**Bouazzerite**

\[ \text{Bi}_6(\text{Mg, Co})_{11}\text{Fe}_{14}(\text{AsO}_4)_{18}\text{O}_{12}(\text{OH})_4\cdot 86\text{H}_2\text{O} \]

**Crystal Data:** Monoclinic. \textit{Point Group}: 2/m. As prismatic \{021\} crystals to 0.5 mm terminated by \{110\}.

**Physical Properties:** \textit{Cleavage}: Good on \{021\}, fair on \{100\}. \textit{Tenacity}: Very brittle. \textit{Fracture}: Uneven. \textit{Hardness} = n.d. \textit{D(meas.)} = n.d. \textit{D(calc.)} = 2.81


**Cell Data:** \textit{Space Group}: \textit{P}2$_1$/n. \(a = 13.6322(13)\) \(b = 30.469(3)\) \(c = 18.4671(18)\) \(\beta = 91.134(2)^\circ\) \(Z = 2\)

**X-Ray Diffraction Pattern:** Bou Azzer mine, Anti-Atlas, Morocco. 11.79 (100), 10.98 (80), 10.16 (80), 7.900 (80), 12.45 (70), 15.78 (60), 3.414 (40)

**Chemistry:**

\[
\begin{array}{ll}
\text{As}_2\text{O}_5 & 35.55 \\
\text{CrO}_3 & 1.15 \\
\text{SiO}_2 & 0.35 \\
\text{Bi}_2\text{O}_3 & 25.97 \\
\text{Fe}_2\text{O}_3 & 18.30 \\
\text{MgO} & 6.18 \\
\text{CoO} & 0.65 \\
\text{NiO} & 0.17 \\
\text{CaO} & 0.23 \\
\text{H}_2\text{O} & \text{[30.08]} \\
\text{Total} & 118.6
\end{array}
\]

(1) Bou Azzer mine, Anti-Atlas, Morocco; average electron microprobe analysis, H$_2$O calculated; corresponds to Bi$_{6.11}$Fe$_{12.8}$Mg$_{8.45}$Co$_{0.48}$Ni$_{0.12}$Ca$_{0.23}$\(\text{As}_{17.0}\text{Cr}_{0.64}\text{Si}_{0.32})_{2\sim18.0}\text{O}_{174.6}\text{H}_{184}.

**Occurrence:** A product of the weathering of a hydrothermal As-Co-Ni-Ag-Au vein.

**Association:** Quartz, chalcopyrite, native gold, erythrite, talmessite/roselite-beta, Cr-bearing yukonite, alumopharmacosiderite, powellite, a blue-green copper arsenate related to geminite.

**Distribution:** From “Filon 7”, Bou Azzer mine, Anti-Atlas, Morocco.

**Name:** For the \textit{Bou Azzer} mine and the similarly named district, Morocco.

**Type Material:** Geological Museum, Lausanne, Switzerland (MGL 79798 and MGL 79803).