Gregor Partington

Kenex Australia, Dongara, Western Australia, 6525, Australia.
Email: g.partinton@kenex.co.nz

Outcomes from using mineral potential modelling as a tool to support decision making in mineral exploration and resource development

Finding new metal deposits has become more difficult due to exploration maturity and information and data overloads. This means that traditional subjective exploration targeting is less effective. New computer-based exploration targeting techniques, including machine learning, should be used more often by the Exploration Industry, to address the issues of data overload. However, the Exploration Industry rarely uses the new targeting techniques in real world exploration. This appears to be due to a lack of trust in the results from these systems and a lack of understanding of how the results from mineral potential modelling can be used to help support decision making in exploration and mine development. Mineral potential modelling was used as a decision support tool in the acquisition and development of the Greenfields Bundarra copper, silver and gold porphyry system in Central Queensland and also to help constrain resource estimation at the Tampia Gold mine in Western Australia. These case studies are examples of how mineral potential modelling can be used at either end of the exploration and mining value chain and provide ideas on how mineral potential modelling can be integrated into exploration and mining decision support systems from Greenfields exploration targeting through resource development to mining.

Greg Partington

Greg has more than 40 years of experience in the minerals industry, both in exploration and mining. He has been involved in several discoveries during this time and has managed the exploration and development of projects for a range of metals, including gold, copper, PGEs, tin and tantalum. He also has been continuously active during this period in geoscientific research and has published papers based on research into ore genesis and the use of spatial analysis in mineral exploration targeting. He has successfully developed and managed several listed exploration companies, and part owns Kenex Knowledge Systems, focusing on exploration targeting and 3D geological modelling. Greg is currently developing a project development business based on targets generated using spatial data modelling and has recently listed two companies on the ASX that are developing these projects.