

Paladin Energy's Michelin Uranium Project status and geology, Labrador, Canada

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Paladin Energy, through its wholly-owned subsidiary Aurora Energy, holds mineral rights to 945 km² in the Central Mineral Belt of Labrador, Canada. Paladin owns and operates two open pit uranium mines in Africa, with Langer Heinrich in Namibia and Kayalekera in Malawi. Despite weak uranium prices since March 2011, Paladin's objectives for the Michelin Project are to (1) expand its existing uranium resources in the region through a five-year exploration program, and (2) to develop Michelin in the 2020–2025 timeframe as a long-life mining and milling operation, subject to economic viability and regulatory approval.

Paladin's Michelin deposit in Labrador is located 140 km north of Happy Valley-Goose Bay and 40 km southwest of Postville. Paladin's uranium resources in the Central Mineral Belt of Labrador are contained in six deposits (Michelin, Jacques Lake, Rainbow, Nash, Inda, and Gear) for a total of 139M lb U₃O₈. Michelin contains the bulk of the resources with 107M lb U₃O₈ grading 0.1%. It is the fourth largest uranium deposit in Canada; however, uranium grades are relatively low. The Michelin deposit is about 1200 m long, 5 to 50 m thick, and has been drilled to depths of 800 m. The deposit strikes N60°E, dips 55°SE and the thicker core of the deposit plunges 60°SW. Uranium mineralization occurs as three en echelon lenses slightly discordant to stratigraphy. Engineering studies show that the upper third of the deposit could be mined by open pit methods and the rest by underground mining at uranium prices >US\$70/lb U₃O₈. Metallurgical testing indicates acid leach recoveries of 85 to 90%.

The Michelin uranium deposit is hosted in strongly foliated felsic volcanic rocks of the Lower Proterozoic Aillik Group (ca. 1850 Ma). The host rocks are intercalated with finely and coarsely porphyritic rhyolites with quartz and K-feldspar with minor plagioclase, calcite, biotite, hornblende, pyroxene, magnetite and hematite, and traces of titanite, apatite, and zircon. The volcanic package has been intruded by equigranular and porphyritic granite and granodiorite dykes and plutons dated at 1650 Ma. Diorite and gabbro dykes cut the felsic volcanic rocks and post-date uranium mineralization. The Michelin host rocks were subject to intense sodic metasomatism, with replacement of K-feldspar by albite and biotite by sodic amphibole and sodic pyroxene. Quartz phenocrysts show dissolution textures and are partially replaced by albite. Pink to red coloration of mineralized rocks is caused by finely disseminated hematite. Carbonate and sulphide minerals are uncommon and typically comprise <1% of the ore. Uranium minerals are finely disseminated and along grain boundaries with grain sizes of 5 to 10 microns. The dominant ore mineral is uraninite in albite, aegirine, titanite, and zircon, with lesser uranophane, brannerite, and coffinite.