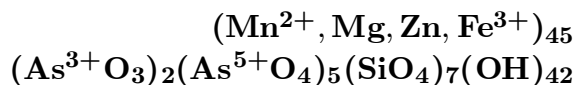


Mcgovernite

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Crystal Data: Hexagonal. *Point Group:* $3m$ or $\bar{3}2/m$. Coarse cleavable, granular, massive.**Physical Properties:** *Cleavage:* Perfect micaceous on {0001}. *Tenacity:* Brittle. Hardness = 3 $D(\text{meas.}) = 3.719$ $D(\text{calc.}) = [3.71]$ **Optical Properties:** Semitransparent. *Color:* Deep red-brown, somewhat bronzy; deep red-brown in thin section. *Luster:* Pearly. *Optical Class:* Uniaxial (+). $n = 1.761(2)$ $\omega = 1.754$ $\epsilon = \text{n.d.}$ **Cell Data:** *Space Group:* $R3c$ or $R\bar{3}2/c$. $a = 8.22(2)$ $c = 203.15(10)$ $Z = [6]$ **X-ray Powder Pattern:** Sterling Hill, New Jersey, USA.

2.257 (100), 2.418 (80), 5.630 (70), 2.604 (50), 4.228 (40), 11.205 (30), 2.819 (30)

Chemistry:

	(1)	(2)
SiO ₂	8.92	9.2
Al ₂ O ₃		0.0
Fe ₂ O ₃		1.7
As ₂ O ₃	4.45	4.6
As ₂ O ₅	12.48	12.5
FeO	1.53	
MnO	42.72	42.2
ZnO	10.22	9.3
MgO	11.27	11.5
CaO		0.0
H ₂ O	8.49	[8.5]
Total	100.08	[99.5]

(1) Sterling Hill, New Jersey, USA. (2) Do.; by electron microprobe, total Fe as Fe₂O₃, H₂O from (1); corresponding to $(\text{Mn}_{26.6}\text{Mg}_{12.8}\text{Zn}_{5.1}\text{Fe}_{0.9}^{3+})_{\Sigma=45.4}(\text{As}^{3+}\text{O}_3)_{2.1}(\text{As}^{5+}\text{O}_4)_{4.9}\text{Si}_{6.9}\text{O}_{28}(\text{OH})_{42.2}$.**Occurrence:** As the principal filling of a vein in massive zinc ore in a metamorphosed stratiform Zn-Mn deposit.**Association:** Franklinite, willemite, zincite, calcite.**Distribution:** From Sterling Hill, Ogdensburg, Sussex Co., New Jersey, USA.**Name:** For J.J. McGovern (?–1915), of Franklin, New Jersey, USA, prominent collector of Franklin minerals.**Type Material:** Harvard University, Cambridge, Massachusetts, USA, 113888.**References:** (1) Palache, C. and L.H. Bauer (1927) McGovernite, a new mineral from Sterling Hill, New Jersey. *Amer. Mineral.*, 12, 373–374. (2) Palache, C. (1935) The minerals of Franklin and Sterling Hill, Sussex County, New Jersey. *U.S. Geol. Sur. Prof. Paper* 180, 91. (3) Wuensch, B.J. (1960) The crystallography of mcgovernite, a complex arsenosilicate. *Amer. Mineral.*, 45, 937–945. (4) Moore, P.B. and T. Araki (1978) Hematolite: a complex dense-packed sheet structure. *Amer. Mineral.*, 63, 150–159. (5) Moore, P.B. and J. Ito (1978) Kraisslite, a new platy arsenosilicate from Sterling Hill, New Jersey. *Amer. Mineral.*, 63, 938–940. (6) Dunn, P.J., C.A. Francis, and J. Innes (1988) A mcgovernite-like mineral and leucophoenicite from the Kombat mine, Namibia. *Amer. Mineral.*, 73, 1182–1185.