

Quality Programs (QAQC) on Sample Stations: a prerequisite to achieve Standards requirements and perform a robust Reconciliation.

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ABSTRACT

Every day, around the world, thousands of tons of ore are loaded onto ships completing the mining-production process and starting a multimillion-dollar economic transactions process. These transactions are based on the supply of tons of a commodity with certain specifications of assays of the main element (or physical properties) and concentration of contaminants, which are finally verified and evaluated by buyers, and also are considered “as true” during Reconciliation process.

On Sample Stations, this “true” is based on a few kilograms of sample, often representing thousands of tons, that are sent to laboratories for further sample preparation and chemical analysis, where finally assay information is obtained from a few grams of pulverized sample, and are used for further production, planning, operational and financial-marketing decisions.

Different International Standards (depending on the commodity) are used to establish the methodology to be followed, to setup and obtain samples from the Sample Stations, and the specifications are visually inspected to give us an estimation on the performance of the sampling point.

This paper seeks to highlight with examples, the importance of the implementation of a continuously monitored quality program (QAQC & QM) on Sample Stations, focused on the parameters that directly affect the quality and representativeness of the samples. By this implementation, a proactive approach and better-informed decisions can be taken for mining companies a) quantify/improve production and reconciliation results, and b) to supply the right specifications of shipped ore, increasing the value of the Resources.

Finally, laboratory results are normally used as an indication of the quality of the information applied for the economic transaction, but it should be considered, clarified and highlighted that the laboratory will only process and analyze a sample obtained from a Sample Station, and potential problems on bias or precision may occur in stages prior to the laboratory reception. Hence the importance of the implementation of a quality assurance program that protects multi-million dollar decisions.