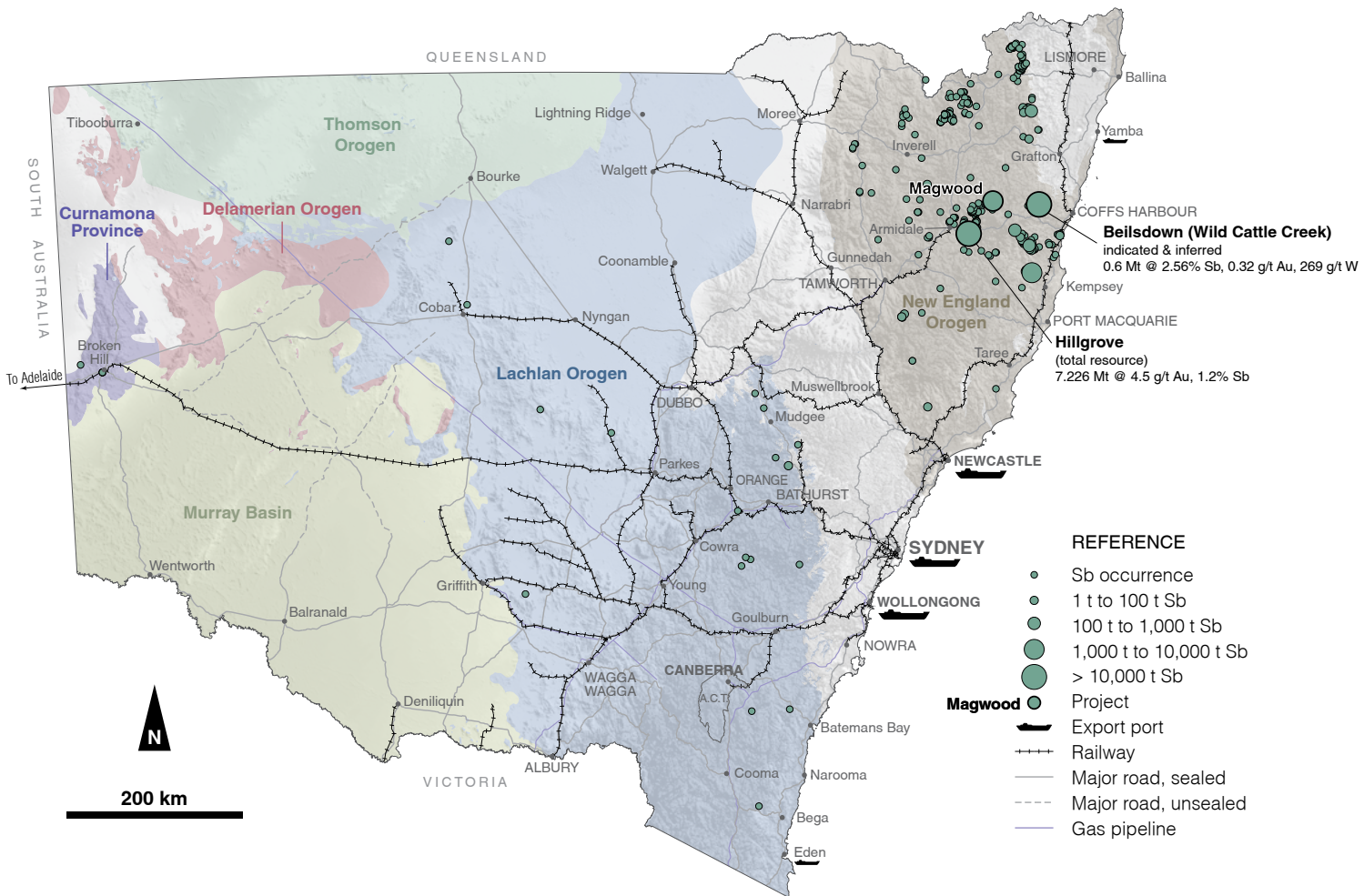


Antimony

Opportunities in New South Wales, Australia

Sb

DECEMBER 2021



Overview

- Antimony usually occurs as stibnite (antimony trisulfide, Sb_2S_3).
- It is a key hardener for steel, and for lead in lead-acid batteries.
- New South Wales produced 30,000 t of antimony ore, concentrate and metal from 1870 to 1970 and has current resources of >330,000 t.
- Excellent potential exists for both further discovery of antimony \pm gold deposits, and as a by-product commodity (e.g. Broken Hill).

Geological setting

Most antimony deposits in New South Wales (NSW) are associated with orogenic deposits which are strongly controlled by regional to district-scale faults, veins and fractures in metasedimentary and felsic igneous rocks.

Mineralising hydrothermal solutions are typically 200–340°C, with higher temperature fluids associated with Au- and W-bearing deposits (e.g. Hillgrove).

Ore typically occurs as quartz-carbonate-stibnite-arsenopyrite veins and in vein selvages.

Metasedimentary rocks and granites of the New England Orogen host over 500 antimony deposits and occurrences. This includes numerous deposits hosting up to tens of thousands of tonnes of antimony which are suited to mining of multiple zones.

Project highlights

Hillgrove, about 375 km north of Sydney, is the largest antimony resource outside of China: (total resource) 7.226 Mt @ 4.5 g/t Au, 1.2% Sb. The deposit is associated with Permo-Carboniferous granites and Palaeozoic metasedimentary rocks. Mineralisation occurs in veins, breccias, sheeted veins, stockwork and as alteration haloes.

Bielsdown/Wild Cattle Creek: (indicated & inferred) 0.6 Mt @ 2.56% Sb, 0.32 g/t Au, 269 g/t W. Drillhole highlights include 51.2 m @ 1.69% Sb; 1.4 m @ 17.1% Sb, 2.2% W_3 ; 11.5 m @ 2.32% Sb, 0.34 g/t Au. Mineralisation at Bielsdown is contained within a silicified breccia core hosted by a sub-vertical fault breccia with adjacent metasedimentary rocks.

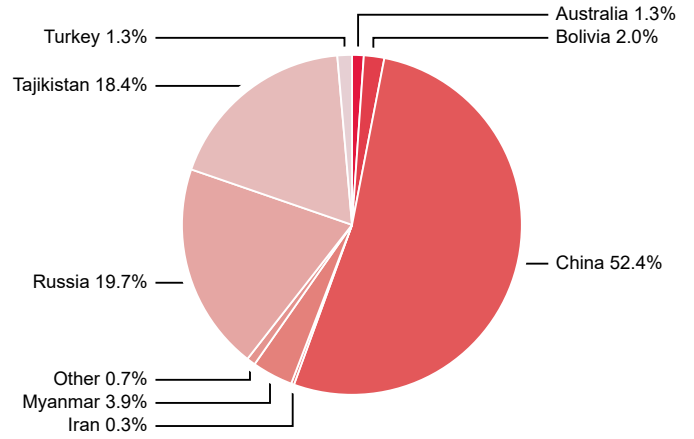
Magwood mine produced over 3,440 t of antimony.

Taylor's Arm district produced around 600 t of antimony metal from historical leases.



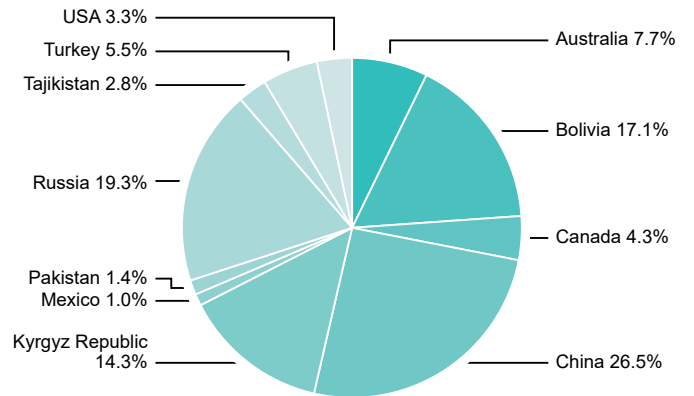
Striated prismatic crystals of stibnite (antimony trisulphide) in aggregates from the Taylor's Arm district. Large stibnite crystal is 8 cm in length.

Global antimony production (2020)

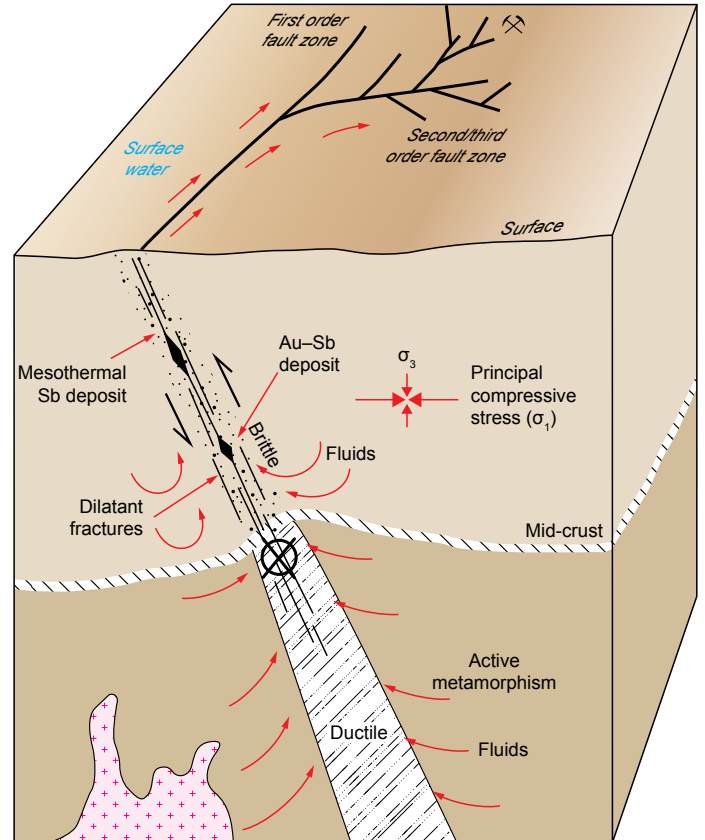


Source: modified from <https://pubs.usgs.gov/periodicals/mcs2021/mcs2021.pdf>

Global antimony reserves (2020)



Source: modified from <https://pubs.usgs.gov/periodicals/mcs2021/mcs2021.pdf>



Model of orogenic gold and antimony deposits showing typical regional to district structural associations. Adapted from Robb (2005) and Lewis and Downes (2008).

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