Avce (Italy)

not Avce - returned to Vienna

27 Feb 67. Sample from Vienna, wt ~ 4g; Prior-Hey state that Avce is a hexahedrite fall. This is a weathered octahedrite, seemingly too weathered to be a fall. Polished and etched 60 sec nital. Prominent Neum. lines in kam. Plessite, some fine + dark, some banded, ~ 5% of area. Numerous small inclusions, in kam or crossing grain boundaries; I originally thought these were cohenite, but they are bronze like troilite. I simply don't know for sure. One small 2 mm schreib nodule exposed on crust edge. Sample weathered on "crust" side and also pitted on polished surface. Sample will not be lacquered because of pits in "troilite", which could not be cleaned once filled with lacquer. Kam bands 1.4 - 1.8 mm - Og.

Avoca

(662)

From 6 cm² of surface. mod octahedrite str rounded α lamellae b.w 1.1 mm

sch a few Rh'back lamellae
producing of γ → α
+ g.b schreib ~> 8½ %Ni IIIa-b

No corrosion visible

much plessite - fine unresolved variety
+ fine comb plessite

ASM004 = NWA 4703 22 g

Medium octahedrite; bandwidth ~0.65±0.10 cut piece

over-hang

Etched surface is curious. Some bands are mirror like in their brightness, others are dull. These differences clearly depend on crystallographic orientation because dull can cross bright. All bands contain abundant Neumann lines.

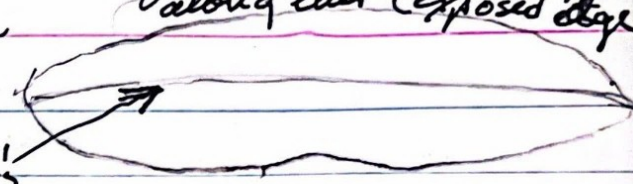
One small FeS inclusion on edge of kamacite, distorted diamond shape 3x9 mm Schreib. not identified (and thus low). Taenite ~~abun~~ and cloudy taenite abundant, perhaps 90 mg/g Ni. No heat altered zone recognized.

ASM008 = NWA4707

33 g piece

Medium octahedrite, well defined structure, bandwidth 0.7 ± 0.1 mm
Taenite relatively abundant; my guess is ~85 wg% Ni

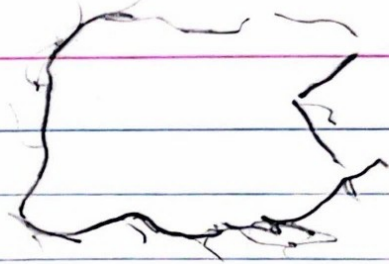
The ridge is sharply defined; may be ventafact



My feeling is that there has been some post shock annealing that has caused minor growth of new tiny grains in some kamacite & plessite (but this is a rough inference). No FeS, very low schreib., no heat-altered zone

ASM 010 NWA 4709 (Og)

end-piece
27 g / sample of
82 g "main mass"



Band width ~ 1.7 mm, but there seem to be some "double width" bands (as observed in IIIF). The sample is deeply etched; each kamacite band is full of Neumann lines. The kamacite contains some shiny rhabdites. There is also schreibersite at kamacite-kamacite grain boundaries - thickness up to 0.04 mm, not continuous. No FeS. Sample very fresh, unweathered. Heat altered zone ~ 2 mm wide (); only slightly heating.