Blatonite $(UO_2)CO_3 \cdot H_2O$

©2001-2005 Mineral Data Publishing, version 1

Crystal Data: Hexagonal. *Point Group:* n.d. As distorted acicular crystals, typically in asbestiform bundles, to 1 mm.

Physical Properties: *Fracture:* Uneven. *Tenacity:* Flexible. Hardness = 2–3 D(meas.) = 4.05(2) D(calc.) = 4.02 Radioactive; strongly fluoresces greenish yellow under LW UV.

Optical Properties: Translucent. *Color:* Canary-yellow. *Streak:* White. *Luster:* Silky. *Optical Class:* Uniaxial (+). *Orientation:* Length-fast. $\omega = 1.588(2)$ $\epsilon = 1.612(2)$

Cell Data: *Space Group:* n.d. $a = 15.79(1)$ $c = 23.93(3)$ Z = 36

X-ray Powder Pattern: Jomac mine, Utah, USA.
3.056 (100), 6.56 (77), 6.91 (55), 7.86 (47), 4.76 (40), 4.34 (36), 3.39 (33)

Chemistry:

	(1)	(2)
UO_3	81.98	82.18
CO_2	12.82	12.64
H_2O	5.38	5.18
Total	100.18	100.00

(1) Jomac mine, Utah, USA; by electron microprobe and TGA, $(CO_3)^{2-}$ and $(OH)^{1-}$ confirmed by IR; corresponds to $(UO_2)_{0.99}(CO_3)_{1.00} \cdot 1.03H_2O$. (2) $(UO_2)CO_3 \cdot H_2O$.

Occurrence: In seams of gypsum in the oxidized portions of a roll-front-type uranium deposit in silty conglomerate.

Association: Gypsum, boltwoodite, coconinoite, metazeunerite, rutherfordine, azurite, brochantite, carbonate-cyanotrichite, malachite, manganoan smithsonite.

Distribution: From the Jomac mine, White Canyon district, San Juan Co., Utah, USA.

Name: Honors Dr. Norbert Blaton (1945–), crystallographer and specialist in uranium minerals, Catholic University of Leuven, Leuven, Belgium.

Type Material: Royal Belgian Institute of Natural Sciences, Brussels, Belgium, R.C.4788.

References: (1) Vochten, R. and M. Deliens (1998) Blatonite, $UO_2CO_3 \cdot H_2O$, a new uranyl carbonate monohydrate from San Juan County, Utah. Can. Mineral., 36, 1077–1081. (2) (1999) Amer. Mineral., 84, 990 (abs. ref. 1).

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise without the prior written permission of Mineral Data Publishing.