The CORALIS Resource & Reserve Estimation module provides a quick and efficient solution to mining professionals who wish to estimate their ore resources and reserves through geostatistical analysis. Combined with the CORALIS Pit Design module, the Block Modeling application allows to estimate all features of an ore body via a 2 or 3 dimension blocks network.

**FEATURES**

### 1 - Survey Data Management

CORALIS’ Survey Data Management application works via Microsoft MS-ACCESS or SQL-SERVER databases. Using the CORALIS graphic core features, this application also provides all the necessary features of a dedicated geographic information system which can automatically find:
- Drill-hole or borehole data from a click on the map.
- The location on the map for any survey data.
- Any sample identified in a section.

Survey Data Management records three types of data linked to a group of parameters:
- Grade data coming from geochemical analysis;
- Lithology information;
- Horizons data for stratiform data management.
2 - Block Modeling

The CORALIS Block Modeling application allows creating, estimating and using a 2 or 3 dimension ore body block model.

(Please note that the deposit’s model accuracy depends largely on a state-of-the-art survey including survey pattern and deposit boundaries).

3 dimension kriging block models can be refined with consistent geological layers, which means that calculations will be guided through one or more 3D areas. This is particularly efficient for sedimentary deposits modeling. The data that is used to make the calculations comes from the survey database, most specifically the grade’s geochemical data

CORALIS Block Modeling features:
- Block model creation and set up (examined area, size and block direction);
- Kriging set-up (variogram, search neighbourhood, variables, grades). Each variable is equipped with a variogram model and a weighting formula to make it additive. The operator only has to manage his usual relevant variables in order of importance (ex.: grades) and the software takes care of weighting according to other variables required for accurate estimating (ex.: in order of thickness, density, sieving values, etc.) A category is determined by a group of conditions about the estimated variables (ex.: the “rich mineral” category is determined by 2 conditions: grade1 > cut1 and grade2 > cut2). It is represented by your choice of colour.
- Volume calculation between two 3D surfaces of a project (which can come from the Pit Design module) with quantities allocated for each of the determined grades.
- Calculation and editing of vertical sections and horizontal plans.
3D Modeling with transparent background (above) or white background (below).
The **Coralis Geostatistical Analysis Application** allows users to analyse the modeling variables distribution and to design and adjust the kriging variogram.

**FEATURES**

1. **Surveys statistics**

   The **Surveys statistics** option yields the following data analysis patterns:
   - Cross-correlation table.
   - Correlation cloud between 2 variables.
   - Histogram.
2 - Variogram Adjustment

The Geostatistical Analysis application lets the user calculate and adjust the variogram for each variable.

All adjusted variogram parameters are saved to be used in the Block Modeling module.