Plumbonacrite $Pb_5O(CO_3)_3(OH)_2$

Crystal Data: Hexagonal. *Point Group:* $6mm$. As aggregates of scaly crystals, to 0.1 mm.

Physical Properties: Hardness = n.d. D(meas.) = 7.07 (synthetic). D(calc.) = [7.069]

Optical Properties: Transparent to translucent. *Color:* Colorless to white. *Luster:* Pearly.
Optical Class: [Uniaxial.] ω = n.d. ϵ = n.d.

Cell Data: *Space Group:* $P6_3cm$ (synthetic). $a = 9.0921(7)$ $c = 24.923(3)$ Z = 6

X-ray Powder Pattern: Synthetic; near to hydrocerussite.
2.619 (10), 4.26 (8), 3.357 (7), 1.699 (5), 2.953 (4), 2.235 (4), 3.98 (3)

Chemistry:

	(1)	(2)
CO_2	4.76	10.43
PbO	92.85	88.15
H_2O	2.01	1.42
insol.	0.78	
Total	100.40	100.00

(1) Wanlockhead, Scotland. (2) $Pb_5O(CO_3)_3(OH)_2$.

Occurrence: Rare in the oxidized zone of hydrothermal polymetallic deposits.

Association: Anglesite, linarite, galena (Tiger, Arizona, USA).

Distribution: From Wanlockhead, Dumfriesshire, Scotland. In the Mammoth-St. Anthony mine, Tiger, Pinal Co., Arizona, USA.

Name: From the Latin for *lead* and the French *nacre*, for *mother-of-pearl*, in allusion to its composition and nacreous luster.

Type Material: n.d.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 270 [hydrocerussite, part]. (2) Olby, J.K. (1966) The basic lead carbonates. J. Inorg. Nucl. Chem., 28, 2507–2512. (3) Haacke, D.F. and P.A. Williams (1981) Stability of plumbonacrite. J. Inorg. Nucl. Chem., 43, 406. (4) Krivovichev, S.V. and P.C. Burns (2000) Crystal chemistry of basic lead carbonates. II. Crystal structure of synthetic "plumbonacrite". Mineral. Mag., 64, 1069–1075.