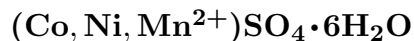


Moorhouseite



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Crystal Data: Monoclinic. *Point Group:* $2/m$. Granular to fine-grained columnar, in crusts and efflorescences.

Physical Properties: *Fracture:* Conchoidal. Hardness = 2.5 $D(\text{meas.}) = 1.97\text{--}2.02$
 $D(\text{calc.}) = 2.006$ (synthetic). Soluble in H_2O .

Optical Properties: Semitransparent. *Color:* Pink; pale pink in transmitted light.
Streak: White. *Luster:* Vitreous.

Optical Class: Biaxial (-). *Pleochroism:* Pale pink. *Orientation:* $Y = b$ (synthetic).

Absorption: $X \gg Z$. $\alpha = 1.470$ $\beta = [1.496]$ $\gamma = 1.496$ $2V(\text{meas.}) = 20(10)^\circ$

Cell Data: *Space Group:* $C2/c$ (synthetic). $a = 10.032(4)$ $b = 7.233(3)$ $c = 24.261(10)$
 $\beta = 98.37(3)^\circ$ $Z = 8$

X-ray Powder Pattern: Magnet Cove mine, Canada.

4.39 (10), 4.01 (6), 2.91 (5), 4.13 (4), 5.45 (3), 3.58 (3), 5.84 (2)

Chemistry: (1) Magnet Cove mine, Canada; identity depends on correspondence of the X-ray powder pattern with synthetic material; analysis of an aqueous solution by X-ray spectroscopy gave Co:Ni:Mn:Cu:Fe:Zn = 100:45:21:9:6:1 or $(\text{Co}_{0.55}\text{Ni}_{0.25}\text{Mn}_{0.12}\text{Cu}_{0.05}\text{Fe}_{0.03})_{\Sigma=1.00}\text{SO}_4 \cdot 6\text{H}_2\text{O}$.

Mineral Group: Hexahydrate group.

Occurrence: As efflorescences with sulfides (probably cobaltian and nickelian pyrite) on siderite–barite matrix from a hydrothermal Pb–Zn–Cu orebody associated with a large barite deposit (Magnet Cove mine, Canada); as crusts on sandstone (near Cameron, Arizona, USA).

Association: Aplowite, siderite, barite (Magnet Cove mine, Canada); koritnignite, köttigite, picopharmacolite (Jáchymov, Czech Republic).

Distribution: From the Magnet Cove barite mine, four km southwest of Walton, Nova Scotia, Canada. In a prospect 13 km east-southeast of Gray Mountain, Cameron district, Coconino Co., Arizona, USA. From the Geschieber and Evangelista veins, Jáchymov (Joachimsthal), Czech Republic. At Fontana Rosa, Corsica, France. In Germany, on the dump of the Schmiedestollen, near Wittichen, in the Röttenback quarry, near Alpirsbach, Black Forest; at the Daniel mine, Schneeberg, Saxony.

Name: To honor Dr. Walter Wilson Moorhouse (1913–1969), Canadian Professor of Geology, University of Toronto, Toronto, Canada.

Type Material: National School of Mines, Paris, France; Canadian Geological Survey, Ottawa, Canada, 12145.

References: (1) Jambor, J.L. and R.W. Boyle (1965) Moorhouseite and aplowite, new cobalt minerals from Walton, Nova Scotia. *Can. Mineral.*, 8, 166–171. (2) (1965) *Amer. Mineral.*, 50, 808 (abs. ref. 1). (3) Zalkin, A., H. Ruben, and D.H. Templeton (1962) The crystal structure of cobalt sulphate hexahydrate. *Acta Cryst.*, 15, 1219–1224.