Truscottite $(Ca, Mn^{2+})_{14}Si_{24}O_{58}(OH)_8 \cdot 2H_2O$

Crystal Data: Hexagonal. *Point Group:* $\bar{3}$ or 3. In scales; as spheroidal aggregates, to 7 mm, with fibrous, platy structure.

Physical Properties: *Cleavage:* Perfect on {0001}, micaceous. Hardness = 3.5
D(meas.) = 2.47–2.48 D(calc.) = 2.47

Optical Properties: Transparent to translucent. *Color:* White. *Luster:* Pearly on the cleavage.
Optical Class: Uniaxial (–). ω = 1.549–1.552 ϵ = 1.522–1.530

Cell Data: *Space Group:* $P\bar{3}$ or $P3$. a = 9.720–9.735 c = 18.84–18.85 Z = 1

X-ray Powder Pattern: Benkulen, Sumatra; resembles gyrolite or reyerite. (ICDD 29-382).
3.141 (100), 2.840 (80), 4.21 (70), 1.839 (70), 18.8 (60), 2.638 (55), 3.501 (45)

Chemistry:

	(1)	(2)	(3)
SiO_2	58.95	63.56	61.75
TiO_2	0.00	0.08	
Al_2O_3	1.03	0.81	
Fe_2O_3	0.03		
FeO		0.66	
MnO	0.18	2.41	
MgO	0.27	0.70	
CaO	25.54	26.24	33.62
Na_2O	1.03		
K_2O	1.37		
H_2O^+	4.61	4.31	4.63
H_2O^-	1.07	0.48	
CO_3	2.32		
SO_3	2.57		
Total	98.97	99.25	100.00

(1) Benkulen, Sumatra; corresponding to $(Ca_{1.78}Na_{0.13}K_{0.12}Mg_{0.03}Fe_{0.03}Mn_{0.02})_{\Sigma=2.11}(Si_{3.82}Al_{0.08})_{\Sigma=3.90}O_{9.48}(OH)_{2.00}$. (2) Toi mine, Japan; corresponding to $(Ca_{1.77}Mn_{0.13}Mg_{0.06}Fe_{0.03})_{\Sigma=1.99}(Si_{4.00}Al_{0.06})_{\Sigma=4.06}O_{9.18}(OH)_{1.81}$. (3) $Ca_{14}Si_{24}O_{58}(OH)_8 \cdot 2H_2O$.

Occurrence: In epithermal gold-silver quartz veins cutting altered pyroclastics (Toi mine, Japan).

Association: Quartz, adularia, rhodochrosite (Toi mine, Japan).

Distribution: At the Lebong Donok Au-Ag mine, Benkulen, Sumatra, Indonesia. In Japan, in the Toi mine, Shizuoka Prefecture. From the Hatrurim Formation, Israel. On Kilauea volcano, Hawaii, and from Yellowstone National Park, Wyoming, USA.

Name: For Professor Samuel John Truscott (1870–?), English mining geologist and formerly Manager of the Lebong Donok mine, Sumatra.

Type Material: The Natural History Museum, London, England, 1925,1044.

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