

Using MineSight® Interactive Planner to Control the Reconciliation Process

This article comes to us from MineSight Applications Chile LTDA, a division of Mintec, Inc., providing service, technical support, and training to MineSight® clients in Chile.

Los Bronces is an open pit copper mine located in the Andean mountains 3,500 meters above sea level and 65 kilometers northeast of Santiago, Chile. The mine, operated by Anglo American, is among the largest copper operations in the world.

During 2007, Minesight Applications Chile LTDA played an integral part in the automation of the reconciliation process for the Los Bronces Mine Geology Department. By customizing MineSight® Interactive Planner (MSIP), it was possible to store the information necessary to generate the reconciliation reports. The information used in the reconciliation was from the short-, medium-, and long-range planning departments as well as from mine planning and production information.

MSIP is a tool used primarily for the generation of reserve reports for short- and medium-term planning but flexible enough to allow customized storage of diverse information. MSIP performs work based on polygons and solids. It has two elements, which allow for great flexibility in customizing. On one hand, when storing information, MSIP uses a database in Microsoft® Access or Microsoft® SQL format, providing all necessary tables and fields for the standard usage of MSIP. Because it is an open database, it is also possible to add fields, tables, or views to store other information related to polygons and solids used. On the other hand, MineSight® also accesses, processes, and reports this information through MineSight® Grail (MSGrail).

MSGrail consists of a group of libraries created in the Python® scripting language, offering the user the tools to create applications for manipulating data and generating reports according to the specifications of each case. These libraries are accessed through the MSGrail for all types of information within MineSight®, from block models and drillhole files to composites, or geometry objects, as well as information external to MineSight® like ASCII databases or files.

To use MSIP in the reconciliation process, as it was done in Los Bronces, it is possible to read the short-, medium-, and long-range information from the same

block model, or work from three separate models or projects. The grade items and associated properties, which will be included in reserve reports, were determined through the standard configuration of MSIP. The options for volume calculations, tonnage, and report format are also all determined in MSIP. MSGrail scripts were used for the remaining calculations and for customized reports necessary for the reconciliation process. These scripts made it possible to perform additional calculations and generate views to select, filter, and sort the stored data, organizing it for inclusion in the corresponding reports.

Some examples of customized reporting at Los Bronces are the waste report by cutoff grade for the short-, medium-, and long-range models; the ore and waste report according to the resource classification of long-range planning; the ore and waste report according to the drillhole grid; and the tonnage report for mined versus planned.

Given that all the reserve information is stored in a SQL server, there are many options for generating reports. In addition to MSGrail script functions, it is possible to use other applications such as Microsoft® Access, Microsoft® Excel, Crystal Report, etc. Various reports in Crystal Report format were generated at Los Bronces. Figure 1 shows how the different options regarding content and format of the report are chosen from an MSGrail interface. Once the options have been chosen the report is created and the final product can be seen in Figure 2 shown on page 8.



Figure 1.

(continued on page 8)

(Using MineSight® Interactive Planner to Control the Reconciliation Process continued from page 7)



GERENCIA DE DESARROLLO & PROYECTOS AREA LOS BRONCES

SUPERINTENDENCIA DE GEOLOGIA

RECONCILIACION

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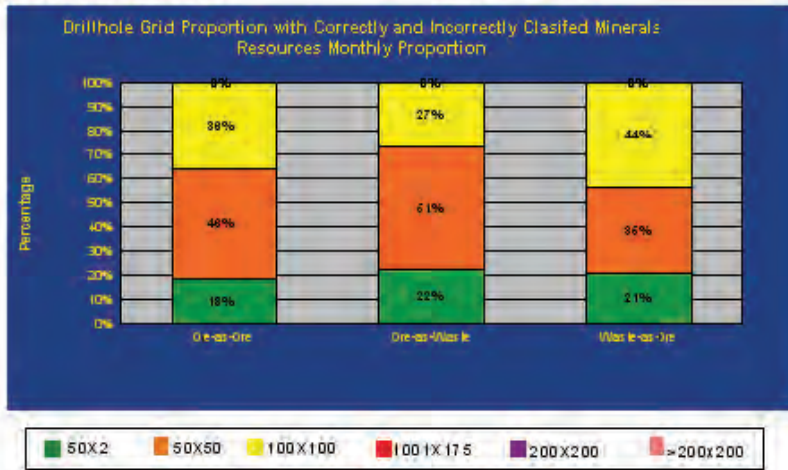


Figure 2.

One of the most important benefits in automating the reconciliation process is limiting errors at the first input stage (creating polygons or populating information into the block model). All other subsequent processes that manipulate data for the reports based on the initial input information are performed automatically, minimizing any potential errors and reducing the time involved in creating them.

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