

Red Cross Lake Ta-Cs-Rb

The Red Cross Lake property comprises one claim, REDX 1, MB3140, located in remote northeastern Manitoba. The REDX 1 claim is 16 hectares in area, but surrounding ground is open for staking. The claim covers a swarm of granitic pegmatites with significant tantalum, cesium, rubidium, and lithium mineralization.

Work by the Geological Survey of Canada in the 1960s identified the rubidium and cesium potential of these pegmatites, with one sample assaying 2.86% Cs_2O , 1.29% Rb_2O and 1.26% Li_2O . Subsequent work by Manitoba Energy and Mines in the 1970s identified the cesium mineral pollucite in these pegmatites. Tantalum Mining Corporation (Tanco) explored the property in 1981 with 12 drill holes, extending the pegmatite swarm to over 500 m long by 50 m wide with many tantalum-bearing intersections. Numerous intervals were cut grading in excess of 0.05% Ta_2O_5 , including 0.10% / 0.34 m and 0.059% / 2.01 m in hole RC-1 and 0.073% / 1.25 m in hole RC-8. An examination of Tanco's drill results shows that the cumulative thickness of pegmatite increases steadily to the west, and that tantalum grades increase to the west and along the north side of the pegmatite swarm. Tanco did not drill the zone to the west under the lake due to technical difficulties casing holes from the ice through thick overburden with a small drill. The author conducted a small program of outcrop sampling, geologic mapping and boulder tracing during August, 2001.

The Red Cross Lake pegmatites, which intrude mafic volcanic flows, are heavily sheared and show a strong lineation plunging shallow to the west. The dikes consist mainly of albite, quartz and lepidolite, with minor k-feldspar, pollucite, rubellite, amblygonite, beryl and tantalite also identified. Nine pegmatites, ranging in thickness from 20 cm to 2.5 m were detail mapped over a 30 m width in the core of the pegmatite swarm. Chip samples returned up to 0.062% Ta_2O_5 , comparable to earlier Tanco drilling, with Ta/Nb ratios averaging 3.3/1. Significant rubidium and cesium values were returned, ranging up to 1.05% Rb and 1.39% Cs, as well as elevated Li content.

Pegmatitic granite, the likely parental source of these pegmatites, was identified about 2 km to the southeast, suggesting a northwesterly fractionation trend. This is confirmed by weighted average tantalum analyses in Tanco's drilling, which increase to the west and along the north side of the pegmatite swarm.

It is apparent that the Red Cross Lake pegmatites are highly fractionated, and the area has potential for the discovery of economically significant tantalum, cesium, rubidium and lithium mineralization. Exploration for new pegmatites and extending the known mineralization should be focused on the area north and west of the delineated zone. As well, the known pegmatite swarm should be re-evaluated for both a high grade zone along the north margin and possible low grade open pit over the entire swarm of dikes. A systematic program of boulder prospecting, geophysics, geology, geochemistry and drilling is recommended.