

**Crystal Data:** Hexagonal. *Point Group:*  $3m$ . Tabular holohedral crystals, dominated by {000} and {1011}, to 1.5 mm. As spongy aggregates of small, highly perfect individuals; as subparallel aggregates or rosettes; granular.

**Physical Properties:** *Cleavage:* {0001}, indistinct. *Tenacity:* Brittle but tough. Hardness = 5  
D(meas.) = 3.85 D(calc.) = 3.87 Fluoresces dull orange under SW UV.

**Optical Properties:** Transparent to translucent. *Color:* Colorless to white; rarely salmon-pink.  
*Luster:* Vitreous.

*Optical Class:* Uniaxial (-).  $\omega = 1.692$   $\epsilon = 1.648$  *Dispersion:*  $r < v$ ; moderate.

**Cell Data:** *Space Group:*  $P31c$ .  $a = 8.555(2)$   $c = 20.190(5)$   $Z = 2$

**X-ray Powder Pattern:** Near Wickenburg, Arizona, USA.

10.1 (100), 3.26 (80), 3.93 (60), 3.36 (40), 2.639 (40), 5.96 (30), 5.04 (30)

<b>Chemistry:</b>	(1)	(2)	
	SiO <sub>2</sub>	42.1	40.04
	Al <sub>2</sub> O <sub>3</sub>	7.6	6.79
	PbO	44.0	44.62
	CaO	3.80	3.74
	<u>H<sub>2</sub>O</u>	<u>3.77</u>	<u>4.80</u>
	Total	101.27	99.99

(1) Near Wickenburg, Arizona, USA. (2)  $\text{Pb}_3\text{CaAl}_2\text{Si}_{10}\text{O}_{27}\cdot 4\text{H}_2\text{O}$ .

**Occurrence:** In oxidized hydrothermal veins, carrying galena and sphalerite, in quartz and fluorite gangue (near Wickenburg, Arizona, USA).

**Association:** Phoenicochroite, mimetite, cerussite, willemite, crocoite, duftite, hemihedrite, alamosite, melanotekite, luddenite, ajoite, shattuckite, vauquelinite, descloizite, laumontite.

**Distribution:** In the USA, in Arizona, at several localities south of Wickenburg, Maricopa Co., including the Potter-Cramer property, Belmont Mountains, and the Moon Anchor mine; on dumps at a Pb-Ag-Cu prospect in the Artillery Peaks area, Mohave Co.; and in the Dives (Padre Kino) mine, Silver district, La Paz Co.

**Name:** For *Wickenburg*, Arizona, USA, the community near which it was discovered.

**Type Material:** Harvard University, Cambridge, Massachusetts, 119099; National Museum of Natural History, Washington, D.C., USA, 122875.

**References:** (1) Williams, S.A. (1968) Wickenburgite, a new mineral from Arizona. *Amer. Mineral.*, 53, 1433-1438. (2) Lam, A.E., L.A. Groat, M.A. Cooper, and F.C. Hawthorne (1994) The crystal structure of wickenburgite,  $\text{Pb}_3\text{CaAl}[\text{AlSi}_{10}\text{O}_{27}](\text{H}_2\text{O})_3$ , a sheet structure. *Can. Mineral.*, 32, 525-532. (3) Hesse, K.-F., F. Liebau, and H.-H. Eulert (2003) Wickenburgite, a double-layer silicate  $\text{Pb}_3\text{Al}^{[6]}[\text{Ca}^{[6]}\text{Al}^{[4]}\text{Si}^{[4]}]_{10}\text{O}_{27}(\text{H}_2\text{O})_3\cdot \text{H}_2\text{O}$ : crystal chemistry and thermal behaviour. *Zeits. Kristallogr.*, 218, 542-552. (4) (2004) *Amer. Mineral.*, 89, 471 (abs. ref. 3).