

**Crystal Data:** Monoclinic. *Point Group:*  $2/m$  or  $2$ . As crystals, to 0.1 mm, bladed to scaly, elongated  $\parallel$  [001] or tabular {010}, composed of {100}, {010}, {001}, {101},  $\{\bar{1}01\}$ , in rosettes and microcrystalline coatings.

**Physical Properties:** *Cleavage:* On {010}, perfect. Hardness =  $\sim 2$   $D(\text{meas.}) = 1.92(2)$   $D(\text{calc.}) = 1.931$  May dehydrate to metaschoderite in a dry atmosphere.

**Optical Properties:** Semitransparent. *Color:* Yellowish orange.

*Optical Class:* Biaxial (-). *Pleochroism:*  $X =$  pale yellow;  $Y =$  deep yellow;  $Z =$  yellow.

*Orientation:*  $X = b$ ;  $Y \wedge c = 26(5)^\circ$ .  $\alpha = 1.560(1)$   $\beta = 1.563(1)$   $\gamma = 1.565(1)$

$2V(\text{meas.}) = 42(3)^\circ$

**Cell Data:** *Space Group:*  $P2_1/m$  or  $P2_1$ .  $a = 16.26(1)$   $b = 30.60(4)$   $c = 12.55(1)$   $\beta = 91.77(8)^\circ$   $Z = 18$

**X-ray Powder Pattern:** Wilson Springs mine, Arkansas, USA.

16.3 (100), 15.3 (70), 7.64 (35), 2.893 (35), 5.686 (25), 5.410 (25), 2.843 (25)

**Chemistry:**

	(1)	(2)	(3)
$\text{P}_2\text{O}_5$	17.4	21.08	17.40
$\text{V}_2\text{O}_5$	24.6	22.37	22.29
$\text{Al}_2\text{O}_3$	23.8	25.67	24.99
$\text{Fe}_2\text{O}_3$	0.27	0.47	
$\text{H}_2\text{O}^+$	7.5		
$\text{H}_2\text{O}^-$	26.6		
$\text{H}_2\text{O}$		[30.41]	35.32
Total	[100.17]	[100.00]	100.00

(1) Fish Creek Range, Nevada, USA; original total given as 100.27%, corresponds to  $\text{Al}_{1.92}(\text{PO}_4)_{1.00}(\text{VO}_4)_{1.10} \cdot 7.94\text{H}_2\text{O}$ . (2) Wilson Springs mine, Arkansas, USA; by electron microprobe,  $\text{H}_2\text{O}$  by difference. (3)  $\text{Al}_2(\text{PO}_4)(\text{VO}_4) \cdot 8\text{H}_2\text{O}$ .

**Occurrence:** A rare mineral formed from amorphous phosphatic gels or by crystallization from meteoric solution in fractures in phosphatic chert (Fish Creek Range, Nevada, USA).

**Association:** Vashegyite, wavellite (Fish Creek Range, Nevada, USA); metahewettite, metaschoderite, bokite, minyulite, leucophosphite (Cockalorum Wash, Nevada, USA); hewettite, duttonite, fervanite, metaschoderite, straczekite, apatite, quartz (Wilson Springs mine, Arkansas, USA).

**Distribution:** In the USA, from the Van-Nav-Sand claim group, Fish Creek Range, about 48 km south of Eureka, Eureka Co., and near Cockalorum Wash, Nye Co., Nevada; in the Wilson Springs (Potash Sulphur Springs) mine, Garland Co., Arkansas.

**Name:** To honor William Paul Schoder (1900–1977), research chemist, Union Carbide Corporation, for his work on the metallurgy of vanadium.

**Type Material:** National Museum of Natural History, Washington, D.C., USA, 145791, 144479.

**References:** (1) Hausen, D.M. (1962) Schoderite, a new phosphovanadate mineral from Nevada. *Amer. Mineral.*, 47, 637–648. (2) Pabst, A. (1979) Schoderite, a new locality and a redescription. *Amer. Mineral.*, 64, 713–720.