

4 Career making mining challenges

Every aspect of mining – access, planning, mining, rehabilitation, remediation and closure – requires a blend of skills, knowledge, innovation, process and application that you will only rarely find concentrated into one small region as it is here on the West Coast.

The West Coast is rightly described as having the most challenging mining geology in the world.

The West Coast is one of the world's most youthful geological regions, containing dense rainforested plutons, moraines, river terraces, coastal alluvial valleys and New Zealand's tallest mountains. The Alpine Fault, running the full length of the region, marks the boundary of the Pacific and the Australian-Indian plates, and is one of only four locations in the world where continental plate boundaries occur above sea level. Uplift along the Southern Alps is among the most rapid in the world. The tectonic forces that have fractured, offset and uplifted the land in the last 5 million years have jumbled the original geological sequences. The geological picture is further confused by the extremely high rates of erosion and deposition. These active and rapid tectonic processes have created dramatic geology, climates and biodiversity that challenge all the norms of mining.



Environmental challenges 5

The West Coast contains New Zealand's largest and most important conservation estates. In fact 87% of the West Coast's land area is conservation estate that includes some of New Zealand's most intact wilderness areas, and a great diversity of 'mountains-to-the-sea' ecosystems.

Operating within this natural wonderland, are a wide range of large and small scale mining operations. Their existence alongside New Zealand's most precious wilderness ecosystems, plus factors such as the steep terrain, high energy rivers, and, in places, sulphidic country rock create environmental challenges equal to anywhere.

Balancing performance objectives for water quality, air quality, noise, acid rock drainage, ecosystem and species protection with mining operations demands modern techniques and operating standards that need constant improvement to meet increasingly demanding customer and public relations criteria. Much has been learned and much remains to be learned, through an intelligent mix of engineering, science, experience and innovation. If you want to be part of a challenging mix of environmental stewardship and profitable mining there is no better learning ground in the world than the West Coast.