Rabbittite $Ca_3Mg_3(UO_2)_2(CO_3)_6(OH)_4 \cdot 18H_2O$

Crystal Data: Monoclinic. *Point Group:* n.d. Crystals are acicular, elongated along [001], in bundles and as an efflorescence.

Physical Properties: *Cleavage:* {001}, probable, and two prismatic. Hardness = 2.5 D(meas.) = 2.57 D(calc.) = [2.69] Radioactive; slowly soluble in H_2O; fluoresces pale cream-yellow under SW UV.

Optical Properties: Semitransparent. *Color:* Pale green, greenish yellow. *Luster:* Silky. *Optical Class:* Biaxial (+). *Orientation:* $Y = b$; $Z \wedge c \simeq 15°$. $\alpha = 1.502(5)$ $\beta = 1.508(2)$ $\gamma = 1.525(5)$ 2V(meas.) = Large.

Cell Data: *Space Group:* n.d. $a = 32.6(1)$ $b = 23.8(1)$ $c = 9.45(5)$ $\beta = \sim 90°$ Z = 8

X-ray Powder Pattern: Lucky Strike No. 2 mine, Utah, USA.
8.24 (10), 7.79 (8), 4.37 (8), 4.71 (7), 5.83 (5b), 4.81 (5), 1.28 (5)

Chemistry:

	(1)	(2)
UO_3	37.4	38.51
CO_2	17.8	17.77
MgO	9.2	8.14
CaO	10.6	11.33
H_2O	24.5	24.25
insol.	0.5	
Total	100.0	100.00

(1) Lucky Strike No. 2 mine, Utah, USA; H_2O by loss on ignition less CO_2.
(2) $Ca_3Mg_3(UO_2)_2(CO_3)_6(OH)_4 \cdot 18H_2O$.

Occurrence: A rare secondary mineral, which may be of post-mine origin.

Association: Sodium-zippeite, magnesium-zippeite, fourmarierite, gypsum, bieberite, cobaltocalcite.

Distribution: From the Lucky Strike No. 2 mine, Emery Co., Utah, USA. At Jáchymov (Joachimsthal), Czech Republic.

Name: To honor John Charles Rabbitt (1907–1957), Chief, Trace Elements Section, U.S. Geological Survey.

Type Material: Harvard University, Cambridge, Massachusetts, 105099; National Museum of Natural History, Washington, D.C., USA, 112741, 162619.

References: (1) Thompson, M.E., A.D. Weeks, and A.M. Sherwood (1955) Rabbittite, a new uranyl carbonate from Utah. Amer. Mineral., 40, 201–206.