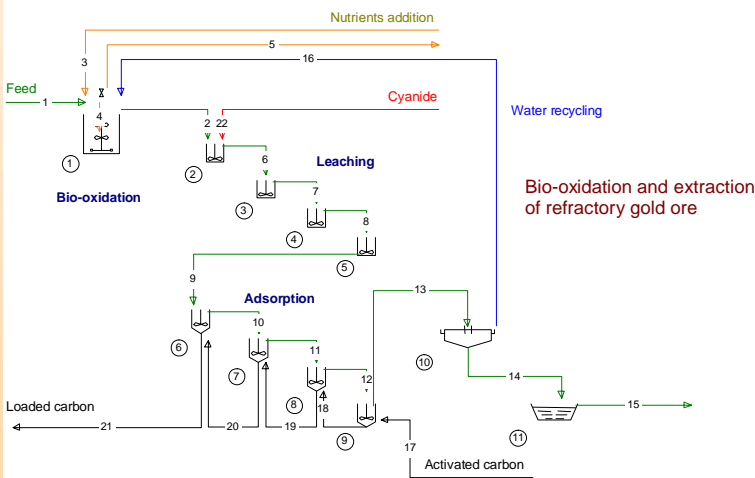


## The Process Engineer's Toolbox

### Process design

- Define the main treatment stages to reach a given objective
- Determine the forecasted material balance: each stream description
- Size the main equipment and define the settings
- Estimate the investment and operating costs
- Contribute to the technical and economical feasibility studies



### Process optimization

- Increase the process capacity
- Improve the final product quality
- Consumption reduction: energy, water, reagents
- Evaluate and limit environmental impact
- Adapt the process to the raw material variability
- Increase reactivity, facing up to the market variations

### Process monitoring

- Control performance
- Plant surveys

### Mineral industry for all types of minerals and ores

- Iron, base metals, sulfide and oxidized ores
- Precious metals, Diamonds
- Phosphate, potash
- Industrial minerals (kaolin, feldspar, carbonate, talc...)
- Building materials: aggregates, cement, plaster
- Uranium, coal

### Other industries

- Industrial and urban waste management





# USIM PAC



www.ozmet.com.au

Serving your process needs  
www.caspelo.net

## A user-friendly interface focused on process engineers' tools

The flowsheet is easily drawn using a set of unit operation icons.

A click on a stream gives access to:

- The material flowrate, size distribution and composition;
- The size distribution and washability curve.

A click on a unit operation gives access to:

- The unit size and settings, the mathematical model parameters;
- The partition curve and the split curve.

Tables permit display of global plant performances.

## A library of unit operation mathematical models

Crushing, grinding, attrition, fine grinding; Size classification, gravity and magnetic separation, flotation;

Solid-liquid separation: settling, thickening, filtration ;

Hydrometallurgy : leaching, CIP, CIL, precipitation, solvent extraction, electrowinning

## Powerful algorithms and methodologies for:

- Process simulation;
- Equipment sizing;
- Equipment setting optimization;
- Capital cost estimation;
- Sensitivity analysis to evaluate process flexibility.

**Better knowledge of the process**

**Reduction of pilot and industrial tests**

**Identification of bottlenecks**

**Fast evaluation of alternative configurations**

**Evaluation and use of the process flexibility**

**Increased recovery**

**Consumption reduction: reagents, energy, water**

**Productivity  
increase**

**Cost  
reduction**

