

Mineral Exploration from Grassroots to Feasibility: Overview of Projects in Malaysia and Papua New Guinea



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Discovery of an economic deposit is a long process which encompasses several phases of exploration from grassroots to feasibility over a variable period of time and at a cost which varies considerably depending on local conditions. Mineral exploration costs increase exponentially from the early stage to the feasibility; furthermore a deposit considered as potentially economic after several years of detailed exploration can suddenly be declassified and abandoned following a drop in commodities price or other factors including change in the local geo-political environment. Mineral exploration is therefore a very risky business with considerable financial implication; each stage is important and must be conducted with the best professional practice because its results will be the key to decide whether to proceed or not with the next and more costly stage.

Examples of mineral exploration projects managed by the author in different environments like Malaysia and Papua New Guinea for various commodities including precious and base metals as well as bauxite, are presented with the main techniques used to illustrate the financial but also logistic and human aspects of such an enterprise.

Objectives are significantly different between countries like peninsular Malaysia where exploration costs are relatively cheap and economic targets can therefore be small, compared to the very challenging environment of Papua New Guinea where the objectives are only world class deposits since logistic often represents more than half of exploration budgets, security is a critical aspect of the field work and operating costs of mines often colossal.