Brindleyite $(Ni, Mg, Fe^{2+})_2Al(SiAl)O_5(OH)_4$

Crystal Data: Monoclinic or hexagonal. *Point Group:* n.d. Crystals platy, with poorly developed individuals, less than 1 μm; massive.

Physical Properties: Hardness = 2.5–3 D(meas.) = 3.17(1) D(calc.) = 3.16

Optical Properties: Semitransparent. *Color:* Dark yellow-green.
Optical Class: Biaxial. $n = 1.635(1)$ 2V(meas.) = n.d.

Cell Data: *Space Group:* n.d. 1M and 3A assumed. $a = 5.286(5)$ $b = 9.133(3)$ $c = 7.31(1)$ $\beta = 104°9(7)'$ Z = 2, or *Space Group:* n.d. 1A assumed. $a = 5.277(1)$ b = n.d. $c = 7.09(1)$ β = n.d. Z = 2

X-ray Powder Pattern: Megara, Greece.
7.07 (100), 3.54 (80), 2.62 (18), 2.47 (18), 2.37 (18), 1.524 (17), 4.54 (10)

Chemistry:

	(1)
SiO_2	27.45
TiO_2	0.99
Al_2O_3	24.09
ΣLa_2O_3	0.35
Cr_2O_3	0.17
FeO	1.15
NiO	30.18
MgO	3.18
CaO	0.07
H_2O	[12.37]
Total	[100.00]

(1) Megara, Greece; by electron microprobe, H_2O by difference.

Polymorphism & Series: 1M plus 3A and 1A polytypes assumed.

Mineral Group: Kaolinite-serpentine group.

Occurrence: As coatings on limestone and as veinlets cutting kaolinitic clays at the base of a bauxite deposit developed on karst; also a significant component of weathered ultramafic rock (Megara, Greece).

Association: Bastnäsite, malachite, bayerite (Megara, Greece).

Distribution: In the Marmara bauxite deposit, Megara, Greece. From Victorio, Grant Co., New Mexico, USA.

Name: To honor Dr. George William Brindley (1905–1983), Professor of Mineral Science, Pennsylvania State University, University Park, Pennsylvania, USA.

Type Material: Department of Mineralogy, University of Belgrade, Belgrade, Yugoslavia; National Museum of Natural History, Washington, D.C., USA, 136982.

References: (1) Maksimovic, Z. and D.L. Bish (1978) Brindleyite, a nickel-rich aluminous serpentine mineral analogous to berthierine. Amer. Mineral., 63, 484–489.