

**Crystal Data:** Orthorhombic. *Point Group:* *mm*2. As isolated aggregates of grains to 0.5 mm.

**Physical Properties:** *Cleavage:* Good on {010}. *Fracture:* n.d. *Tenacity:* Brittle. Hardness = 5.5  
D(meas.) = 3.41(3) D(calc.) = 3.410

**Optical Properties:** Transparent. *Color:* Light blue to blue. *Streak:* White. *Luster:* Vitreous.  
*Optical Class:* Biaxial (-).  $\alpha = 1.610$   $\beta = 1.623$   $\gamma = 1.630$   $2V(\text{meas.}) = 70(1)^\circ$   $2V(\text{calc.}) = 72^\circ$   
*Pleochroism:* Strong, *X* = violet, *Y* = blue-violet, *Z* = blue. *Orientation:* *X* = *a*, *Y* = *b*, *Z* = *c*.  
*Dispersion:* Strong,  $r > v$ .

**Cell Data:** *Space Group:* *P*2<sub>1</sub>*nb*.  $a = 7.9380(2)$   $b = 10.4923(3)$   $c = 18.2560(6)$   $Z = 4$

**X-ray Powder Pattern:** Wessels mine, Northern Cape Province, South Africa.  
2.990 (100), 2.800 (84), 3.166 (42), 2.057 (27), 2.623 (26), 3.550 (25), 1.778 (25)

<b>Chemistry:</b>	(1)
SiO <sub>2</sub>	46.16
CaO	0.21
MgO	3.21
MnO	2.53
FeO	0.10
Na <sub>2</sub> O	7.75
SrO	38.39
BaO	0.52
CoO	0.69
<u>PbO</u>	<u>0.56</u>
Total	100.12

(1) Wessels mine, Northern Cape Province, South Africa; average of 9 electron microprobe analyses supplemented by Raman spectroscopy; corresponds to Na<sub>1.96</sub>(Sr<sub>2.91</sub>Ba<sub>0.03</sub>Ca<sub>0.03</sub>Pb<sub>0.02</sub>)<sub>Σ=2.99</sub>(Mg<sub>0.62</sub>Mn<sub>0.28</sub>Co<sub>0.07</sub>Fe<sub>0.01</sub>)<sub>Σ=0.98</sub>Si<sub>6.03</sub>O<sub>17</sub>.

**Occurrence:** Probably a result of a hydrothermal event during metamorphism under conditions of 270-420 °C at 0.2-1.0 kb.

**Association:** Sugilite, aegirine, pectolite.

**Distribution:** From the Wessels mine, Kalahari Manganese Fields, Northern Cape Province, South Africa.

**Name:** Honors Dr. Eugene Stuart *Meieran* (b. 1937), a member of the U.S. National Academy of Engineering, an avid mineral collector, who donated several important specimens to major museums, for his work in mineral preservation and education.

**Type Material:** University of Arizona Mineral Museum (20011) and the RRUFF Project (R140947), Tucson, Arizona, USA.

**References:** (1) Yang, H., X. Gu, R.T. Downs, S.H. Evans, J.J. Van Nieuwenhuizen, R.M. Lavinsky, and X. Xie (2019) Meieranite, Na<sub>2</sub>Sr<sub>3</sub>MgSi<sub>6</sub>O<sub>17</sub>, a new mineral from the Wessels mine, Kalahari Manganese Fields, South Africa. *Can. Mineral.*, 57(4), 457-466. (2) (2020) *Amer. Mineral.*, 105, 1922-1923 (abs. ref. 1).