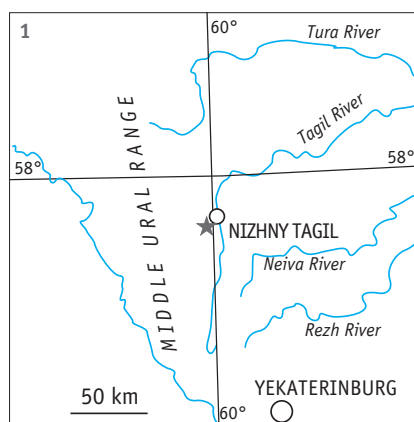


GORBUNOVSKOE QUARTZ OCCURRENCE, CENTRAL URALS

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1. Location of the Gorbunovskoe quartz occurrence in the vicinity of the town of Nizhny Tagil in the Central Urals (marked with symbol).

Specimens:

**Gorbunovskoe occurrence,
Gornouralsk Urban District, Central
Urals, Russia.**

2. Quarry of the Gorbunovskoe quartz occurrence flooded with water.
Photo: Sergey V. Busygin, 2012.
3. Dumps of quarry, where prase and "chatoyant quartz" may be found.
Photo: Victor M. Vasil'ev, 1977.



Prase is grayish green quartz with misoriented thinnest fibers of tremolite and actinolite asbestos.

History of Ural prase occurrences

Fersman (1954) provided the first information about the findings of prase in the Central Urals. These were mostly random finding in placers. Vertushkov (1948) observed hairstones in the Alpine-type veins. Bukanov (2008) and Korendyasev (2019) mentioned prase and chatoyant quartz from the Gorbunovskoe and other occurrences in the Nizhny Tagil district; however, no details of such quartz and its occurrences in the area were described.

In 1950, during survey of the 1:50 000 scale the asbestos-quartz mineralization was found in two locations in the Nizhny Tagil district. Tremolite asbestos with quartz was observed in veinlets up to 2 cm thick hosted by weathered augite porphyry in the dumps of the Klyukovskoe asbestos deposit. Another finding was made a few kilometers to the south at the Ust-Livnevka location in fractured epidotized porphyry containing the same mineralization.

The Gorbunovskoe quartz and tremolite asbestos occurrence was found a little later. It is located 1.5 km west of the Gorbunovo village (*Fig. 1*). Tremolite asbestos veins with quartz hosted by porphyry weathered to clay (*Fig. 3*) are opened by the open pit covering an area of 350 m² (*Fig. 2*). Quartz is greenish gray with silky tint and contains asbestos inclusions (*Figs. 4, 5, 6, 7, 12, 13*).



4. **Quartz** crystal with **tremolite** inclusion and "cuts" at the termination. 10.5 x 6.0 cm. Specimen: Nickolay B. Belenkov. Photo: Evgeniy F. Tamplon.
5. **Quartz** crystal (with inclusions of fine-fibrous **tremolite**) and **albite** druse on aggregate of **tremolite**-asbestos. 10.5 x 6 cm.
6. Cluster of **quartz**-prase crystals with inclusions of fine-fiber **tremolite**. 11 x 9.5 cm.
7. **Quartz**-prase with inclusions of fine-fiber **tremolite** (polished plate). 13 x 10 cm.

**Photo 5–7: Specimen: Vladimir A. Pelepenko.
Photo: Evgeniy F. Tamplon.**

The Voronya quartz and amphibole asbestos occurrence is located 4 km south of the Gorbunovo village in the eastern part of the Voronya Mountain. Two quartz veins ranging from 5 to 50 cm in thickness and up to 100 m long are opened by the mine workings. Quartz is grayish green and grass-green and contains fibers of amphibole asbestos.

In 1953–1955, geologist A.A. Cheremnykh prospected amphibole asbestos in the vicinity of the Gorbunovo village on the basis of the results of the 1:50 000 mapping and identified that asbestos-quartz veins are