

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*2₁*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)

Chemistry:	(1)
SiO ₂	46.16
CaO	0.21
MgO	3.21
MnO	2.53
FeO	0.10
Na ₂ 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_{1.96}(Sr_{2.91}Ba_{0.03}Ca_{0.03}Pb_{0.02})_{Σ=2.99}(Mg_{0.62}Mn_{0.28}Co_{0.07}Fe_{0.01})_{Σ=0.98}Si_{6.03}O₁₇.

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, Na₂Sr₃MgSi₆O₁₇, 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).