Mining vs Construction

- Drilling and Exploration Information
- Ore and Waste
- Variable grade of ore
- Processing
- Mining Process is complex – need for actuals to optimize
Geologic Modeling

Strategic Planning

Mine Planning

Operations Planning

Extraction

Processing

Sales

Topo Map and Drill Plan Exploration Drilling Database Interpretation Orebody Model Grade Model

Strategic LOM Economic Model Lerch Grossman Ultimate Pit Surface Modeling

Medium Term Pushbacks Ramps Schedule

Month/Day Plan Equipment Level As-built surface Current Machine Locations and Activities Operational Decision-Support

Machine Guidance Current Face Fleet Management Survey Reconciliation Drill/Blast/Load/Haul

Crush/Process Smelt/Refine Metal Planning Metal Accounting RoM Stockpile Inventory

Sales Orders Transport Logistics Revenue Product Stockpiles Reporting
• All functions require “AS IS”
• If “AS IS” is not accurate process can not be optimized
• Destroyers of Value:
  • Sending ore to waste dumps (loss)
  • Sending waste to the processing plant (dilution)
  • Mining in a sequence different from the optimal sequence
  • Sending the improper blend of raw material to the processing plant (lower recovery)
Energy Optimization in Gold Mining Operation
Questions?