## Rongibbsite $Pb_2(Si_4Al)O_{11}(OH)$

**Crystal Data**: Monoclinic. *Point Group*: 2/*m*. Bladed crystals elongated along [001], to 0.70 mm, display {100}, {010}, {001}, and {$10\bar{1}$}; often in tufts. *Twinning*: Common on (100).

**Physical Properties**: *Cleavage*: Perfect on {100}. *Tenacity*: Brittle. *Fracture*: n.d.
Hardness = ~ 5 D(meas.) = n.d. D(calc.) = 4.43

**Optical Properties**: Transparent. *Color*: Colorless. *Streak*: White. *Luster*: Vitreous.
*Optical Class*: Biaxial (+). $\alpha = 1.690$ $\beta = 1.694$ $\gamma = 1.700$ *Orientation*: $c \wedge Z = 26°$.
2V(meas.) = 65(2)° 2V(calc.)= 66° *Dispersion*: Strong, $r > v$.

**Cell Data**: Space Group: *I*2/*m*. $a = 7.8356(6)$ $b = 13.913(1)$ $c = 10.278(1)$ $\beta = 92.925(4)°$ Z = 4

**X-ray Powder Pattern**: Calculated pattern.
6.0754 (100), 3.9897 (98), 2.8416 (90), 2.7532 (85), 3.48 (80), 6.8206 (77), 3.3224 (75)

| **Chemistry**: | (1) |
|---|---|
| $SiO_2$ | 30.64 |
| $Al_2O_3$ | 7.44 |
| PbO | 59.80 |
| $H_2O^+$ | [1.18] |
| Total | 99.06 |

(1) Big Horn Mountains, Maricopa County, Arizona, USA.; average of 11 electron microprobe analyses supplemented by Raman spectroscopy, $H_2O$ estimated for charge balance; corresponds to $Pb_{2.05}(Si_{3.89}Al_{1.11})O_{11}(OH)$.

**Occurrence**: The product of the weathering of a lead and copper-bearing quartz vein in gneiss.

**Association**: Wickenburgite, fornacite, mimetite, murdochite, creaseyite.

**Distribution**: From the Big Horn Mountains, Maricopa County, Arizona, USA.

**Name**: Honors Ronald Bradford Gibbs, a mineral collector and a mining engineer in Tucson, Arizona, USA, who found the first specimens.

**Type Material**: University of Arizona Mineral Museum, Tucson, Arizona, USA (19292) and the RRUFF Project (R100031).

**References**: (1) Yang, H., R.T. Downs, S.H. Evans, R.A. Jenkins, and E.M. Bloch (2013) Rongibbsite, $Pb_2(Si_4Al)O_{11}(OH)$, a new zeolitic aluminosilicate mineral with an interrupted framework from Maricopa County, Arizona, U.S.A. Amer. Mineral., 98, 236-241.