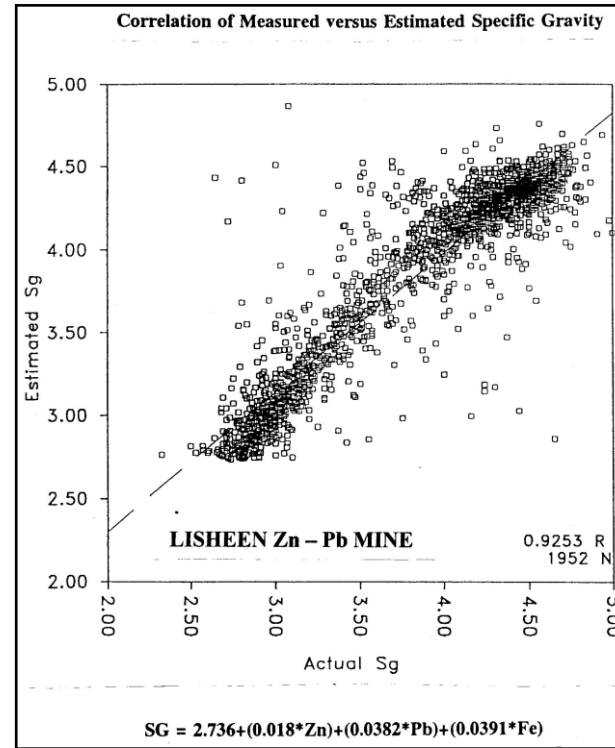
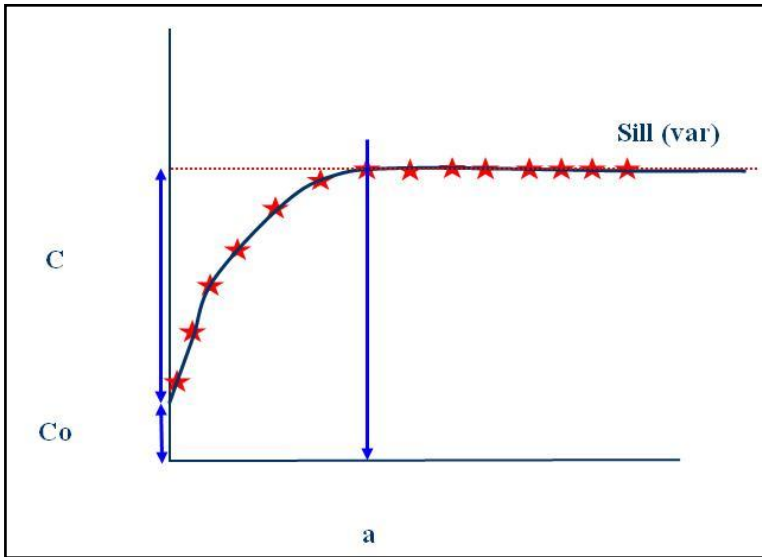
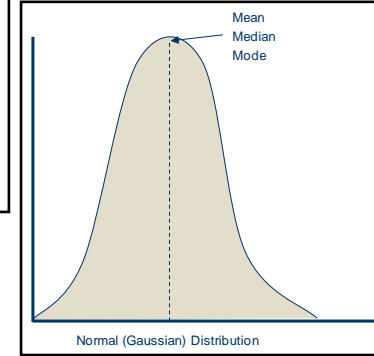
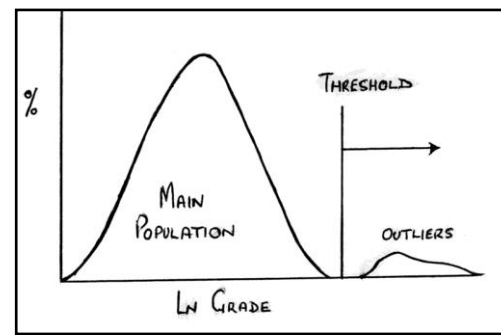
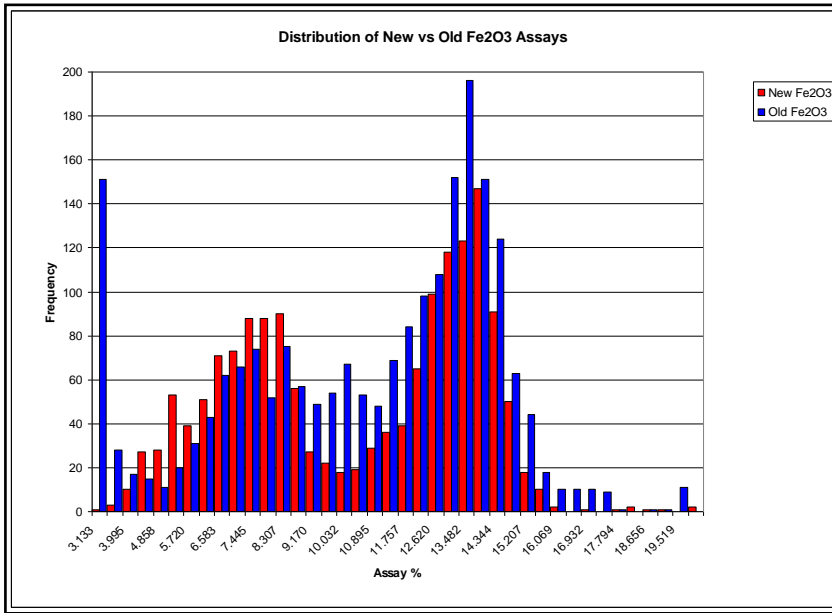


**Workflow Can be applied to CP Sign-off process  
Exact Steps will be defined by Geology, Deposit type,  
commodity, etc..**

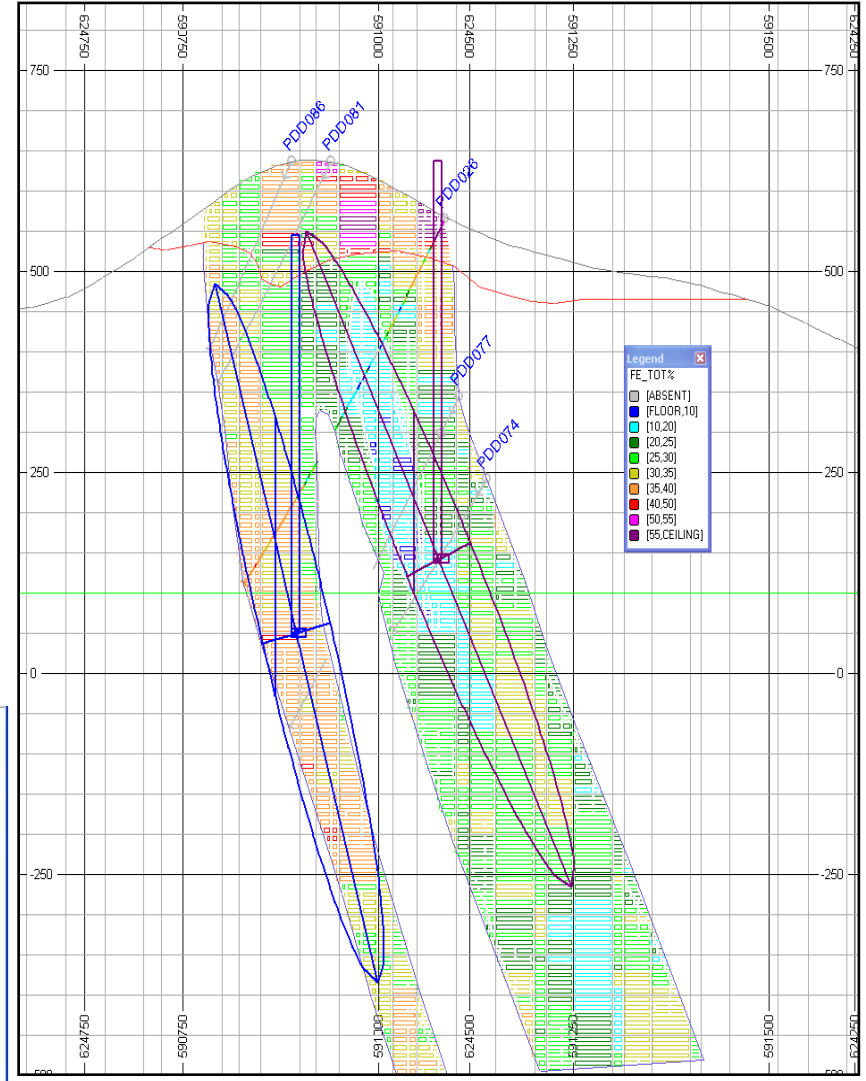
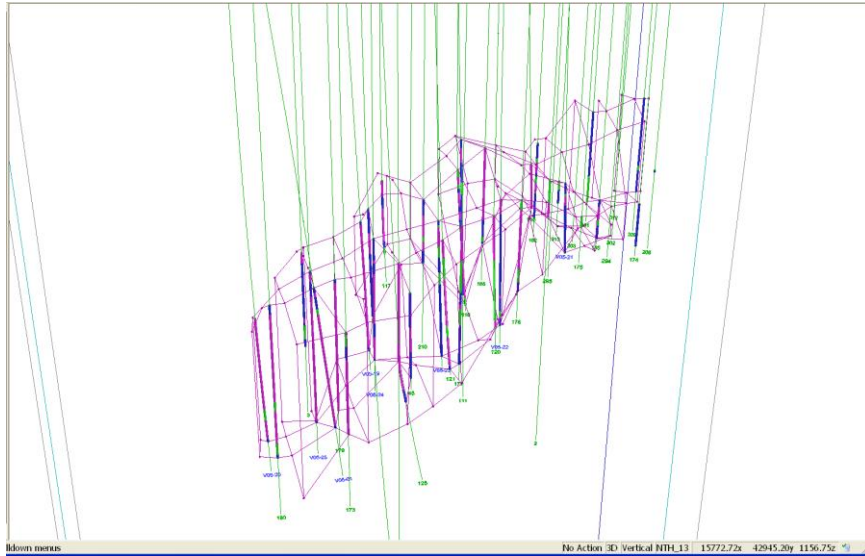
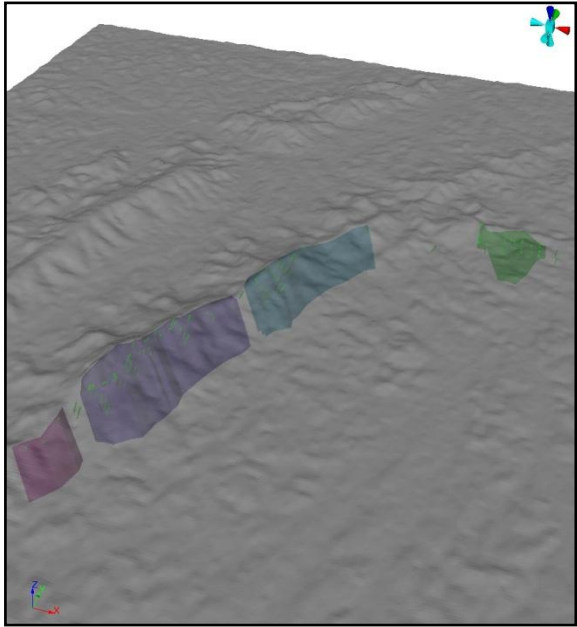
SRK: Mineral Resource, A CRIRSCO/CP Perspective

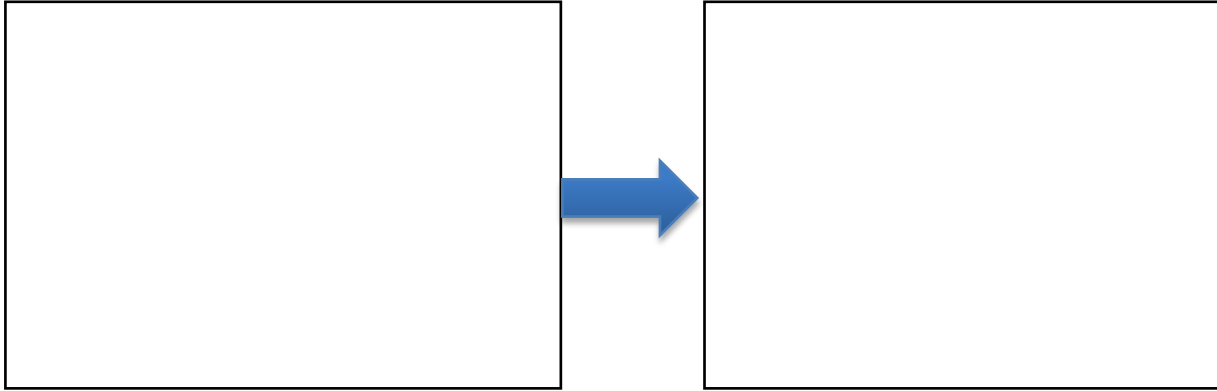
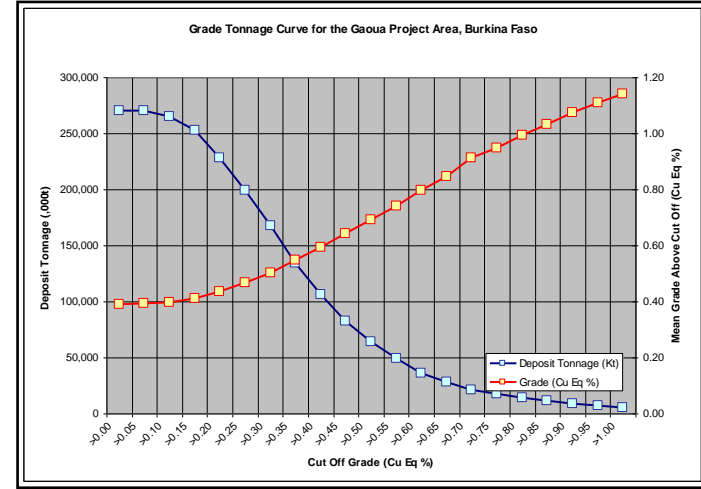
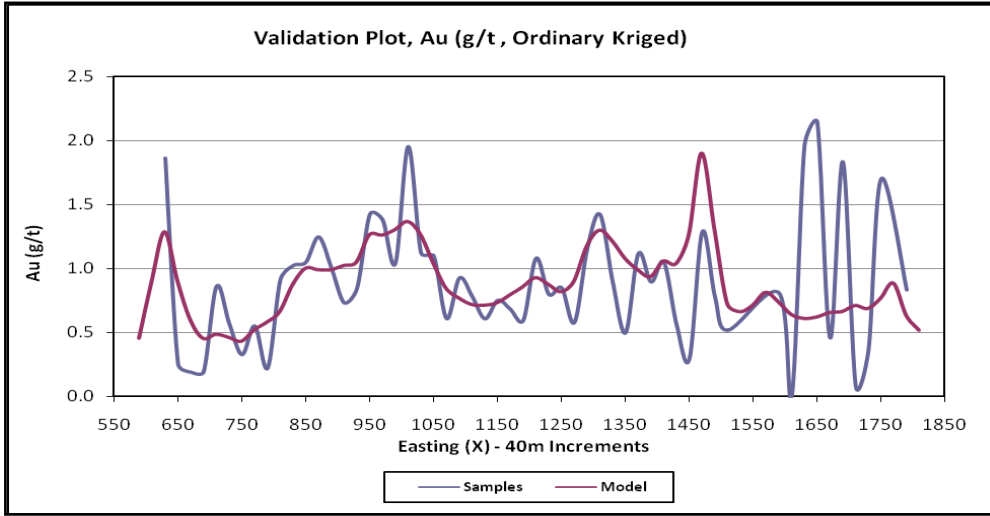


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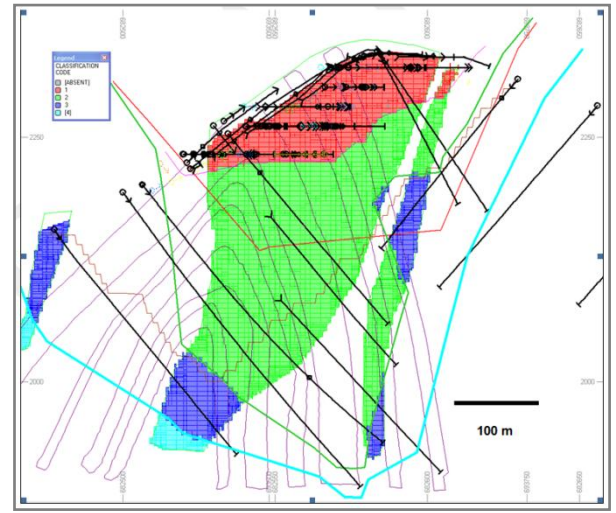
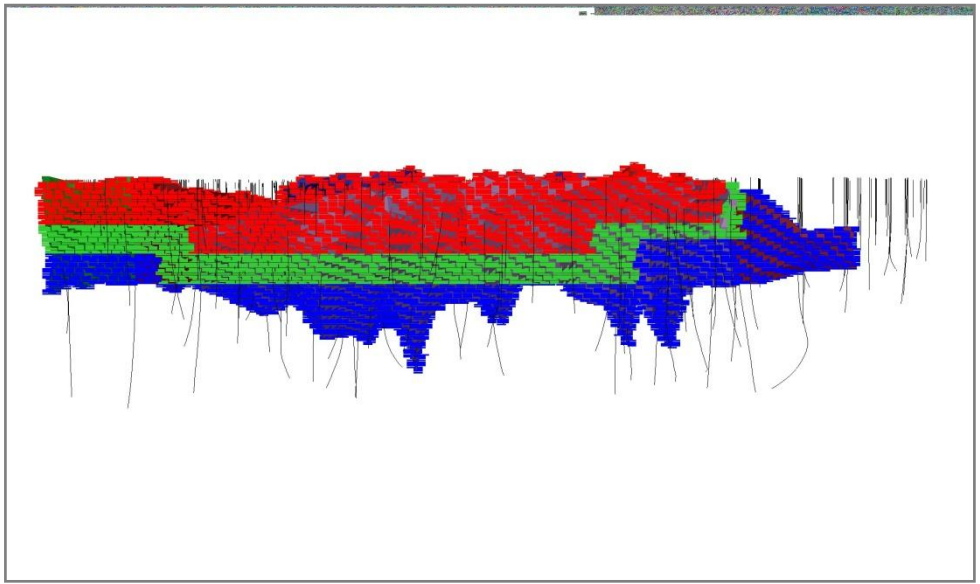
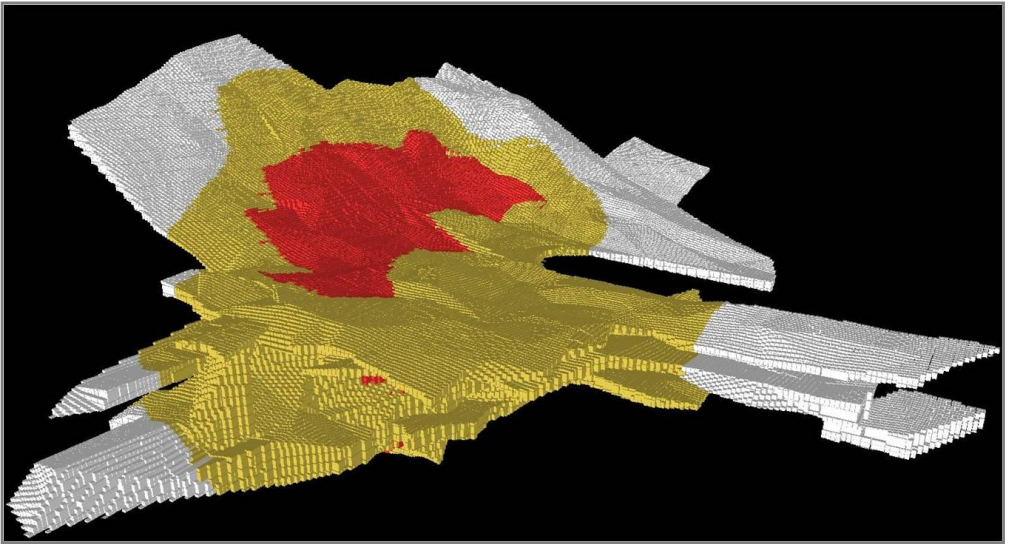
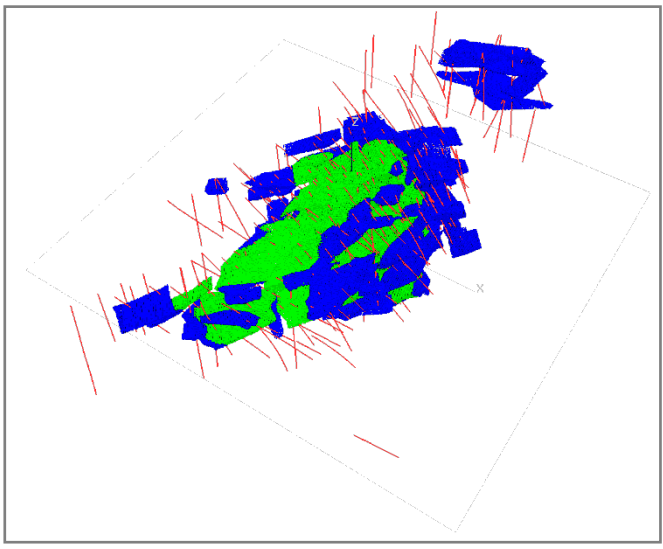


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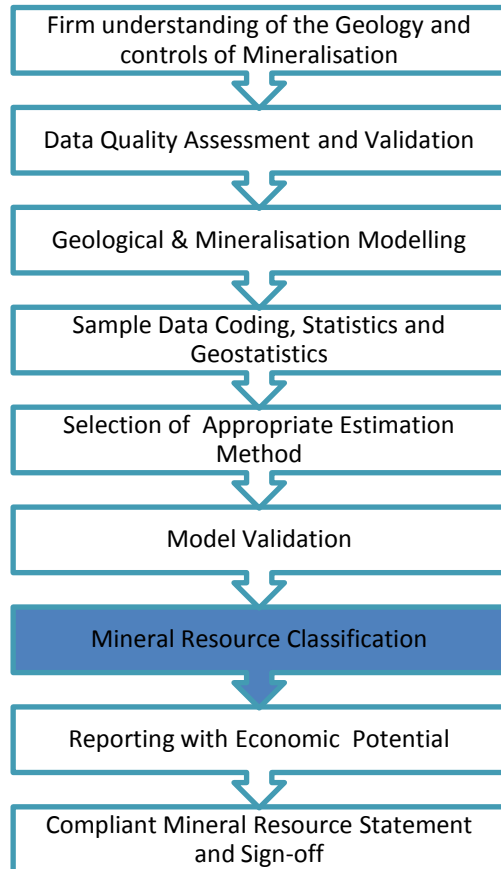








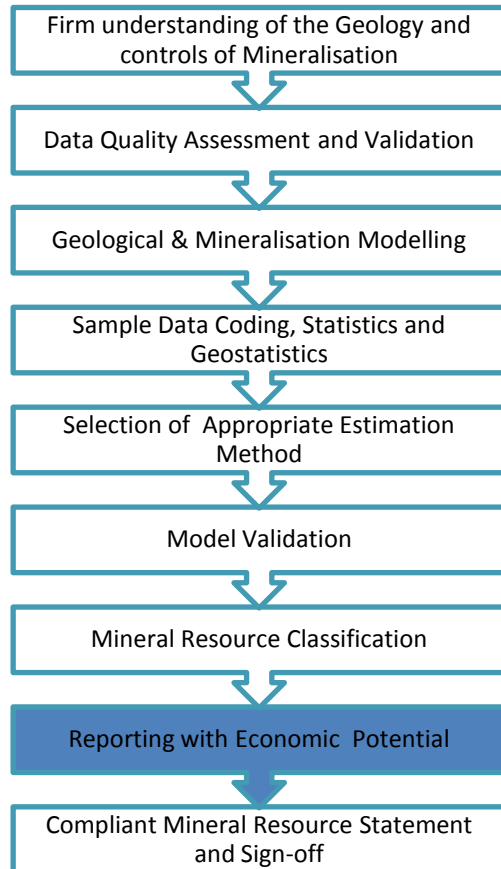
## Mineral Resource Classification: Considerations of the CP



- The CP must take a balanced judgement and assess the materiality of a number of different factors:
  - Quality of data
  - Quantity/spacing of Data
  - Geological Continuity
  - Grade continuity
  - Quality of grade/panel/block estimates
  - Confidence with which a mining plan could be generated from the resource model

**Classification is influenced by a number of factors which the CP must take into balanced consideration of confidence, using experience to determine the relative materiality of each**

## Reporting with Economic Potential



- A deposit must have “*...reasonable prospect for eventual economic extraction*” according to CRIRSCO.
- It is not acceptable to report just in-situ tonnage and grade without economic/mining consideration
- Must separate open-pit from underground
- Calculation of an appropriate cut-off grade which represents realistic technical parameters based on mining and processing methods with optimistic revenue parameters
- Defined resource within practical mining widths
- Material above cut-off grade must form spatially contiguous volumes that would/could form mining targets
- Tools: Pit optimisation software, Floating Stope optimisations

**A deposit is only a Mineral Resource if it has “*..reasonable prospect for eventual economic extraction..*” and therefore mining and economic considerations must be made**