

## The Devil's Lake Gold Discovery, Exploration Highlights, and Petrographic Discussion of the Mineralized Zones

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### ABSTRACT

*The Devil's Lake project area, located 90 km north of La Ronge, Saskatchewan, is underlain by a northeast-trending belt of mixed metavolcanic and volcanogenic metasedimentary rocks, intruded by minor granite and pegmatites. The area grades from psammopelitic metasedimentary and minor metavolcanic members in the southwest to dominantly interlayered amphibolitic pelites and mafic to intermediate metaflows in the northeast. Minor felsic metavolcanic rocks (metatuff) are present locally but are difficult to differentiate from quartzitic and feldspathic psammites because of the effect of later shearing. Cataclastic fabrics are particularly well developed along the southeast margin of this sequence, all of which lies in the McLennan Lake Tectonic Zone.*

*Gold has been discovered within a granodioritic gneiss which consists mainly of plagioclase (variably argillized), quartz, and garnet. Early pyrite is interstitial (shaped by existing quartz and feldspar grains) and contains gold. The granodioritic gneiss was subjected to weak granulite facies metamorphism and later upper amphibolite retrograde metamorphism (Fe-chloritization).*

*The rock had undergone three brittle deformation or fracturing events:*

- 1) D1 fractures are barren of gold and contain carbonate, pyrite, and Fe-chlorite.*
- 2) D2 fractures are gold bearing and contain a clay/sericite alteration zone in the host granodioritic gneiss and an outer Mg-chlorite zone, where the gold is associated with ankerite, magnetite, and a light grey unknown opaque.*
- 3) D3 fractures are random, nonmineralized, and contain only extremely fine-grained silica.*