## Danielsite $(Cu, Ag)_{14}HgS_8$



**Crystal Data:** Orthorhombic (?). *Point Group:* n.d. As ragged polycrystalline masses of grains, up to 20 $\mu$m, in anglesite.

**Physical Properties:** *Tenacity:* Brittle. Hardness = 2–2.5 VHN = 38 (10 g load). D(meas.) = n.d. D(calc.) = 6.541

**Optical Properties:** Opaque. *Color:* Gray in polished section. *Anisotropism:* Moderate, in shades of gray. *Bireflectance:* Weak.
$R_1$–$R_2$: (470) 32–34, (546) 30–31, (589) 28–30, (650) 27–29

**Cell Data:** *Space Group:* n.d. $a = 9.644$ $b = 9.180$ $c = 18.156$ $Z = 4$

**X-ray Powder Pattern:** Coppin Pool, Western Australia.
2.622 (10), 1.959 (6), 1.875 (6), 2.392 (5), 2.831 (3), 4.44 (2), 3.648 (2)

**Chemistry:**

| | (1) |
|---|---|
| Cu | 33.9 |
| Ag | 36.5 |
| Hg | 12.3 |
| S | 16.1 |
| Total | 98.8 |

(1) Coppin Pool, Australia; by electron microprobe, average of four analyses; corresponds to $(Cu_{8.54}Ag_{5.43})_{\Sigma=13.97}Hg_{0.98}S_{8.05}$.

**Occurrence:** In a gossan pod in a quartz vein, as a weathering product derived from other sulfides.

**Association:** Anglesite, covellite, stromeyerite, chalcocite, cinnabar, other secondary lead and copper minerals.

**Distribution:** From near Coppin Pool, about 41 km east-southeast of Mount Tom Price, Western Australia.

**Name:** For Dr. John L. Daniels (1931– ), Geoscan Pty. Ltd., who collected the material in which the species was found.

**Type Material:** Western Australian Museum, Perth; Museum Victoria, Melbourne, Australia.

**References:** (1) Nickel, E.H. (1987) Danielsite: a new sulfide mineral from Western Australia. Amer. Mineral., 72, 401–403. (2) Kato, A. and E. H. Nickel (1988) Possible unit cell for danielsite. Amer. Mineral., 73, 187–188.