Northwest Africa 4898
Unbrecciated basalt
137 g

Figure 1: Slice through NWA 4898, with close up of matrix (upper right) and 1 cm cube for scale.

Introduction
Northwest Africa 4898 (Fig. 1) was found in northwest Africa in 2007, and consists of one fragment almost completely covered with fusion crust and weighing 137 g (Connolly et al., 2008). Inspection of the interior reveals it basaltic texture (Fig. 1).

Petrography and Mineralogy
The texture of this sample is spherulitic with lath-shaped plagioclase, pyroxene, and skeletal ilmenite. Olivine is present as larger crystals (Fa$_{26.3-27.2}$; FeO/MnO = 73-92), and often contains chromite inclusions. The calcic plagioclase (An$_{92.6-96.5}$) has been completely transformed into maskelynite during shock metamorphism. And the pyroxenes (Fs$_{25.1-58.7}$Wo$_{13.2-34}$; FeO/MnO = 42-76) are compositionally zoned Ti-rich pigeonite and augite. FeNi-metal and troilite are present as minor phases (Connolly et al., 2008).
Chemistry and Radiogenic age dating

INAA analyses of 6 small (133 mg total) chips of NWA 4898 reveal its low FeO nature (Table 1) and Eu anomaly (Fig. 2). A whole rock Rb-Sr isochron based on three measurements from NWA 4898 yields an age of 3.58 Ga (Fig. 3; Gaffney et al., 2008). Additional Nd isotopic analyses show that NWA 4898 may have been derived from one of the most LREE depleted lunar mantle sources known (Fig. 4; Gaffney et al., 2008).

Cosmogenic isotopes and exposure ages

None yet reported.
Table 1. Chemical composition of NWA 4898

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References: 1) Korotev et al. (2008).

K. Righter, Lunar Meteorite Compendium, 2008