

Overview of lithium pegmatite exploration in the Kaustinen area

T. AHTOLA¹ AND J. KUUSELA¹

¹*Geological Survey of Finland, P.O. Box 96, FI-02151, Espoo, FINLAND*

The lithium potential of the 500 km² Kaustinen (Emmes, Kruunupyö-Ullava) Li province in western Finland has been known and explored since the 1960s. During 2003–2012, one of the main targets of the industrial mineral mapping projects by the Geological Survey of Finland (GTK) was to evaluate the Li (Ta, Nb, Be) potential and to discover new resources in the Kaustinen area (Ahtola et al. 2015).

GTK carried out RC, percussion and diamond drilling, together with ground geophysical surveys in seven different exploration areas. Regional till samples from the 1970s were also re-analysed. All the Li pegmatites belong to the albite-spodumene subgroup of the LCT pegmatite family. As a result, four new spodumene pegmatites (Matoneva, Päiväneva, Heikinkangas and Rapasaaret) were discovered. In addition, the knowledge of the dimensions and mineral resources of the previously known Leviäkangas and Syväjärvi pegmatites were improved. In total, Li potential mapping by GTK increased several million tonnes the known Li pegmatite resources in the province. The exploration permits of three deposits (Leviäkangas, Syväjärvi and Rapasaaret) are now owned by Keliber Oy as a result of international tender notice of the Ministry of Employment and the Economy (MEE). According to the results from the re-assaying of old till samples, there are areas with good potential for new discoveries on the northwest and southeast sides of the known deposits. The Kaustinen region is the most potential area for Li mineralisation in Finland and also a significant Li province in the EU.

References:

Ahtola, T. (ed.), Kuusela, J., Käpyaho, A. & Kontoniemi, O. 2015. Overview of lithium pegmatite exploration in the Kaustinen area in 2003–2012. Geological Survey of Finland, Report of Investigation 220.