Gortdrumite $Cu_{18}FeHg_6S_{16}(?)$

Crystal Data: Orthorhombic. *Point Group:* n.d. As anhedral grains, to 200 μm. *Twinning:* Fine lamellar twinning in some grains.

Physical Properties: Hardness = n.d. VHN = 186–230 (10 g load). D(meas.) = n.d. D(calc.) = [6.80]

Optical Properties: Opaque. *Color:* Blackish lead-gray, resembling chalcocite. *Luster:* Metallic. *Anisotropism:* Strong, with colors from grayish white with a bluish tint to blue. R_1–R_2: (400) 28.0–31.4, (420) 28.1–31.4, (440) 28.0–31.3, (460) 27.8–31.2, (480) 27.6–31.1, (500) 27.4–31.1, (520) 27.0–30.8, (540) 26.7–30.5, (560) 26.2–30.0, (580) 25.9–29.5, (600) 25.6–29.0, (620) 25.4–28.6, (640) 25.3–28.4, (660) 25.3–28.2, (680) 25.3–28.1, (700) 25.2–28.0

Cell Data: *Space Group:* n.d. $a = 14.958$ $b = 7.900$ $c = 24.10$ Z = 4

X-ray Powder Pattern: Gortdrum deposit, Ireland.
4.58 (100), 3.38 (70), 2.88 (50), 2.78 (50), 6.03 (40), 3.08 (30), 3.02 (30)

Chemistry:

	(1)	(2)	(3)
Cu	38.68	36.8	
Fe	2.07	2.1	
Hg	41.55	39.6	
S	16.81	21.0	
Total	99.11	99.5	

(1) Gortdrum deposit, Ireland; by electron microprobe, average of four analyses; corresponds to $Cu_{18.58}Fe_{1.13}Hg_{6.32}S_{16.00}$. (2) Do.; by electron microprobe, corresponds to $Cu_{14.15}Fe_{0.92}Hg_{4.82}S_{16.00}$.

Occurrence: Admixed with other sulfide minerals in a vein cutting dolomitized limestone; mineral associations suggest formation at less than 200 °C.

Association: Chalcopyrite, bornite, chalcocite, cinnabar, ferroan dolomite, barite.

Distribution: From the Gortdrum deposit, near Tipperary, Co. Tipperary, Ireland [TL].

Name: For the type locality, the Gortdrum deposit, Ireland.

Type Material: The Natural History Museum, London, England, 1983,62.

References: (1) Steed, G.M. (1983) Gortdrumite, a new sulphide mineral containing copper and mercury, from Ireland. Mineral. Mag., 47, 35–36. (2) (1984) Amer. Mineral., 69, 407 (abs. ref. 1). (3) Criddle, A.J. and C.J. Stanley, Eds. (1993) Quantitative data file for ore minerals, 3rd ed. Chapman & Hall, London, 210.