Australian alexandrite

One of only four recorded occurrences of alexandrite in Australia occurs near Dowerin, Western Australia. Known since 1930, the deposit was the first recorded in Australia and has yielded many small alexandrite crystals. Recent re-working of the deposit has allowed further examination of the gem-bearing rocks.

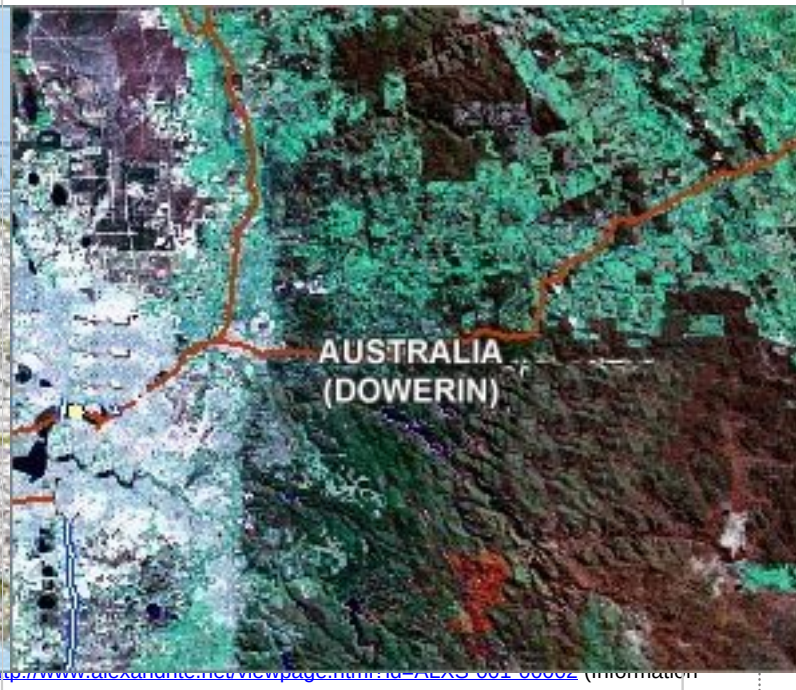
Locality details

Country	Australia
Region	Western Australia
Province	Midlands
Locality	Dowerin
Latitude	-31.2000
Longitude	117.0333
Altitude	990
Time zone	UTC+8

Locality maps

Map

Satellite



See A[illegible] about Australian alexandrite findings and mining in Dowerin, Australia.) (as of).

A deposit of chrysoberyl, including the variety alexandrite, occurs near Dowerin, in the southwestern region of the Archaean Yilgarn Craton, Western Australia. The deposit is situated in the northern part of the Lake Grace Terrain, a crystal component of the southwestern Yilgarn Craton, in granulite-facies gneisses adjacent to the margin of the Kellerberrin Batholith.

Beryllium mineralization at Dowerin occurs in plagioclasequartz-biotite-garnet gneiss and cross-cutting tourmaline-plagioclase veins situated adjacent to lenses of actinolite-cummingtonite-phlogopite schist. Crystals of chrysoberyl are found embedded in almandine or plagioclase, and closely intergrown with biotite and/or zincian hercynite in the host-rock gneiss. Minor Cr and Fe in the alexandrite variety of chrysoberyl were possibly derived from associated zincian hercynite and/or almandine. Trace beryl occurs as anhedral interstital grains between crystals of chrysoberyl, plagioclase and biotite, and as rare inclusions in chrysoberyl.

Textural and mineral chemical evidence suggests that chrysoberyl and zincian spinels formed during granulite-facies regional metamorphism and probably pre-dated the formation of metamorphic tourmaline-plagioclase veins during the same metamorphic episode. The Be, B and Zn required to form chrysoberyl, beryl, tourmaline and zincian spinels may have been released by metamorphic reactions in host-rock metapelites during prograde granulite-facies metamorphism.