Each section provides a variety of short papers that encompass a series of ore systems.

In the introduction, the editors discuss the comparatively new legislation that regulates the mining and exploration industry. New Zealand has spectacular scenery and its environmentally conscious inhabitants strive to preserve the natural beauty of the country. New Zealanders have managed to restructure legislation to allow mining and exploration, providing that certain strict guidelines are maintained. This has been particularly successful with alluvial and iron sands mining in the South Island, thereby providing an example of how the mining industry and a pristine environment can coexist.

The overview chapter for the monograph begins with a summary of New Zealand’s geology and associated mineral occurrences. The second paper in this chapter summarizes GIS modelling of gold deposits. Overviews of the VMS deposits and PGE prospects follow. Placer ilmenite along the west coast and the alluvial gold operations of central Otago and near Greymouth, all on the South Island, are then summarized.

The chapter on Northland contains one paper on halloysite clays, and a second on Hg- and Au-Ag–bearing epithermal sinter deposits north of Auckland. Next is the chapter on the Hauraki gold field, truly one of the best natural laboratories in the world for the study of epithermal ore systems. This section, understandably, has the largest number of papers (17). A regional overview, with excellent figures detailing all known deposits and occurrences, is followed by papers on structural and tectonic controls, geophysical signatures, caldera controls, exploration, geology, and mining history of several of the epithermal systems, including the well-known Karangahake and Waihi-Martha Hill deposits. Very useful here are insights into the geophysical signatures and historical backgrounds.

I have to lament, however, two things. One is that a geologic summary and/or a table of volcanic stratigraphy of the Hauraki gold field could have been presented in the introductory paper, thereby avoiding unnecessary repetition of the regional geology in each paper. The space saved could have been utilized for more text. The second is that gold grades and production data are presented as a mix of ounces and/or metric units, often in the same table. For an international audience, particularly the surging Asian economies, it would have been best to use only metric units.

The next chapter is focused on the enthralling Taupo Volcanic Zone, where present-day near-surface and surface expression of epithermal systems can be observed first hand. One paper details the well-established models of the Taupo geothermal and the White Island magmatic-hydrothermal systems. The coastal iron sand deposits of the North Island follow with two papers. The chapter on Marlborough and Nelson includes two papers: one describing the Marlborough Schist belt and the other discussing the unusual gold- and sulfide-bearing peralkaline intrusions at Sams Creek in northwestern Nelson. For the west coast region, two papers review exploration and geology of the historical Reefton gold field.
These are followed by three papers on alluvial gold mining, including that associated with the historical Kaniere dredge. Another paper presents a summary of the Au-bearing veins of the Southern Alps. Descriptions of orogenic Au ± W ores systems, such as Glenorchy, Shotover-Macetown, and the world-class Macraes deposit, are presented in the chapter on Otago and Southland. Three papers on offshore minerals include material on the intraoceanic Kermadec arc submarine vent systems, on which cutting-edge research has been conducted, and the ferromanganese nodules on the Campbell plateau.

This new monograph on the geology of and exploration for mineral deposits in New Zealand complements the previously published monographs which, taken all together, effectively provide a comprehensive treatise. The layout, figures, and presentations are all of high quality, and the price is very affordable. This monograph is highly recommended to academics, researchers, geoscientists, and engineers in the mining and exploration industry.

REFERENCES

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