Sayh al Uhaymir (SaU) 449

Anorthositic impact melt breccia

16.5 g

NO PHOTO AVAILABLE YET

Introduction

Sayh al Uhaymir (SaU) 449 was found on a limestone plateau in the Dhofar desert of Sultanate of Oman. It is a single brownish to dark green stone weighing 16.5 g, with no fusion crust (Connolly et al., 2008).

Petrography, mineralogy, and composition

This sample is a clast-rich impact melt breccia containing numerous mineral fragments and lithic clasts embedded in a fine-grained impact-melt matrix. The lithic clast population is dominated by impact-melt breccias of anorthositic, gabbroic, and noritic compositions, and the size of the clasts is 0.01-10 mm. The main minerals are pyroxene (clinopyroxene - $En_{6.5\text{-}71.1}Wo_{5.1\text{-}44.1}$; Fe/Mn = 61; orthopyroxene - $En_{53.2\text{-}79.5}Wo_{3.3\text{-}4.7}$; Fe/Mn = 59), feldspar ($An_{93.4\text{-}97.4}Ab_{2.5\text{-}9.2}$), and minor olivine ($Fo_{50.5\text{-}76.7}$; Fe/Mn = 96), silica, chromite, ilmenite (MgO = 3.6 wt%), Ca-phosphate, troilite and FeNi metal. The glassy matrix has an average composition of SiO_2 = 46.2, TiO_2 = 0.33, Al_2O_3 = 25.6, FeO = 5.80, MgO = 4.85, CaO = 15.33, Na_2O = 0.38 [all in wt.%] (Connolly et al., 2008).

This sample has similarities to SaU 300 and may be paired, but this idea requires additional supporting data.

Radiogenic age dating

None yet reported.

Cosmogenic isotopes and exposure ages

None yet reported.