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Talk title	Disseminated orogenic gold mineralization in high-grade metamorphic turbidites of the Central Zone of the Damara Belt, Namibia: controls and characteristics of the Twin Hills deposit
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Date	Thursday, 30th of March
Time	17h45
VENUE	Auditorium of the Ministry of Mines

Abstract:

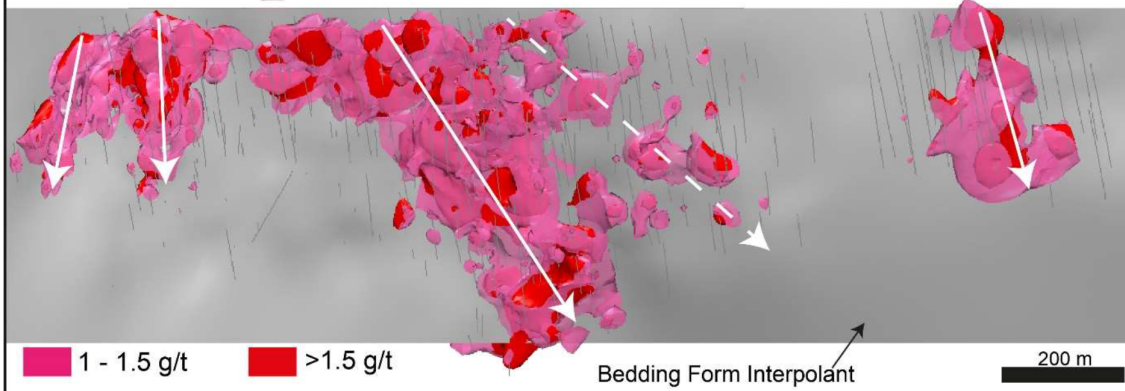
Disseminated orogenic gold mineralization in high-grade metamorphic turbidites of the Central Zone of the Damara Belt, Namibia: controls and characteristics of the Twin Hills deposit

Josia Shilunga and Alexander Kisters, from Department of Earth Sciences, Stellenbosch University, South Africa

The recently discovered Twin Hills deposit is a large (>12 km strike length), disseminated, low-grade mineralized gold-sulfide (pyrrhotite > arsenopyrite >> pyrite) system hosted by amphibolite-grade metaturbidites of the Pan-African Damara Belt of central Namibia. The deposit comprises distinct clusters of economic-grade gold mineralization, measuring several hundred meters along strike, separated by several kilometer-long intervals of only sporadic and sub-economic gold grades. Individual higher-grade clusters are controlled by the combination and interplay of two main factors, namely lithological contacts and subtle deflections of bedding of the highly-strained, subvertical metaturbidites. The ENE-trending mineralized corridor of the Twin Hills deposit is largely confined to imbricated and/or tightly folded packages of interbedded metapsammities-metapelites within the otherwise metapelitedominated sequence. It is these units that promoted fracturing, fluid flow and the development of fine-scale vein networks as a result of pronounced strain partitioning between schist units (ductile) and interbedded metapsammities (brittle) during regional deformation (flexural-slip folding). Clusters (shoots) of higher-grade mineralization (>1.5 g/t Au) follow these main lithological contacts, but are laterally confined to subtle (5-15°) clockwise deflections of bedding (dilational jogs) from its regional ENE trends (see graphical abstract below). Outside these deflections, gold mineralization is patchy and only sub-economic. On a regional scale, the position of the Twin Hills deposit coincides with the inflection of the vergence direction of regional-scale first-order folds. The structural and lithological controls of the mineralization at Twin Hills closely resemble those of orogenic gold deposits, but the fine-grained and dispersed textures of gold and associated sulfide mineralization are more reminiscent of those found in disseminated gold deposits.

Twin Hills Central steeply plunging high-grade ore shoots

Longitudinal View (Looking North)



Twin Hills Central Orebody in a dilational jog

