

Crystal Data: Triclinic. *Point Group:* $\bar{1}$. As thin, bladed crystals to 0.1 mm and as hemispherical aggregates of radiating crystals.

Physical Properties: *Cleavage:* None. *Tenacity:* Brittle. *Fracture:* Irregular. Hardness = 3-3.5
D(meas.) = 3.21(2) D(calc.) = 3.28

Optical Properties: Transparent to translucent. *Color:* White. *Streak:* White. *Luster:* Vitreous.
Optical Class: Biaxial (-). $\beta = 1.642(5)$

Cell Data: *Space Group:* $P\bar{1}$. $a = 8.299(1)$ $b = 9.616(1)$ $c = 12.175(1)$ $\alpha = 71.68(1)^\circ$
 $\beta = 82.02(1)^\circ$ $\gamma = 80.18(1)^\circ$ $Z = 2$

X-ray Powder Pattern: Block 14 Opencut, Broken Hill, New South Wales, Australia.
2.537 (100), 2.550 (85), 8.438 (80), 2.967 (75), 2.956 (75), 3.206 (60), 3.414 (40)

| Chemistry: | (1) | (2) |
|--------------------------------|---------|--------|
| ZnO | 54.62 | 54.35 |
| MnO | 0.49 | |
| PbO | 0.18 | |
| P ₂ O ₅ | 32.62 | 31.60 |
| As ₂ O ₅ | 0.65 | |
| SO ₃ | 0.35 | |
| H ₂ O | [14.04] | 14.04 |
| Total | 102.95 | 100.00 |

(1) Block 14 Opencut, Broken Hill, New South Wales, Australia; average of 13 electron microprobe analyses supplemented by Raman spectroscopy; H₂O calculated from structure; corresponds to Pb_{0.01}(Zn_{5.86}Mn_{0.06}) $\Sigma=5.92$ (P_{4.01}As_{0.05}S_{0.04}) $\Sigma=4.10$ O_{16.20}·6.8H₂O. (2) Zn₆(PO₄)₄·7H₂O.

Occurrence: A secondary mineral in highly weathered portions of a metamorphosed Pb-Zn-Ag sulfide deposit.

Association: Anglesite, pyromorphite, greenockite, sulfur, vanderheydenite.

Distribution: From Block 14 Opencut, Broken Hill, New South Wales, Australia.

Name: Honors Archibald *Liversidge* (1846-1927), Professor of Geology and Mineralogy, and later Professor of Mineralogy and Chemistry at the University of Sydney for his contributions to the mineralogy of New South Wales, in particular that of the Broken Hill deposit, and his contributions to education in mineralogy and chemistry.

Type Material: South Australian Museum, Adelaide (G32512).

References: (1) Elliott, P., G. Giester, E. Libowitzky, and U. Kolitsch (2010) Description and crystal structure of liversidgeite, Zn₆(PO₄)₄·7H₂O, a new mineral from Broken Hill, New South Wales, Australia. *Amer. Mineral.*, 95, 397-404.