Introduction

Arsenic (As) is a trace metalloid element that is commonly associated with metallic mineral deposits. The mining and beneficiation of gold, which is commonly intergrown with the sulphide phases, produces arsenic rich mine wastes, thereby accelerating the natural processes of arsenic mobilization. Arsenic is considered to be toxic in the environment at relatively low (ppb) levels.

Blackwater gold mine 1938 - 1951

Phoenix gold mine 1864 - 1907

Focus

1.) Assess the influence of ore processing techniques on arsenic mineralogy of residues.
2.) Establish the distribution and morphology of arsenic minerals.
3.) Characterise arsenic mobility, on site and in the downstream environment with respect to secondary arsenic minerals.

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