Paulscherrerite $(UO_2)(OH)_2$

Crystal Data: Monoclinic (pseudo-orthorhombic). *Point Group*: n.d. Commonly microcrystalline powdery, as tabular crystals to 500 nm.

Physical Properties: *Cleavage*: n.d. *Fracture*: n.d. *Tenacity*: n.d. Hardness = n.d. D(meas.) = n.d. D(calc.) = 6.66

Optical Properties: Translucent. *Color*: Canary yellow. *Streak*: Yellow. *Luster*: n.d. *Optical Class*: *n*(calc.) = 1.874

Cell Data: *Space Group*: *P*2, *P*2_1, *P*2/*m*, or *P*2_1/*m*. a = 4.288(2) b = 10.270(6) c = 6.885(5) β = 90.39(4)° Z = 4 Suggested by the splitting of some X-ray diffraction lines.

X-ray Powder Pattern: Number 2 Workings, Radium Ridge, South Australia. 3.447 (100), 5.143 (55), 3.428 (29), 1.979 (25), 2.493 (24), 2.862 (19), 1.991 (12)

Chemistry:

	(1)	(2)
UO_3	92.91	93.96
Al_2O_3	0.07	
BaO	0.02	
La_2O_3	0.05	
CeO_2	0.02	
Nd_2O_3	0.06	
PbO	0.09	
H_2O	6.92	6.04
Total	100.14	100.00

(1) Number 2 Workings, Radium Ridge, South Australia; average of 20 electron microprobe analyses, H_2O by TGA; corresponds to $UO_3 \cdot 1.02H_2O$. (2) $(UO_2)(OH)_2$.

Occurrence: A dehydration product of metaschoepite.

Association: Metaschoepite, β-uranophane, weeksite, spriggite.

Distribution: From the Number 2 Workings, Radium Ridge, near Arkaroola, Northern Flinders Ranges, South Australia.

Name: Honors the contributions of Swiss physicist Paul Scherrer (1890-1969) to mineralogy and nuclear physics. Formerly referred to as “dehydrated schoepite.”

Type Material: South Australian Museum, Adelaide, Australia (G31382) and in the Musée Géologique, Lausanne, Switzerland (MGL 79287).

References: (1) Brugger, J., N. Meisser, B. Etschmann, S. Ansermet, and A. Pring (2011) Paulscherrerite from the Number 2 Workings, Mount Painter Inlier, Northern Flinders Ranges, South Australia: “Dehydrated schoepite” is a mineral after all. Amer. Mineral., 96, 229-240.