

# DEVELOPMENTS IN FLOTATION CIRCUIT DIAGNOSTIC PRACTICE

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An important role of a site Metallurgist is to diagnose reasons for problems in a flotation circuit and devise strategies to overcome these problems. Traditionally this has involved performing and analysing information from a flotation circuit survey. It is difficult to determine from this information alone definitive flotation mineral recovery mechanisms and strategies for circuit improvement. There are, however, new analytical and modelling techniques that can be used to complement traditional survey data. These techniques are able to determine the effect of mineralogy, surface chemistry and circuit design on flotation circuit recoveries and grades. They can suggest strategies for improvement which would not have been identified via a conventional circuit audit. This presentation will review these new approaches and use an industrial example to demonstrate the type of conclusions that can be derived. The developments that are required to improve analysis turnaround times and enable assessment of alternative flotation circuit options will be outlined.