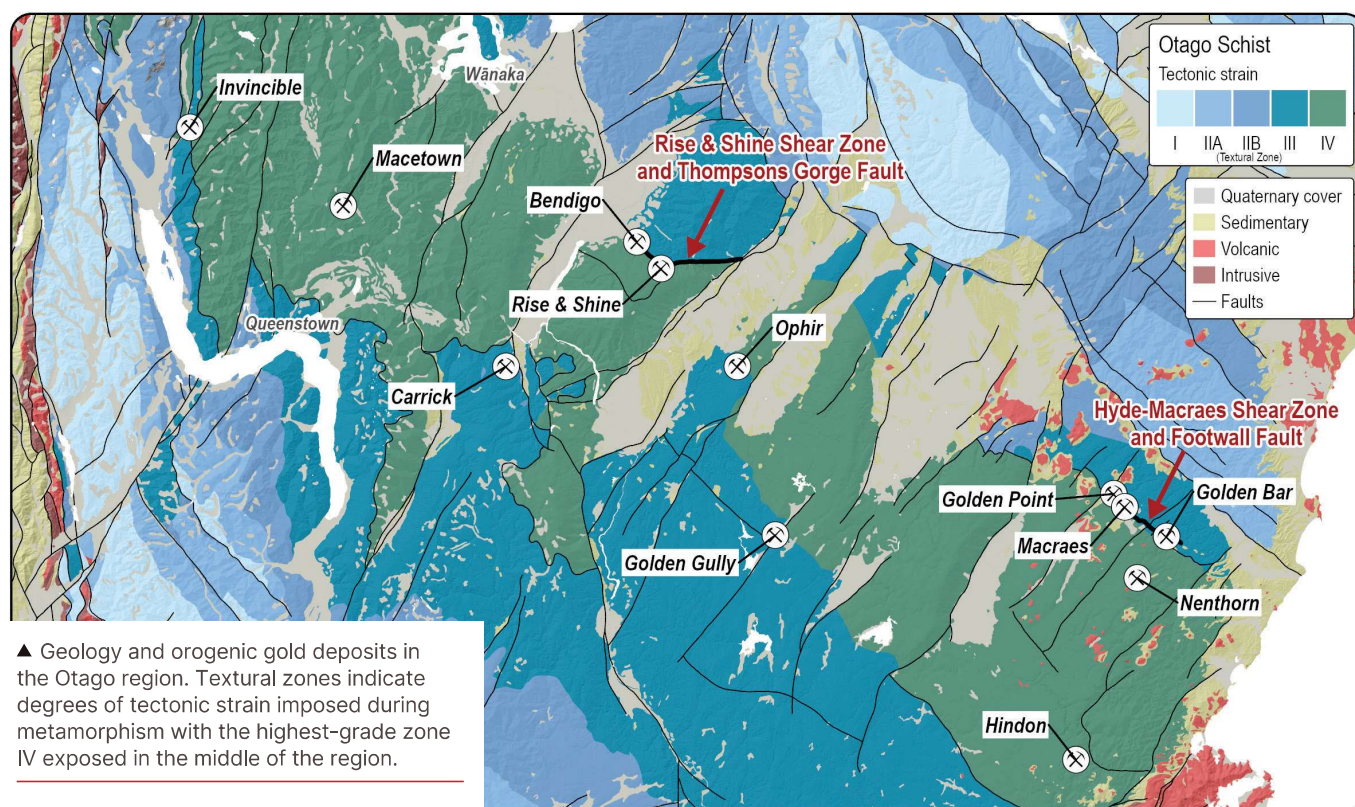
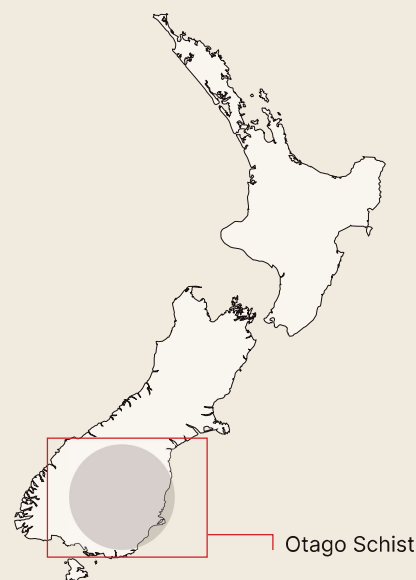


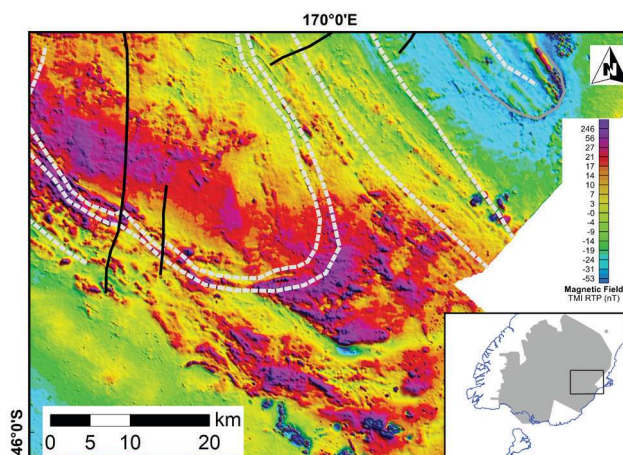
Orogenic gold in Otago, New Zealand

Otago is home to significant orogenic quartz vein and shear zone gold deposits within Mesozoic schist. These deposits primarily consist of quartz veins hosted in shear and fault zones. The largest and most productive deposit is the Hyde-Macraes Shear Zone in East Otago producing over 5 Moz of gold from open pit and underground operations. Nearby, exploration on the Rise & Shine Shear Zone continues to define resources with over 2 Moz of gold identified to date.



Regional Geology

Gold deposits are found within the Otago schist belt, formed from ancient submarine fan sediments off eastern Gondwana in the Permian to Cretaceous, that were deeply buried and metamorphosed in the Jurassic to Cretaceous. The schist belt trends northwest and doming has exposed higher metamorphic grade schist in the central axis of the belt.



Airborne magnetic map of southeast Otago Schist showing strong anomalies from magnetite-rich schists and recent volcanics. Dashed white lines mark shear zones similar to those at Macraes gold mine. Inset shows government and industry geophysics coverage in Otago.

Gold History

The Otago gold story began with the discovery of placer gold at Gabriels Gully in 1861, triggering a series of gold rushes and yielding about 8 million ounces of placer gold. Hard rock mining followed later in the 1860s, with over 20 quartz vein deposits discovered in steeply dipping shear zones that produced 300,000 ounces of gold up to the 1930s. Some mines also extracted scheelite (tungsten) and stibnite (antimony). Exploration in the 1980s identified the bulk mining potential of the Hyde-Macraes regional shear zone leading to the opening of the Macraes mine in 1989 and subsequently other exploration in the region, including definition of mineable resources at the Rise & Shine shear zone.

Gold deposits

Gold was deposited by hydrothermal fluids into structural traps. Steep veins, usually less than 1 m wide, occur in single or parallel shear zones. In contrast, the Hyde-Macraes and Rise & Shine shear zones are shallow-dipping regional thrust faults striking northwest along the schist belt. These regional faults and shears juxtapose schist of different ages and metamorphic grades, indicating significant tectonic movement in parts of the region. Gold is found in quartz veins and disseminated in the sheared schist, typically in downward-plunging shoots.

Exploration Data and Surveys



Permits from the New Zealand Government are required for exploration and mining, with conditions for reporting results. Open-file exploration data is available at www.nzpam.govt.nz and publicly accessible resources include airborne and ground geophysical data and geochemical surveys as well as LiDAR covering key gold-prospective areas, offering vital insights for exploration.

Opportunities



Otago offers immense potential for gold exploration and mining. Reinterpreting existing exploration and geological data could uncover new regional-scale shear zones and prospective targets. There may also be opportunities for joint ventures in areas with existing exploration permits, making Otago an attractive destination for investment and development.

Infrastructure and Accessibility

Otago boasts a strong infrastructure network, with cities such as Dunedin (population 134,000) and Queenstown (49,000), and smaller hubs like Oamaru, Wanaka, Cromwell, and Alexandra. The region has excellent road networks, and international airports in Dunedin and Queenstown offer regular connections to Australia and other major cities in New Zealand. NZ's deepest-water port is at Port Chalmers (Dunedin) and Southport (Bluff) is New Zealand's closest deepwater port to Australia.

Key Features



Orogenic gold targets in regional shear zones



Extensive data sets in open-file exploration reports



>5 Moz production from the Macraes mine



Extensive regional airborne geophysical data



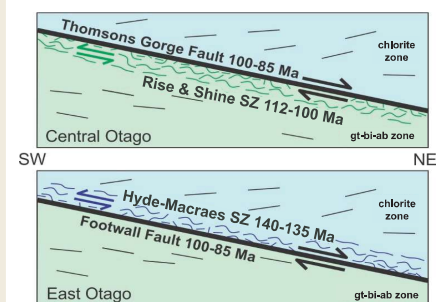
Recent exploration success at Rise & Shine



Excellent regional infrastructure



Aerial view of Macraes mine and typical central Otago topography. Mining commenced at Macraes in 1989 and has produced more than 5 Mozs of gold from open pit and underground mining.



The Hyde-Macraes SZ (250 m thick, 30 km long, dipping 10–35°) and Rise & Shine SZ (50 m thick, 7 km long, dipping 20–50°) both dip northeast and host disseminated gold and quartz veins in crushed schist. The Hyde-Macraes SZ is truncated by the Footwall Fault, and the Rise & Shine SZ by the Thomson's Gorge Fault. Mineralisation dates to 140–135 Ma and 112–100 Ma, respectively. SZ = Shear Zone; gt-bi-ab = garnet-biotite-albite.

Unlock the Potential

Join Otago's rich history of gold exploration and discover its future opportunities.

For more information, visit www.nzpam.govt.nz