

Crystal Data: Hexagonal. *Point Group:* $\bar{6}m2$. Crystals rarely entirely euhedral, prismatic with partially developed pyramidal terminations, more commonly anhedral to subhedral, < 1 mm. Also as clusters of crystals.

Physical Properties: *Cleavage:* Pyramidal, probably {10 $\bar{1}$ 4}; poor on {10 $\bar{1}$ 0}; strong parting || {0001}. Hardness = n.d. D(meas.) = n.d. D(calc.) = 3.82 Moderately strong pale bluish fluorescence under SW UV; strong blue cathodoluminescence.

Optical Properties: Transparent to translucent. *Color:* Colorless.

Optical Class: Uniaxial (+). $\omega = 1.675\text{--}1.681$ $\epsilon = 1.685\text{--}1.688$

Cell Data: *Space Group:* $P\bar{6}c2$. $a = 6.737\text{--}6.769$ $c = 9.997\text{--}10.020$ $Z = 2$

X-ray Powder Pattern: Rockall Island, Scotland.

3.80 (100), 2.800 (100), 5.85 (35), 3.38 (35), 2.93 (30), 2.012 (30), 2.213 (25)

Chemistry:

| | (1) | (2) | (3) |
|------------------|--------|--------|--------|
| SiO ₂ | 39.71 | 39.59 | 39.46 |
| TiO ₂ | 0.17 | 0.51 | |
| ZrO ₂ | 26.38 | 26.12 | 26.98 |
| SnO ₂ | 0.06 | 0.11 | |
| BaO | 33.69 | 34.12 | 33.56 |
| Total | 100.01 | 100.45 | 100.00 |

(1–2) Rockall Island, Scotland; by electron microprobe. (3) BaZrSi₃O₉.

Occurrence: A late-stage interstitial mineral in aegirine-riebeckite granite (Rockall Island, Scotland); in granular celsian-bearing rocks near contacts with granite (Big Creek, California, USA).

Association: Elpidite, aegirine, albite, cristobalite, leucophosphite, monazite, quartz, apatite, eudialyte, magnetite, pyrochlore, xenotime, barite, titanite (Rockall Island, Scotland); taramellite, celsian, diopside, actinolite (Big Creek, California, USA).

Distribution: On Apex Ridge, Rockall Island, in the North Atlantic Ocean, 294 km west of St. Kilda Island, Outer Hebrides, Scotland. At the Esquire No. 8 claim, Big Creek, Fresno Co., California, USA.

Name: For BARIum and ZIRconium in the composition.

Type Material: The Natural History Museum, London, England, MI 36445.

References: (1) Young, B.R., J.R. Hawkes, R.J. Merriman, and M.T. Styles (1978) Bazirite, BaZrSi₃O₉, a new mineral from Rockall Island, Inverness-shire, Scotland. *Mineral. Mag.*, 42, 35–40. (2) (1979) *Amer. Mineral.*, 64, 241 (abs. ref. 1). (3) Alfors, J.T. and A. Pabst (1984) Titanian taramellites in western North America. *Amer. Mineral.*, 69, 358–373. (4) Hawthorne, F.C. (1987) The crystal chemistry of the benitoite group minerals and structural relations in (Si₃O₉) ring structures. *Neues Jahrb. Mineral., Monatsh.*, 16–30.