Hennomartinite $SrMn_2^{3+}Si_2O_7(OH)_2 \cdot H_2O$

Crystal Data: Orthorhombic. *Point Group:* $2/m\ 2/m\ 2/m$. Rarely in feltlike masses; as irregular aggregates, to 1 mm, embedded in other minerals.

Physical Properties: Hardness = ∼4 D(meas.) = n.d. D(calc.) = 3.68

Optical Properties: Translucent. *Color:* Yellow-brown; yellow-brown in thin section.
Luster: Vitreous.
Optical Class: Biaxial. *Pleochroism:* Strong; from yellowish brown to dark red-brown.
$n = > 1.82$. α = n.d. β = n.d. γ = n.d. 2V(meas.) = 63(1)°

Cell Data: *Space Group: Cmcm.* $a = 6.255(1)$ $b = 9.034(2)$ $c = 13.397(2)$ Z = 4

X-ray Powder Pattern: Wessels mine, South Africa; intensities calculated.
2.833 (100), 2.695 (98), 4.804 (86), 2.807 (82), 2.401 (68), 3.373 (66), 2.715 (58)

Chemistry:

	(1)
SiO_2	28.22
TiO_2	0.00
Al_2O_3	0.00
Fe_2O_3	0.53
Mn_2O_3	37.82
CaO	0.02
SrO	24.32
BaO	0.46
H_2O	[8.62]
Total	[99.99]

(1) Wessels mine, South Africa; by electron microprobe, average of 13 analyses, Li and F not detected by ion microprobe, H_2O from ideal stoichiometry; corresponds to $(Sr_{0.98}Ba_{0.01})_{\Sigma=0.99}(Mn^{3+}_{2.01}Fe^{3+}_{0.03})_{\Sigma=2.04}Si_{1.97}O_7(OH)_2 \cdot H_2O$.

Occurrence: From a hand specimen, in veinlets of sérandite-pectolite cutting sugilite, probably of hydrothermal origin in a bedded manganese deposit.

Association: Sérandite-pectolite, sugilite, braunite, taikanite, kornite.

Distribution: In the Wessels mine, near Kuruman, Cape Province, South Africa.

Name: For Henno Martin, German geologist, who has worked on the Precambrian geology of the general area where the mineral occurs.

Type Material: Natural History Museum, Bern, Switzerland, B5564.

References: (1) Armbruster, T., R. Oberhänsli, V. Bermanec, and R. Dixon (1993) Hennomartinite and kornite, two new Mn^{3+} rich silicates from the Wessels mine, Kalahari, South Africa. Schweiz. Mineral. Petrog. Mitt., 73, 349–355. (2) (1994) Amer. Mineral., 79, 763–764 (abs. ref. 1). (3) Armbruster, T., R. Oberhänsli, and V. Bermanec (1992) Crystal structure of $SrMn_2[Si_2O_7](OH)_2 \cdot H_2O$, a new mineral of the lawsonite type. Eur. J. Mineral., 4, 17–22.