

Study of high-pressure minerals in shocked L6-chondrite

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Shocked chondritic meteorites contain shock veins, in which some high-pressure minerals have been discovered. These minerals are high-pressure polymorphs of major constituent minerals in chondritic meteorites such as olivine, pyroxene, and plagioclase. It is thought that the shock veins and high-pressure phases resulted from hypervelocity collisions on parent bodies of chondrites. Presence of high-pressure phases indicates that these chondrites experienced high-pressure and temperature. However, P-T conditions and their duration are not clear. Y791384 and ALH78003, classified as L6-chondrite, contain shock veins and many high-pressure phases. This study was conducted to estimate the pressure, temperature and its duration time conditions in which Y791384 and ALH78003 experienced during the shock event.