Wairauite CoFe

Crystal Data: Cubic. *Point Group:* n.d. As euhedral grains up to 7 x 4 μm in diameter, but typically below 2 μm, many showing the cube and octahedron as common forms.

Physical Properties: Hardness = 4.5 VHN = 255 D(meas.) = n.d. D(calc.) = 8.32
Highly magnetic.

Optical Properties: Opaque. *Color:* In polished section, white. *Luster:* Metallic.
R: n.d.

Cell Data: *Space Group:* n.d. $a = 2.86$ $Z = [1]$

X-ray Powder Pattern: n.d.

Chemistry:

	(1)	(2)	(3)
Co	48.8	50.2	51.34
Fe	49.8	49.7	48.66
Ni	0.5	0.4	
Total	99.1	100.3	100.00

(1) Wairau Valley, New Zealand; by electron microprobe. (2) Muskox intrusion, Canada; by electron microprobe. (3) CoFe.

Occurrence: In a dominantly lizardite serpentine at the western contact of an ultramafic intrusion; thought to have formed under low-sulfur reducing conditions during the serpentinization process (Wairau Valley, New Zealand).

Association: Chromite, magnetite, awaruite, copper (Wairau Valley, New Zealand).

Distribution: From the Red Hills, Wairau Valley, Marlborough district, South Island, New Zealand. In the Muskox intrusion, Northwest Territories, Canada.

Name: For the Wairau Valley locality in New Zealand.

Type Material: Geological Survey of New Zealand, Lower Hutt, New Zealand, P25574; Cambridge University, Cambridge, England; National Museum of Natural History, Washington, D.C., USA, 137192.

References: (1) Challis, G.A. and J.V.P. Long (1964) Wairauite – a new cobalt–iron mineral. Mineral. Mag., 33, 942–948. (2) (1965) Amer. Mineral., 50, 520 (abs. ref. 1).