

SHORT COMMUNICATIONS

A further occurrence of phosgenite.

In a recent note Kingsbury¹ described two new localities for phosgenite in the United Kingdom. This mineral has some interest in building since it may be a corrosion product of lead materials in contact with chloride solutions. Opportunity was taken to establish the standard data when a sample found by Mr. G. W. Mack in an ancient lead pot deep in Wookey Hole was presented for study in 1948. The mineral occurs as flattened plates about $1 \times 1 \times 0.3$ cm. maximum, colourless and for the most part clear. Chemical analysis by R. S. Gillett gave: PbO 81.2, Cl 12.6, CO₂ 8.0 %, equivalent to Pb₂(CO₃)Cl₂. The crystals have refractive index about 2.15, uniaxial positive; crystallographically the most prominent face is c {001}; other forms identified include u {120}, x {111}, m {110}, b {010}, and o {021}. The material has the high specific gravity of 6.15. An X-ray powder diffraction pattern using filtered Co- $K\alpha$ radiation gave the following results:

<i>d.</i>	<i>I.</i>	<i>d.</i>	<i>I.</i>	<i>d.</i>	<i>I.</i>	<i>d.</i>	<i>I.</i>
5.71 Å.	w	2.40 Å.	vwv	1.800 Å.	m	1.402 Å.	vwv
4.40	s	2.28	vw	1.757	mw	1.393	vwv
4.04	ms	2.21	m	1.672	mw	1.364	w
3.61	vs	2.03	vw	1.636	vwv	1.352	w
3.50	vwv	1.97	mw	1.588	vwv	1.327	w
3.09	vwv	1.94	vwv	1.508	vw	1.294	mw
2.99	vw	1.91	mw	1.495	vwv	1.285	vwv
2.86	vwv	1.887	mw	1.469	mw	1.277	vwv
2.79	vvs	1.841	vwv	1.445	mw	1.267	vw
2.56	vs	1.820	vwv	1.426	m		

If the unit cell proposed by Oftedal² is taken as a guide, the data above give unit-cell dimensions a 8.112 Å., c 8.814 Å., $c/a = 1.086$.

The formation of phosgenite under similar conditions has been reported by Lacroix from Maldia, Tunis,³ where an ancient metallic object was immersed in sea-water, and also from Bourbonne-les-Bains, France,⁴ where a lead pipe was exposed to a hot spring.

*Building Research Station,
Watford, Herts.*

H. G. MIDGLEY

¹ A. W. G. Kingsbury, *Min. Mag.*, 1957, vol. 31, p. 500.

² I. Oftedal, *Norsk Geol. Tidsskr.*, 1945, vol. 24, p. 79.

³ A. Lacroix, *Compt. Rend. Acad. Sci. Paris*, 1910, vol. 151, p. 276.

⁴ A. Lacroix, *Min. France*, 1909, vol. 3, p. 779.