

NIKKI PROPERTY

- Porphyry Cu-Au property in an under explored region of southwest Yukon
- Large coincident copper- and gold-in-soil geochemical anomaly with peak soil values of 2750 ppm copper and 1590 ppb gold

The Nikki property, wholly owned by Strategic Metals Ltd., is a porphyry copper-gold project located ~40 km south of Beaver Creek (Figure 1). The property is underlain by Paleozoic rocks of Wrangellia, characterized by volcanic and volcaniclastic rocks of the Station Creek Formation and marine siliclastic rocks of the Hasen Creek Formation (Figure 2). These rocks are intruded by granodiorite to quartz-diorite of the Early Cretaceous Kluane Ranges suite and intermediate to felsic, porphyrytic rocks of Oligocene to Miocene age. The Kluane Ranges suite on the property appears to be multi-phase and consists of two east-west trending tabular plutons or sills of diorite and an elongate granodiorite is noticeably more porphyritic and hosts numerous zones of fracture filling pyrite, chalcopyrite and their oxidized equivalents (limonite, malachite and azurite). The mineralization is associated with pervasive propylitic alteration with localized argillic zones. Mapping completed in 2010 described the presence of hydrothermal biotite and secondary magnetite in this area as well, suggesting localized potassic alteration.



Figure 1. Tectonic assemblage map of Yukon, showing the location of the Nikki Property.

Figure 2. Generalized bedrock geology map of the Nikki property.





A northwest trending 800 m x 200 m, copper and gold-in-soil geochemical anomaly is found overlying the altered granodiorite (Figures 3 and 5). The core of the anomaly is surrounded by a large moderate copper response that is several kilometers long and up to one kilometer wide. Wide-spread overburden, permafrost and thick accumulations of volcanic ash mutes the geochemical response in most places, except those areas nearest to bedrock. High gold-insoils overlap with the high copper core, but are also found sporadically throughout the property (Figure 5). Chip samples through two hand trenches dug within the area of high soil geochem response resulted in 0.38% copper with 0.364 g/t gold and 1.6 g/t silver over six metres and 0.47% copper 0.194 g/t gold and 3 g/t silver over eight meters. Four holes were drilled in 2010 and one in 2012. The best holes showed moderate copper mineralization near the bottom holes with copper values up to 0.32%over 1.58 m (Nikki-12-01) and 0.24% over 2.75 m (Nikki-10-02; Figure 4).

Figure 3. Copper-in-soil geochemistry from the Nikki property.



The best gold values from the same holes overlap with copper mineralization with up to 0.32 g/t Au (Figure 6). The best intercept of both copper and gold is from Nikki-10-02 with 013% copper and 0.076 g/t gold over 64 m including 0.24% copper and 0.342 g/t gold over 2.75 m. Skarn mineralization is found near the top of the ridge where limestone and calcareous mudstones are in contact with the granodiorite. A chip sample across the skarn returned values of 11.95 g/t gold with 7 g/t silver over two metres. A strong magnetic anomaly is coincident with mapped extent of the granodiorite (Figure 7). The anomaly shows a sharp geophysical contrast to the host sedimentary and volcanic rocks. Much of the magnetic response of the intrusion is thought to be associated with magnetite, which can make up to 5% of the rock locally. An IP survey across the area shows a band of low resistivity that partially overlaps with a chargeability high. The main gold anomaly lies along the southern margin of the chargeability high.

Figure 5. Gold-in-soil geochemistry from the Nikki property.

1,600 m

1,500 m

1,400 m

1,300 m





Figure 4. First vertical derivative of the total magnetic field from the Nikki property.

The age of mineralization appears to be Early Cretaceous based upon U/Pb zircon analysis of a sample from the eastern margin of the granodioritic stock that returned an age of ca. 125 Ma; however, sulphide mineralization is found within and adjacent to feldspar porphyritic dykes that intrude through all rock types on the property. These dykes have not been dated, but they appear similar to other dykes in the area that are Oligocene in age. The granodiorite, where sampled for dating, is noticeably less altered and less porphyritic than the main mineralized zone and it is possible that the altered portion of the complex is a younger intrusive phase, perhaps related to the porphyry dykes.



FOR MORE INFORMATION ON THIS PROPERTY

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