Sharpite $Ca(UO_2)_6(CO_3)_5(OH)_4 \cdot 6H_2O$

Crystal Data: Orthorhombic. *Point Group:* n.d. Very fine needlelike crystals, to 5 mm, in subparallel aggregates, typically flat radial fibrous; may be in crusts.

Physical Properties: Hardness = 2.5–3 D(meas.) = > 4.45 D(calc.) = 4.61 Radioactive.

Optical Properties: Semitransparent. *Color:* Greenish yellow, olive-green, pale green, pale gray; pale yellow in transmited light.
Optical Class: Biaxial (+). *Pleochroism:* Slight; $X = Y$ = pale brown, very pale yellow-green; Z = pale yellow-green. *Orientation:* $Y \perp$ laths; $Z \parallel$ elongation; positive elongation, parallel extinction. $\alpha = 1.632–1.638$ $\beta =$ close to α $\gamma = 1.720–1.722$ 2V(meas.) = n.d.

Cell Data: *Space Group:* n.d. $a = 21.99(2)$ $b = 15.63(2)$ $c = 4.487(4)$ Z = 2

X-ray Powder Pattern: Shinkolobwe, Congo.
4.497 (100), 3.910 (48), 7.82 (40), 5.34 (35), 2.996 (33), 11.02 (30), 6.37 (28)

Chemistry:

	(1)	(2)
UO_3	81.04	80.33
CO_2	10.30	10.30
CaO	2.70	2.62
H_2O	6.81	6.75
Total	100.85	100.00

(1) Shinkolobwe, Congo; contained insoluble cobalt oxide 1.6%; $(CO_3)^{2-}$, H_2O confirmed by IR, TGA; corresponds to $Ca_{1.02}(UO_2)_{6.01}(CO_3)_{4.96}(OH)_{4.14} \cdot 5.95H_2O$. (2) $Ca(UO_2)_6(CO_3)_5(OH)_4 \cdot 6H_2O$.

Occurrence: A very rare secondary mineral formed in the oxide zone of hydrothermal uranium deposits.

Association: Uranophane, becquerelite, schoepite, curite, masuyite, vandenbrandeite, ianthinite, uraninite.

Distribution: From Shinkolobwe, Katanga Province, Congo (Shaba Province, Zaire). In France, at Kruth, Haut-Rhin, and in the Brugeaud mine, near Bessines, Haute-Vienne.

Name: To honor Major Robert Richard Sharp (1881–1956), English engineer and prospector who discovered the Shinkolobwe deposit, Congo.

Type Material: University of Liège, Liège, Belgium, 6280, 16905.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 275. (2) Frondel, C. (1958) Systematic mineralogy of uranium and thorium. U.S. Geol. Sur. Bull. 1064, 106–107. (3) Chervet, J. (1960) Les minerais uranifères français. University Presses of France, Paris, vol. I, part II, 235–237 (in French). (4) Čejka, J., Z. Mrázek, and Z. Urbanec (1984) New data on sharpite, a calcium uranyl carbonate. Neues Jahrb. Mineral., Monatsh., 109–117.