Scawtite \( \text{Ca}_7\text{Si}_6\text{O}_{18}(\text{CO}_3)^2\cdot 2\text{H}_2\text{O} \)

Crystal Data: Monoclinic. \( \text{Point Group: } 2/m \). As thin crystals, tabular on \{100\}, forming parallel to slightly divergent aggregates.

Physical Properties: Cleavage: \{010\}, fair; \{100\}, poor. Hardness = 4.5–5. 
\( D(\text{meas.}) = 2.71 \quad D(\text{calc.}) = 2.74 \)

Optical Class: Biaxial (+). Orientation: \( Y = b; Z \perp c = 30^\circ \). \( \alpha = 1.595(1) \quad \beta = 1.605(1) \quad \gamma = 1.622(1) \quad 2V(\text{meas.}) = 75^\circ 5' \quad 2V(\text{calc.}) = 74^\circ \)

Cell Data: \( \text{Space Group: } I2/m. \quad a = 10.118(3) \quad b = 15.187(4) \quad c = 6.626(1) \quad \beta = 100^\circ 40(1)^\prime \quad Z = 2 \)

X-ray Powder Pattern: Crestmore, California, USA.
3.04 (10), 1.898 (6), 2.495 (5), 2.24 (5), 4.56 (4), 2.79 (4), 6.05 (3)

Chemistry:
\[
\begin{array}{ccc}
\text{SiO}_2 & 41.95 & 43.5 & 43.27 \\
\text{TiO}_2 & 0.01 \\
\text{Al}_2\text{O}_3 & 0.14 \\
\text{Fe}_2\text{O}_3 & 0.07 \\
\text{MnO} & 0.01 \\
\text{MgO} & 0.16 \\
\text{CaO} & 46.93 & 46.1 & 47.12 \\
\text{H}_2\text{O}^+ & 0.06 & 0.1 \\
\text{H}_2\text{O}^- & 4.90 & 4.3 & 4.33 \\
\text{CO}_2 & 5.6 & 4.4 & 5.28 \\
\text{rem}. & 1.2 & \\
\end{array}
\]

Total 99.83 99.6 100.00

(1) Crestmore, California, USA; total Fe as \( \text{Fe}_2\text{O}_3 \). (2) Ballycraigy, Ireland; remainder is trivalent metal oxides. (3) \( \text{Ca}_7\text{Si}_6\text{O}_{18}(\text{CO}_3)^2\cdot 2\text{H}_2\text{O} \).

Occurrence: A late-stage hydrothermal mineral veining skarns formed from contact metamorphism of limestone.

Association: Melilite, spurrite, tobermorite, thomsonite, larnite, grossular, bultfonteinite, calcite, analcime, foshagite, hillebrandite.

Distribution: At Scawt Hill and Ballycraigy, near Larne, Co. Antrim, Ireland. On the Zeilberg, near Maroldsweisach, Bavaria, Germany. In the USA, at Crestmore, Riverside Co., California, and near Neihart, Cascade Co., Montana. From Kushiro, Hiroshima Prefecture, and in the Mihara mine and at Fuka, near Bicchu, Okayama Prefecture, Japan. From near Rehia, Tokatoka district, about 150 km north of Auckland, New Zealand.

Name: For the locality where first found, Scawt Hill, Ireland.


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