Clathrasils are built up from a framework of corner-sharing [SiO$_4$]-tetrahedra that entraps guest atoms and molecules in cages. They have gained interest because of their potential application for gas storage and separation [1]. The behavior of the structure of the clathrasil chibaite and the influence of guest components at low temperatures as well as pressures was investigated using single-crystal X-ray diffraction and Raman spectroscopy. Chibaite is isotypic with the sII-gas hydrate characterized by larger [51264]-cages and smaller [512]-cages [2]. The natural sample of this study contains the hydrocarbons C$_2$H$_6$, C$_3$H$_8$, i-C$_4$H$_{10}$ in both cage types, and additionally CH$_4$ molecules only in the small cages. With decreasing temperature to 100 K, the cubic $Fd-3m$ room-temperature structure shows a continuous symmetry-lowering transformation to a monoclinic $A2/n$ structure [3]. High-pressure experiments up to 10.3 GPa were performed in diamond-anvil cells using 4:1 methanol-ethanol mixture, helium and neon as pressure-transmitting media [4]. Compressed in the non-penetrating methanol-ethanol mixture, the $Fd-3m$ framework undergoes a first transformation between 1.7 and 2.2 GPa with monoclinic metric and a second between 3.9 and 4.3 GPa with monoclinic or tetragonal metric. Using neon and helium the structure is stiffened during compression. The high-pressure behavior is characterized by a distortion of the lattice without leading to a pressure-induced amorphization.