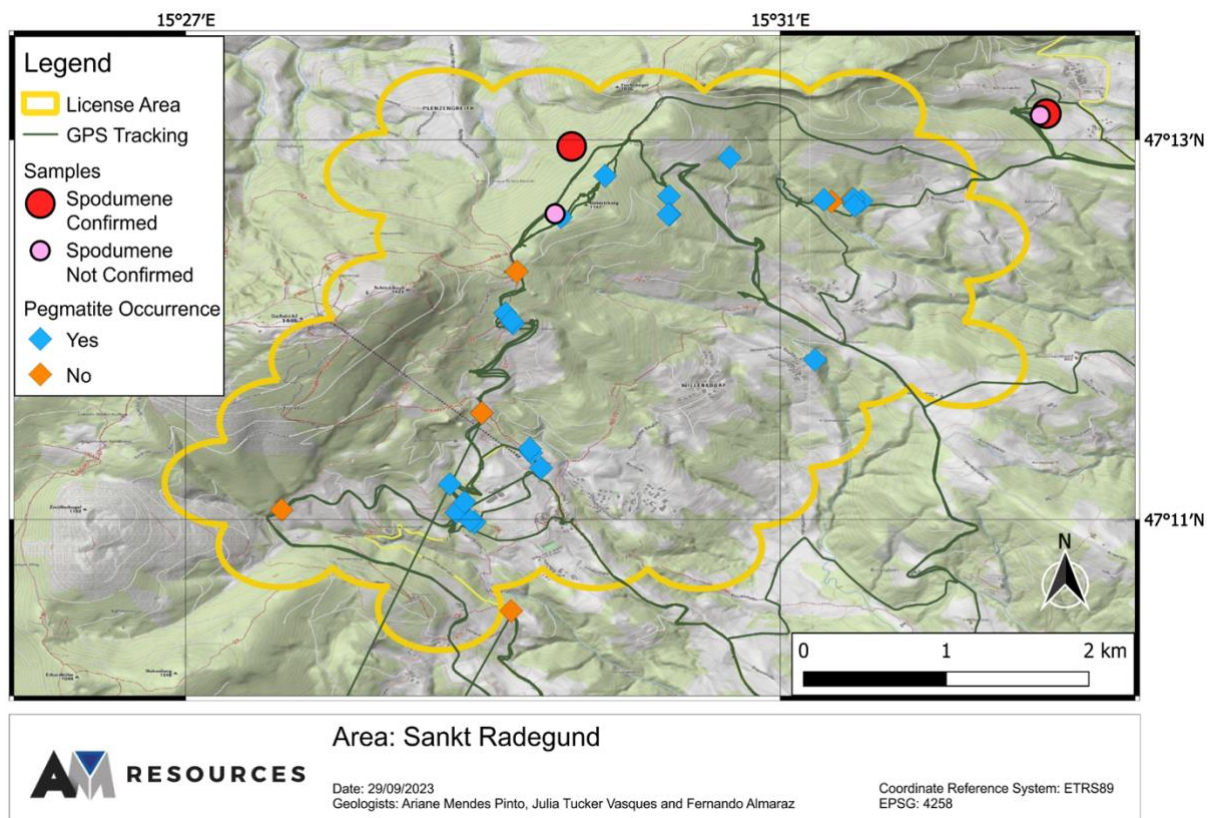


SANKT RADEGUND

The area of interest in the region around the village of St. Radegund is depicted in underneath. This region is characterized by the presence of nappes from the Austroalpine Unit in the northwest, while in the southeast, they are covered by transgressive sediments from the Neogene Styrian Basin (Flügel et al., 2011). During the exploration, the primary focus was on the Radegund Nappe of the Koralpe-Wölz Nappe System, as this area houses Permian pegmatites and leucogranite bodies (Schuster et al., 2019).



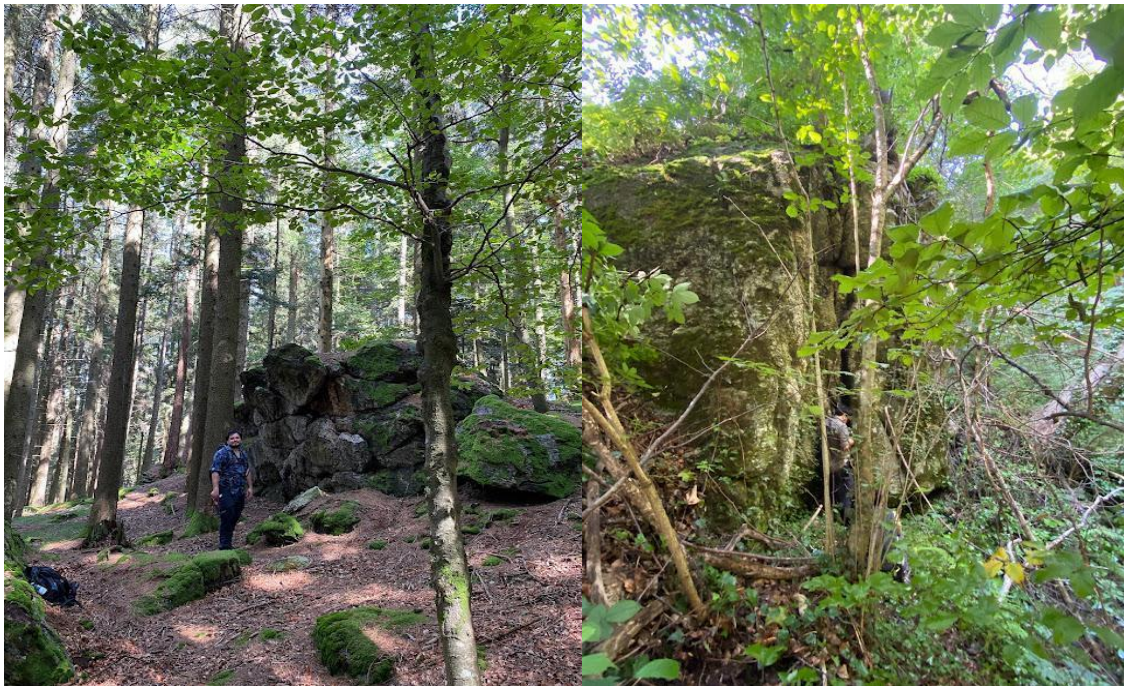
Map of Sankt Radegund area.

CHARACTERIZATION OF PEGMATITE BODIES

The observed pegmatite bodies displayed a range of sizes, varying from centimeters to a few meters in extension, with the majority being small-scale and resembling rounded boulders (see Figures 6 and 7). In terms of mineralogy, the pegmatites were primarily composed of minerals such as quartz, alkali feldspar, muscovite, plagioclase, garnet, schorl (tourmaline), and biotite (see Figure 8). Importantly, in pegmatites mineralized with spodumene, some mineralogical zoning was observed, with the predominance of green-colored spodumene, although beige specimens were also encountered (see Figure 9). The crystals of K-feldspar and quartz found were mostly large.



Pegmatite boulders.



In situ pegmatite bodies.



Mineralogical assembly of pegmatites, plagioclase, quartz, tourmalines, garnets and mica.



Spodumene and large quartz crystal in boulders found in the area.

During the initial exploration within the region, several types of pegmatites were discovered, including simple pegmatites, evolved pegmatites, and albite-spodumene pegmatites. Simple pegmatites are mostly concordant with the foliation of the host rocks of mica schist and gneiss, or they form boudins with varying thicknesses. These simple

pegmatites contain minerals such as quartz, alkali feldspar, muscovite, plagioclase, garnet, and tourmaline

In the case of albite-spodumene pegmatites found within mica schist host rocks, spodumene is the dominant mineral, typically appearing green in color, although beige variations have also been observed. Remarkably, K-feldspar and quartz crystals within these pegmatites often reach substantial sizes. All spodumene-bearing pegmatites observed maintain concordance with the foliation of the mica schist host rock.