

3.3 sp.gr. non-magnetic products is >90% and only a few grains contain small inclusions of gangue minerals (generally silicates). The photomicrographs in Plate A-1 show the textures of grains in the products.

5.4 Mineralogy of the >3.3 sp.gr. Non-magnetic Products

The overall mineralogy of the >3.3 sp.gr. non-magnetic products was assessed by means of an X-ray diffraction trace taken of the >3.3 sp.gr. non-magnetic product of the minus 75 plus 33 µm fraction; the results are as follows:

Garnet	Dominant
Amphibole	Accessory
Vesuvianite	Accessory
Mica	Accessory
?Magnetite	Trace

Key:

- D = Dominant. Used for the component apparently most abundant, regardless of its probable percentage level.
- A = Accessory. Components judged to be present between the levels of roughly 5 and 20%.
- Tr = Trace. Components judged to be below about 55%.

Other minerals which are generally present in small quantities in these >3.3 sp.gr. products are scheelite, fluorite, cassiterite, quartz, pyrite, chalcopyrite, bismuthinite, arsenopyrite, hematite and goethite.

Fluorite occurs in the >3.3 sp.gr. products in composites with garnet and/or amphibole; in the coarser size fractions some of these composites have extremely complex textures and fluorite crystals are as little as 5 to 10 µm in size (Plate A-2b). In the finer fractions the fluorite forms simple granular binary grains with garnet and/or amphibole, as shown in Plate A-2c.

Magnetite is present in only very small quantities (probably <0.5%) and is locked with non-opaque silicates.

Scheelite was identified largely by its fluorescence in short wavelength ultraviolet light. By this means several liberated grains were identified in the >3.3 sp.gr. non-magnetic products and no locked scheelite was noted, even in the plus 75 µm >3.3 sp.gr. products.

Locked scheelite was identified in the two plus 33 µm 3.1 to 3.3 sp.gr. non-magnetic products and in the plus 75-µm ferromagnetic product.

Wolframite was sought in the >3.3 sp.gr. products and some high-intensity magnetic separations of the minus 75 plus 33 µm >3.3 sp.gr. non-magnetic