New Zealand Government pre-competitive geophysical data releases: New insights into mineral provinces of South Island, New Zealand

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Newly acquired aeromagnetic and radiometric data over parts of the South Island of New Zealand are providing new information on New Zealand's mineral estate. These data form the latest release from the New Zealand Government's ongoing data acquisition programme. Combined with industry-acquired datasets, about 35% of New Zealand is now covered with high-quality aeromagnetic data. These data are also helping revise interpretations of the geologic history of Zealandia, Earth's 8th and largely submerged continent.

Southern South Island datasets reveal areas of anomalous magnetism that can be related to Permian igneous and volcaniclastic sedimentary rocks prospective for copper mineralisation, as well as Permian-Triassic plutonic Median Batholith intrusions prospective for gold, PGEs, and base metals. Northern South Island datasets reveal areas that can be related to extensions of those southern igneous rocks, as well as Permian ophiolitic and associated melange rocks prospective for Ni, Cu, Cr, PGEs, and REEs. Some of the prospective host rocks are inferred to lie at shallow depths beneath sedimentary cover.

Interpretations of these new-precompetitive aeromagnetic and radiometric data, together with recently acquired regional soil geochemical data over the southern South Island, are a timely focus on the occurrence of a wide variety of precious metal and mineral deposits in the continental SW Pacific.