Introduction: A new 70.2 gram basaltic shergottite acquired in Morocco in December 2001 is a complete square-ellipsoidal stone (47 mm by 34 mm by 27 mm) with a very fresh, black fusion crust (Figure 1). The results reported here were obtained on small fragments supplied to Adam and Greg Hupé, before the stone (provisional number NWA 1460) was purchased in June 2002 by Nelson Oakes.

Description: The analyzed material was broken from near one end of the stone, and includes portions of the crystalline interior and the fusion crust. This very fresh sample is coarse grained with a subophitic to intersertal texture (Figures 2, 3), and is composed dominantly of large grains of pale yellow-green low-Ca pyroxene (up to 4 mm) with grey, glassy maskelynite laths (1 mm). Accessory phases are merrillite, Cl-F-bearing apatite, exsolved Fe-Ti oxides (ilmenite lamellae in titanomagnetite), ilmenite, chromite, pyrrhotite, K-Al-Si-rich glass, silica and baddeleyite (Figures 4, 5). The zoned pyroxenes have cores of orthopyroxene (Fs$_{20}$ Wo$_{3}$, FeO/MnO = 30.7) mantled by augite (Fs$_{27}$ Wo$_{31}$, FeO/MnO = 32.2) with rims of strongly zoned pigeonite extending to very ferroan endmember compositions (Fs$_{55}$ Wo$_{18}$ to Fs$_{85}$ Wo$_{13}$, FeO/MnO = 41.0 - 36.8) - see Figure 6. Plagioclase (maskelynite, Ab$_{51}$ Or$_{1-2}$) exhibits patchy compositional zoning, and silica grains (probably formerly stishovite) contain irregular, dendritic microstructures and are surrounded by radial microcracks (see Figure 7). Interstitial K-Al-Si-rich glass is inhomogeneous and contains tiny grains of a silica polymorph.

Pyroxene grain margins have been replaced by fine-grained symplectite intergrowths composed of fayalite (Fa$_{95}$) ± hedenbergite (Fs$_{52}$ Wo$_{48}$) + silica (see Figure 8), very similar to intergrowths in Los Angeles and QUE94201 interpreted as subsolidus breakdown products of former pyroxferroite [1, 2, 3], and representing crystallization of the last, highly fractionated liquid. Baddeleyite has been identified [1, 3, 4] as a late stage phase in several other Martian meteorites (including Shergotty, QUE94201, Los Angeles, NWA 856 and Chassigny), and in shergottites it is associated with such symplectites. The textures, mineralogy and mineral compositions of NWA 1460 are essentially identical to those described by [5] in the 28 gram basaltic shergottite NWA 480 found a year earlier. Although baddeleyite was not reported...
by [5], these two meteorites almost certainly are paired stones from the same very recent fall. Baddeleyite in these and other shergottites may be amenable to U-Pb dating by SIMS, which could provide an alternative way of assessing their relatively young isochron ages.