

Queitite**Pb₄Zn₂(SiO₄)(Si₂O₇)(SO₄)**

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Crystal Data: Monoclinic. *Point Group:* 2. Crystals tabular on {001} and elongated along [010], dominant forms {001}, {112}, {110}, {101}, to 1.5 cm. *Twinning:* On {100} and {001}.

Physical Properties: *Cleavage:* {010} and {001}, observed in traces. Hardness = ~4
D(meas.) = n.d. D(calc.) = 6.07

Optical Properties: Transparent. *Color:* Pale yellow or colorless; distinct anomalous interference colors in thin section. *Streak:* White. *Luster:* Greasy.
Optical Class: Biaxial (+) (probable). *Orientation:* X = b; Z \simeq a. *Dispersion:* r < v, strong.
 $\alpha = 1.899(4)$ $\beta = 1.901$ $\gamma = 1.903(4)$ 2V(meas.) = ~90°

Cell Data: *Space Group:* P2₁. a = 11.362(2) b = 5.266(1) c = 12.655(3)
 $\beta = 108.16(2)^\circ$ Z = 2

X-ray Powder Pattern: Tsumeb, Namibia.
3.18 (100), 1.635 (80), 1.490 (60), 1.486 (60), 3.77 (50), 3.59 (50), 2.99 (50)

Chemistry:	(1)	(2)
SiO ₂	14.33	14.52
ZnO	12.37	12.97
PbO	67.10	66.71
SO ₃	6.06	6.04
Total	99.86	100.24

(1–2) Tsumeb, Namibia; by electron microprobe, with traces of Fe, Ca, Mg; the average corresponds to Pb_{3.87}Zn_{2.01}Si_{3.10}O₁₁(S_{0.98}O₄).

Occurrence: On corroded sulfides in a partially oxidized lead ore from a dolostone-hosted hydrothermal polymetallic ore deposit (Tsumeb, Namibia); with other oxidized Pb-Cu minerals in a vug in quartz from a hydrothermal Pb-Zn-Cu ore deposit (Red Gill mine, England).

Association: Galena, sphalerite, tennantite, willemite, melanotekite, leadhillite, alamosite, larsenite, quartz (Tsumeb, Namibia); cerussite, leadhillite, susannite, caledonite, quartz (Red Gill mine, England).

Distribution: At Tsumeb, Namibia. From the Lucky Cuss mine, Tombstone, Cochise Co., Arizona, USA. In the Red Gill mine, Caldbeck Fells, Cumbria, England. From Leadhills, Lanarkshire, Scotland.

Name: For Clive Sedric Queit, mineral dealer of Tsumeb, Namibia.

Type Material: University of Stuttgart, Stuttgart, Germany, NM03; Harvard University, Cambridge, Massachusetts, 117115; National Museum of Natural History, Washington, D.C., USA, 143780, 147463.

References: (1) Keller, P., P.J. Dunn, and H. Hess (1979) Queitite, Pb₄Zn₂(SO₄)(SiO₄)(Si₂O₇), a new mineral from Tsumeb, South West Africa. Neues Jahrb. Mineral., Monatsh., 203–209 (in German with English abs.). (2) (1980) Amer. Mineral., 65, 407 (abs. ref. 1). (3) Hess, H. and P. Keller (1980) Die Kristallstruktur von Queitit, Pb₄Zn₂[SO₄|SiO₄|Si₂O₇]. Zeits. Krist., 151, 287–299 (in German with English abs.).