

# **Titaniferous Magnetites as a Source of Vanadium Titanium and Iron**

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## **TITANIFEROUS MAGNETITES AS A SOURCE OF VANADIUM TITANIUM AND IRON**

Titaniferous magnetite hard rock deposits are common throughout the world. Previously they have been processed to recover vanadium using the standard salt roast process, however the economics based on vanadium alone can be marginal due to the high capex and opex, making it vulnerable in a volatile vanadium market.

New Zealand Steel and others have produced vanadium slag by iron reduction and smelting of iron sands.

Of recent times various groups have endeavoured to produce titanium pigment and vanadium from these ores using hydrometallurgical process routes. The technical challenges are significant, although the potential to produce titanium pigment from these ores is approaching technical and commercial feasibility.

This paper looks at the methods used and various process routes being considered for potential new projects.