

Geology of GOLD course

8–12 March 2021

School of Earth Sciences, University of Melbourne



A 5-day course of lectures, practical sessions and a 2-day field trip devoted to the Geology of Gold.

It is suitable for geologists in the global minerals industry or government with early exploration or mining experience who want a broad coverage of the gold geology as well as some of the latest research ideas and how they apply to mineral exploration.

The course covers all major types of gold deposits with emphasis on greenstone-hosted and sediment-hosted orogenic gold deposits. Other gold deposits covered include epithermal, Carlin and Witwatersrand gold deposits. The field trip includes a visit to Fosterville gold mine and an industry meeting in Bendigo.

Geochemistry, structural geology, metamorphic geology, deposit geology, geochronology, regolith issues and the most appropriate exploration approaches for the different styles are covered at a level to enable participants to take their place in industry and government teams and make a significant contribution.

Several important ideas used in the industry today have been pioneered in earlier presentations of the GOLD course. Come and find out why gold deposits are most unlikely to form at 800°C, why Witwatersrand production is plummeting, the links between magmatic processes and gold, the exploration methods used in Australia to discover 550 million ounces of gold since 1979, why Fosterville is described as the best gold deposit in Australia at present, and what the recent Hemi gold discovery in the Pilbara means.

The course covers the deep weathering in the Carlin Gold Province which is 100 metres deep in places. We discuss the importance of understanding and then removing the effects of this weathering before sampling, analysis and attempting to determine how these important gold deposits formed. New insights here open exploration opportunities globally.

Third from the left in the photo gallery we have a visitor thanks to the Somerville Collection in Bathurst NSW. This is mostly pyrite retaining the beautiful detail of a Mesozoic ammonite; and geologists generally agree that this is a normal shelly ammonite replaced by pyrite some time after death and burial.

Far right of the photo gallery are our regular Fe-oxide pisoliths (left) from the modern land surface at Klerksdorp RSA. The right side shows pyrite nodules from the Archean Witwatersrand gold reefs approximately 3 km below the surface. It is widely considered impossible for the pyrite nodules to have formed from Fe-oxide pisoliths in Witwatersrand reefs.

COURSE COORDINATOR: Prof David Phillips

PRESENTERS INCLUDE:

Prof Neil Phillips, Prof Andy Tomkins, Dr Rod Boucher, and Prof David Phillips.

COST FOR INDUSTRY PARTICIPANTS:

\$1000, including the 2-day field trip.

Numbers will be limited due to the field component, and registrations are likely to close early.

Please check and be aware of all COVID-19 regulations.



REGISTRATION: School of Earth Sciences, University of Melbourne

+61 3 8344 4132, e: dphillip@unimelb.edu.au

