Prospectivity Analysis in Action: The Auzex Resources Ltd. (AZX) Story as Applied to Granite Related Mineral Systems in Eastern Australia and New Zealand.

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The business of mineral exploration has changed in the last five years with mergers and acquisitions reducing the number of experienced mineral exploration companies. In addition most major mining companies still prefer to depend on acquisitions to replace and grow their companies. Consequently, few significant new mineral resource discoveries have been made in the last few years, while demand for metals such as gold, molybdenum and tungsten has increased significantly. The greatest value for investors in mineral exploration is created when new mineral resources are discovered. However, the discovery of new mineral resources is based on probability of about 1 in 3000, which makes the discovery of new mineral resources a rare event. Therefore for any company to be successful at the exploration end of the value chain they have to be able to increase their chances of success. This can be done by assessing the probability of occurrence of a commodity through efficiently integrating and statistically analysing the large volumes of historical data, including mineral occurrence data, geology and geochemistry, that have been collected by previous mineral explorers in a region. Spatial data modelling is a rapidly developing predictive technique that is increasingly being used in geology. There are a growing number of mineral exploration companies who now believe that by using such modern statistical techniques and state of the art ore deposit models it is possible to add the greatest value to mineral assets and increase the probability of discovery of new mineral resources. Auzex Resources, who are an Australian Mineral Exploration company, are an example of such a company. The company integrated a large amount of historic geological information with a new deposit model to develop a national scale and regional scale prospectivity models for the East Coast of Australia and the West Coast of New Zealand to assess the potential for new discoveries. Tenements were acquired over the most prospective of these areas in Eastern Australia and New Zealand and field data checking carried out to assess the validity of the prospectivity models. To date seven prospects have been drilled, one has advanced to feasibility level and three others are at the resource development stage.