

Crystal Data: Monoclinic. *Point Group:* 2/m. As thin bladed crystals exhibiting {100}, {010}, and {011}, elongated on [001], flattened on {100}, to ~ 0.5 mm. *Twinning:* Polysynthetic on {100}.

Physical Properties: *Cleavage:* Perfect on {010} and {001}. *Fracture:* Even. *Tenacity:* Brittle. Hardness = ~ 2-3 D(meas.) = n.d. D(calc.) = 3.726 Soluble in water.

Optical Properties: Transparent. *Color:* Greenish yellow. *Streak:* White. *Luster:* Vitreous. Bluish white fluorescence under SW and LW UV.

Optical Class: Biaxial (+). $\alpha = 1.556$ $\beta = 1.581$ $\gamma = 1.608$ $2V(\text{meas.}) = 88(1)^\circ$ $2V(\text{calc.}) = 89^\circ$
Orientation: $X = b$, $Y \wedge c = 4^\circ$ (in obtuse β). *Dispersion:* Moderate, $r < v$. *Pleochroism:* $X =$ nearly colorless; $Y =$ very pale yellow; $Z =$ pale yellow. *Absorption:* $X < Y < Z$.

Cell Data: *Space Group:* $P2_1/c$. $a = 8.7122(6)$ $b = 13.8368(4)$ $c = 7.0465(2)$ $\beta = 112.126(8)^\circ$
 $Z = 4$

X-ray Powder Pattern: Blue Lizard mine, White Canyon District, San Juan County, Utah, USA. 6.90 (100), 5.85 (99), 3.492 (82), 4.024 (57), 3.136 (40), 2.618 (34), 1.921 (30)

Chemistry:	(1)	(2)
Na ₂ O	6.61	7.01
UO ₃	65.15	64.70
SO ₃	18.33	18.11
H ₂ O	[10.24]	10.19
Total	100.33	100.00

(1) Blue Lizard mine, San Juan County, Utah, USA; average of 9 EDS analyses supplemented by Raman spectroscopy, H₂O calculated; corresponds to Na_{0.94}(UO₂)(S_{1.01}O₄)(OH)(H₂O)₂.

(2) Na(UO₂)(SO₄)(OH)·2H₂O.

Occurrence: Of low-temperature secondary origin related to the post-mining oxidation of uraninite, pyrite, chalcopyrite, bornite, and covellite disseminated in lenses of organic matter in sandstone.

Association: Atacamite, blödite, brochantite, chalcantinite, dickite, gerhardtite, gypsum, hexahydrate, johannite, manganoblödite, natrozippeite, tamarugite.

Distribution: From the Blue Lizard mine, Red Canyon, White Canyon District, San Juan County, Utah, USA.

Name: Honors Jakub Plášil (b. 1984), a researcher of the Institute of Physics, Academy of Sciences of the Czech Republic for his work on the crystal chemistry of hydrated oxysalts and hexavalent uranium compounds.

Type Material: Natural History Museum of Los Angeles County, Los Angeles, USA (64126-64130), and the A.E. Fersman Mineralogical Museum, Russian Academy of Sciences, Moscow, Russia (4548/1).

References: (1) Kampf, A.R., A.V. Kasatkin, J. Čejka, and Joe Marty (2015) Plášilite, Na(UO₂)(SO₄)(OH)·2H₂O, a new uranyl sulfate mineral from the Blue Lizard mine, San Juan County, Utah, USA. *J. Geosciences*, 60, 1-10. (2) (2016) *Amer. Mineral.*, 101, 2571-2572 (abs. ref. 1).