Garronite-(Na) $Na_6(Al_6Si_{10}O_{32})\cdot 7\text{-}10H_2O$

Crystal Data: Monoclinic. *Point Group*: 2. *Twinning*: On {011} and {10$\bar{1}$}. As crude to sharp pseudo-octahedral crystals to 2 mm; as rough botryoidal aggregates to 1.5 mm.

Physical Properties: *Cleavage*: Good parting on {011}. *Tenacity*: Brittle. *Fracture*: n.d. Hardness = ~ 4 D(meas.) = 2.19(2) D(calc.) = 2.071

Optical Properties: Transparent to translucent. *Color*: Pale yellow to white (aggregates). *Streak*: White. *Luster*: Vitreous; frosted aggregates.
Optical Class: Biaxial (+). α = 1.489(1) β = 1.492(1) γ = 1.496(1) 2V(meas.) = 75(3)° 2V(calc.) = 82(7)° *Dispersion*: None. *Pleochroism*: None. Blurred extinction due to twins.

Cell Data: *Space Group*: *I*2. a = 9.990(2) b = 10.032(2) c = 10.036(2) β = 90.11(3)° Z = 1

X-ray Powder Pattern: Poudrette quarry, Mont Saint-Hilaire, Quebéc, Canada.
3.172 (100), 7.098 (79), 4.101(77), 2.685 (64), 5.026 (32), 2.904 (14), 1.9669 (14)

Chemistry:	(1)
Na_2O	14.28
K_2O	1.10
CaO	0.04
BaO	0.09
FeO	0.02
MnO	0.02
MgO	0.00
Al_2O_3	26.89
SiO_2	46.71
TiO_2	0.00
Nb_2O_5	0.04
H_2O	[10.73]
Total	99.92

(1) Poudrette quarry, Mont Saint-Hilaire, Quebéc, Canada; average of 8 electron microprobe analyses supplemented by IR spectroscopy, H_2O from structure analysis, 'excess' H for charge balance; corresponds to $(Na_{5.650}K_{0.286}Ca_{0.009}Ba_{0.007}Mn_{0.003}Fe_{0.003}Nb_{0.004})_{\Sigma=5.960}H_{0.50}[(Al_{6.468}Si_{9.532})_{\Sigma=16}O_{32}]\cdot 7.3H_2O$.

Mineral Group: Zeolite group.

Occurrence: In vugs in a hydrothermally-altered zone of the Poudrette pegmatite and in sodalite-rich segregations in nepheline syenite both part of an alkaline igneous intrusive complex.

Association Natrolite, gmelinite, aegirine, gonnardite.

Distribution: From the Poudrette quarry, Mont Saint-Hilaire, La Vallée-du-Richelieu RCM, Montérégie, Quebéc, Canada.

Name: The suffix indicates the Na analog of *garronite*.

Type Material: Canadian Museum of Nature, Ottawa, Ontario, Canada (CMNMC 86893).

References: (1) Grice, J.D., R. Rowe, and G. Poirier (2017) Garronite-(Na), a new zeolite species from Mont Saint-Hilaire, Québec. Can. Mineral., 54(6), 1549-1562. (2) (2018) Amer. Mineral., 103, 2525-2526 (abs. ref. 1).