

**PETROLOGY OF NAKHLITE MIL 03346.** W. S. Kinman and C.R. Neal, Department of Civil Engineering & Geological Sciences, University of Notre Dame, IN 46556, USA (neal.1@nd.edu).

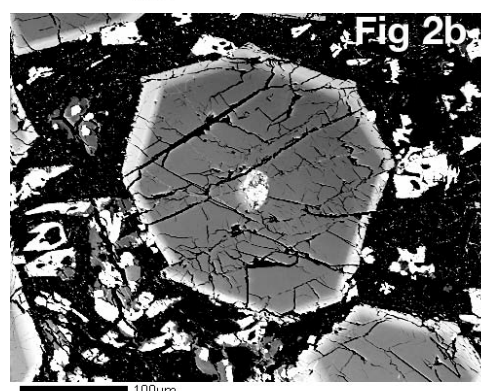
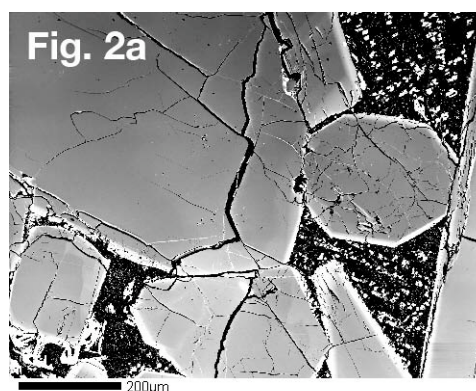


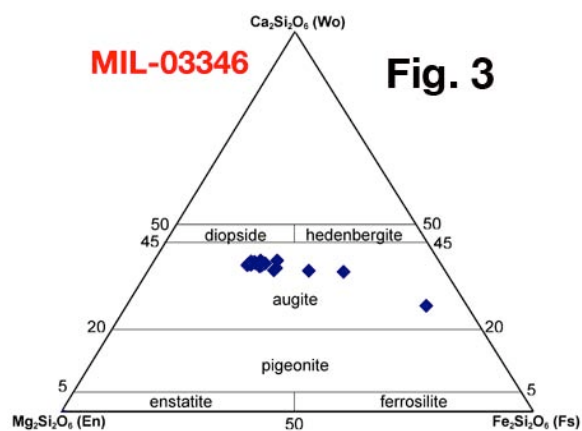
**Introduction:** The new Nakhilite meteorite MIL-03346 was found in Antarctica at the Miller Range of the Transantarctic Mountain during the 2003-2004 field season. The exterior is approximately 60% covered by a black, wrinkled fusion crust [1]. We were allocated two samples from the 712.5g sample – a 2g whole rock sample and thin section MIL03346,9.

Unfortunately, the samples were received only 8 days before the abstract deadline so only a brief report comprised of mineralogical (electron microprobe) data is reported here. The major and trace element data, including platinum-group element abundances, will be reported at the conference.

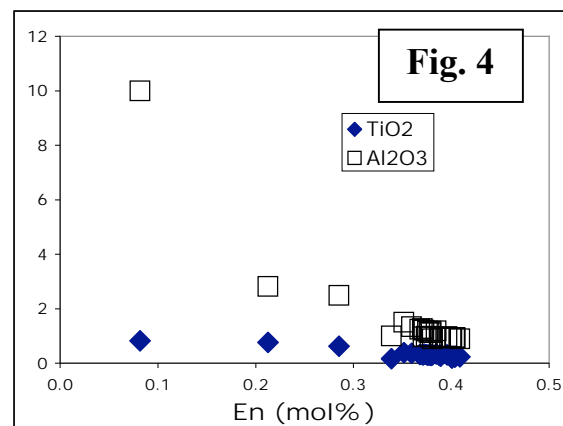
**Petrography:** MIL-03346,9 (Fig. 1) is composed of clinopyroxene (>70%), opaque glass, and mesostasis containing skeletal Fe-Ti oxide grains. Clinopyroxene is subhedral to euhedral (Fig. 1). Unlike other Nakhilites [2], MIL-03346 contains no olivine.

The clinopyroxene grains exhibit notable zonation (Fig. 2a,b) from cores of  $\text{En}_{41}\text{Fs}_{21}\text{Wo}_{38}$  to 10-20  $\mu\text{m}$  rims of  $\text{En}_{8}\text{Fs}_{64}\text{Wo}_{28}$  (Fig. 3). This is similar to the zonation reported in NWA-817 [3,4].





The decrease in En content from core-to-rim in the clinopyroxene grains is accompanied by an increase in  $\text{TiO}_2$  and  $\text{Al}_2\text{O}_3$  (Fig. 4).



**References:** [1] Antarctic Meteorite Newsletter, 27, No. 2, July 2004. [2] Meyer C. (2003) *Mars Meteorite Compendium*, JSC #27672. [3] Sautter V. et al. (2001) *MaPS* 36, A182. [4] Sautter V. et al. (2002) *EPSL* 195, 223-238.