

# Origin of Terra Rossa

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The most famous vineyard soil in Australia, and possibly the world, is the renowned and unique terra rossa of Coonawarra. Its provenance can be traced back to an ancient sub-marine origin, nearly a million years ago, when the ocean extended inland as far as the present Naracoorte (Comaum) Range, known also as the Kanawinka Escarpment.

However, an ice-age intervened, freezing over the ocean waters into polar ice-caps, and causing the shoreline to recede well out beyond the continental shelf. By the time the ice-caps had melted again, about 50,000 years later, the underlying ground of the South East, which had been steadily rising at the rate of approximately one centimetre a century, was five metres higher than it had been originally. Consequently, the returning ocean was forced to stop short of its original shoreline, and to establish a new one, the sand dunes which eventually solidified into a sandstone ridge that now forms the backbone of Coonawarra.

This ice-age cycle was then repeated, with the Stewart (Monbulla) Range being formed by another new shoreline and dune system to the west. A fresh water lake, entrapped between this range and the hills of Comaum, inundated the lower Coonawarra ridge; and its resident shellfish, when they died, fell to the bottom, ultimately forming the chalky, white limestone of the district which is so well known today.

As the land continued to rise higher above sea level this limestone became exposed to the air and elements. The falling rain, having absorbed atmospheric carbon dioxide which made it slightly acidic, slowly dissolved the carbonates in the stone, leaving the original grains of sand as a thick surface layer. This became the principal ingredient of the developing terra rossa soil.

Further ingredients were added by the prevailing winds which carried and mixed into the sand matrix much finer particles of clay, organic material and minerals blown from the now dry and dusty lake-bed to the west. Amongst them was some iron which, on this increasingly well drained ridge, became highly oxidised to a rich rusty-red, thus providing the new terra rossa with its unique colour.

Although similar soils were formed elsewhere in the South East, which is now called the Limestone Coast, they are generally of a more recent origin. In fact, the subsequent sequence of ice-ages left fourteen more shorelines stranded between Coonawarra and the present coastline at Robe, each approximately ten kilometres apart, 50,000 years younger and each with some areas of terra rossa.

However, Coonawarra's soil is the oldest and most fertile, containing the largest proportion of finer silica particles and organic matter, thus making it a true clay, which yet behaves under cultivation like a younger, tractable loam.

After nearly a million years in the making, this ancient shoreline ridge has now, in just one century since the foundation of Coonawarra, been entirely planted with a mantle of vines which it grows to perfection. Only twenty-seven kilometres long and less than two kilometres wide, this select area of extraordinary and extremely valuable soil, with its unique ingredients, has achieved world acclaim for the exceptional wine it creates.

