Grumantite \( \text{NaHSi}_2\text{O}_5 \cdot \text{H}_2\text{O} \)

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Crystal Data: Orthorhombic. Point Group: \( \text{mm}2 \). As irregular crystals; compact massive.

Physical Properties: Cleavage: Perfect on \{110\}; another unspecified cleavage was observed. Fracture: Steplike. Hardness = 4–5 D(meas.) = 2.21 D(calc.) = 2.26 Weak bluish white fluorescence in UV.

\[
\alpha = 1.494(2) \quad \beta = 1.507(2) \quad \gamma = 1.523(2) \quad 2V(\text{meas.}) = 85(2)^\circ \quad \text{2V(calc.)} = 84.9^\circ 
\]

Cell Data: Space Group: \( \text{Fdd}2 \). \( a = 15.979 \quad b = 18.25 \quad c = 7.169 \quad Z = 16 \)

X-ray Powder Pattern: Mt. Alluaiv, Russia.

3.505 (100), 3.006 (100), 6.20 (50), 6.05 (50), 4.46 (50), 3.087 (50), 3.346 (25)

Chemistry:

\[
\begin{array}{ccc}
\text{SiO}_2 & 68.17 & 67.44 \\
\text{Na}_2\text{O} & 17.20 & 17.39 \\
\text{H}_2\text{O} & 14.65 & 15.17 \\
\hline 
\text{Total} & 100.02 & 100.00 \\
\end{array}
\]

(1) Mt. Alluaiv, Russia; corresponds to \( \text{Na}_{0.98}\text{H}_{1.02}\text{Si}_2\text{O}_5 \cdot 0.93\text{H}_2\text{O} \). (2) \( \text{NaHSi}_2\text{O}_5 \cdot \text{H}_2\text{O} \).

Occurrence: In veins cutting alkalic feldspathoid-bearing pegmatites in a differentiated alkalic massif.

Association: Ussingite, makatite, kazakovite, tisinalite, nordite, sodalite, nepheline, potassic feldspar, arfvedsonite, aegirine, endialyte, loparite.

Distribution: On Mt. Alluaiv, Lovozero massif, Kola Peninsula, Russia.

Name: From an old Russian name for the Spitsbergen Archipelago.

Type Material: Geology Museum, Kola Branch, Academy of Sciences, Apatity, 5924; Mineralogical Museum, St. Petersburg, 17070; Mining Institute, St. Petersburg, 2065/1–2; A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, 87576.