

Crystal Data: Hexagonal. *Point Group:* $\bar{3} 2/m$. As blocky to prismatic crystals, elongated along [001] and exhibiting {100} and {001}, to 2 mm, as parallel 2- to 3-member aggregates and rosettes; rarely as plates, flattened along [001].

Physical Properties: *Cleavage:* None. *Fracture:* Uneven to conchoidal. *Tenacity:* Brittle. Hardness = 5.5 D(meas.) = n.d. D(calc.) = 3.16

Optical Properties: Transparent. *Color:* Gray to pale green or brown, rarely black. *Streak:* White. *Luster:* Vitreous. *Optical Class:* Uniaxial (+). $\omega = 1.627(1)$ $\varepsilon = 1.645(1)$ *Pleochroism:* None.

Cell Data: *Space Group:* $P \bar{3} c_1$. $a = 19.720(1)$ $c = 9.9788(5)$ $Z = 1$

X-ray Powder Pattern: Mont Saint-Hilaire, Quebec, Canada [also a calculated peak at 17.08 (44)]. 2.752 (100), 3.13 (70), 3.96 (51), 3.76 (49), 6.46 (38), 5.43 (33), 1.990 (27)

Chemistry:	(1)
Na ₂ O	5.62
CaO	1.11
SrO	17.76
BaO	0.40
[B ₂ O ₃]	3.38
Y ₂ O ₃	1.15
SiO ₂	40.51
ZrO ₂	25.32
HfO ₂	0.48
Nb ₂ O ₅	1.32
[H ₂ O]	5.25
Total	102.30

(1) Poudrette quarry, Mont Saint-Hilaire, Quebec, Canada; average of 7 electron microprobe analyses, H₂O calculated and confirmed by IR spectroscopy, B from structural analysis; corresponding to (Na_{11.20}Ca_{1.22}) $\Sigma=12.42$ (Sr_{10.59}Ba_{0.16}) $\Sigma=10.75$ (Zr_{12.69}Y_{0.63}Nb_{0.61}Hf_{0.14}) $\Sigma=14.07$ Si_{41.64}B₆O₁₃₂(OH)₁₂·12H₂O.

Occurrence: A late hydrothermal mineral in cavities in igneous breccia and nepheline syenite pegmatite.

Association: An unnamed burbankite-group mineral, donnayite-(Y), clinoamphibole, albite, aegirine, pyrrhotite, pyrite, annite, analcime, microcline, a white mica (muscovite?), titanite, clinopyroxene, calcite.

Distribution: Poudrette quarry, Mont Saint-Hilaire, Rouville County, Quebec, Canada.

Name: Honors Dr. Robert ("Bob") James Traill (b. 1921), mineralogist and former head of the Mineralogy Section at the Geological Survey of Canada, Ottawa (1953-1986).

Type Material: Canadian Museum of Nature, Ottawa, Canada (CMNMC 83718).

References: (1) McDonald, A.M. and G.Y. Chao (2005) Bobtraillite, (Na,Ca)₁₃Sr₁₁(Zr,Y,Nb)₁₄Si₄₂B₆O₁₃₂(OH)₁₂·12H₂O, a new mineral species from Mont Saint-Hilaire, Quebec: Description, structure determination and relationship to benitoite and wadeite. *Can. Mineral.*, 43, 747-758. (2) (2005) *Amer. Mineral.*, 90, 1945 (abs. ref. 1).