

Crystal Data: Triclinic. *Point Group:* $\bar{1}$. As prisms elongated on [100], to 0.3 mm, exhibiting {010} and {001}.

Physical Properties: *Cleavage:* Fair on {100} and {001}. *Fracture:* Uneven. *Tenacity:* Very brittle. *Hardness* = 2 D(meas.) = n.d. D(calc.) = 3.208

Optical Properties: Translucent to transparent. *Color:* Pale green to yellowish green. *Streak:* Very pale yellow. *Luster:* Vitreous. Bright yellow-green fluorescence under LW and SW UV. *Optical Class:* Biaxial (-). $\alpha = 1.514$ $\beta = 1.546$ $\gamma = 1.557$ $2V(\text{meas.}) = 60(2)^\circ$ $2V(\text{calc.}) = 60^\circ$ *Orientation:* $X \approx a$, $Z \approx c^*$. *Dispersion:* Weak, $r > v$. *Pleochroism:* $X = \text{colorless}$, $Y = \text{pale yellow}$, $Z = \text{pale greenish yellow}$. *Absorption:* $X < Y \approx Z$.

Cell Data: *Space Group:* $P\bar{1}$. $a = 5.32317(10)$ $b = 11.5105(2)$ $c = 13.5562(10)$
 $\alpha = 102.964(7)^\circ$ $\beta = 97.414(7)^\circ$ $\gamma = 91.461(6)^\circ$ $Z = 2$

X-ray Powder Pattern: Blue Lizard Mine, Red Canyon, San Juan Co., Utah, USA.
 5.24 (100), 13.15 (81), 4.67 (68), 6.33 (62), 5.64 (52), 3.849 (48), 3.293 (43)

Chemistry:	(1)	(2)
Na ₂ O	21.67	19.66
UO ₃	61.46	36.32
SO ₃	34.98	40.59
<u>H₂O</u>	<u>3.90</u>	<u>3.43</u>
Total	101.16	100.00

(1) Blue Lizard Mine, Red Canyon, San Juan Co., Utah, USA.; average of 4 electron microprobe analyses, H₂O calculated from stoichiometry, complex anions confirmed by Raman spectroscopy; corresponding to Na_{5.05}(U_{0.94}O₂)(SO₄)₃[SO_{2.69}(OH)_{1.31}](H₂O). (2) Na₅(UO₂)(SO₄)₃(SO₃OH)(H₂O).

Occurrence: As efflorescences on sandstone in the underground workings of a roll-front type uranium deposit, the product of weathering and oxidation of primary uraninite.

Association: Chalcantinite, copiapite, ferrinatriite, blödite, gypsum, johannite, belakovskiite.

Distribution: From the Blue Lizard Mine, Red Canyon, White Canyon district, San Juan Co., Utah, USA.

Name: Honors Nicolas Meisser (b. 1964), Swiss mineralogist and Curator of Mineralogy and Petrography, Cantonal Museum of Geology, Lausanne, Switzerland.

Type Material: A.E. Fersman Mineralogical Museum, Russian Academy of Sciences, Moscow, Russia (#4410/1); the Natural History Museum of Los Angeles County, Los Angeles, USA. (#64055), and at the Cantonal Museum of Geology, Lausanne, Switzerland (MLG 92960).

References: (1) Plášil, J., A.R. Kampf, A.V. Kasatkin, J. Marty, R. Škoda, S. Silva, and J. Čejka (2013) Meisserite, Na₅(UO₂)(SO₄)₃(SO₃OH)(H₂O), a new uranyl sulfate mineral from the Blue Lizard mine, San Juan County, Utah, USA. *Mineral. Mag.*, 77(7), 2975-2988. (2) (2015) *Amer. Mineral.*, 100, 1328 (abs. ref. 1).