Edscottite Fe_5C_2

Crystal Data: Monoclinic. *Point Group*: 2/*m*. As lath-shaped or platy crystals to 40 μm.

Physical Properties: *Cleavage*: n.d. *Fracture*: n.d. *Tenacity*: n.d. Hardness = n.d.
D(meas.) = n.d. D(calc.) = 7.62

Optical Properties: n.d. *Color*: White in reflected light. *Streak*: n.d. *Luster*: n.d.
Optical Class: n.d.

Cell Data: Space Group: *C*2/*c*. $a = 11.57$ $b = 4.57$ $c = 5.06$ $\beta = 97.7°$ Z = 4

X-ray Powder Pattern: Calculated pattern.
2.05 (100), 2.079 (68), 2.01 (36), 2.207 (31), 2.027 (27), 2.192 (26), 1.921 (26)

Chemistry:

	(1)	(2)
Fe	87.01	92.08
Ni	4.37	
Co	0.82	
C	7.90	7.92
total	100.10	100.00

(1) Wedderburn iron meteorite; average of 6 electron microprobe analyses; corresponds to $(Fe_{4.73}Ni_{0.23}Co_{0.04})_{\Sigma=5.00}C_{2.00}$. (2) Fe_5C_2.

Occurrence: In a Ni-rich ataxite iron meteorite belonging to subgroup sLH of the IAB complex (Low-Au, High-Ni subgroup).

Association: Low-Ni iron (kamacite), taenite, nickelphosphide (Ni-dominant schreibersite), cohenite.

Distribution: In the Wedderburn iron meteorite.

Name: Honors Edward (Ed) R.D. Scott (b. 1947), a pioneering cosmochemist at the University of Hawai‘i at Manoa, for his seminal contributions to research on meteorites.

Type Material: Meteorite Collection, Department of Earth, Planetary, and Space Sciences, University of California, Los Angeles, California, USA (Wedderburn polished thick section UCLA 143).

References: (1) Ma, C. and A.E. Rubin (2019) Edscottite, Fe_5C_2, a new iron carbide mineral from the Ni-rich Wedderburn IAB iron meteorite. Amer. Mineral., 104(9), 1351-1355.