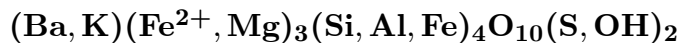


**Anandite**

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**Crystal Data:** Monoclinic or orthorhombic. *Point Group:* 2/m, m, or 2/m 2/m 2/m. Poorly developed prism faces give a hexagonal outline to cleavage flakes.

**Physical Properties:** *Cleavage:* {001}, perfect. *Hardness* = 3–4 *D*(meas.) = 3.94 *D*(calc.) = 3.94

**Optical Properties:** Nearly opaque. *Color:* Black. *Luster:* Vitreous. *Optical Class:* Biaxial (+). *Pleochroism:* Y = green; Z = brown. *Orientation:* Y = b; Z ∧ a = 8°–16°. *Dispersion:* Strong. α = 1.85(1) β = n.d. γ = > 1.88 2*V*(meas.) = n.d.

**Cell Data:** *Space Group:* C2/c or Cc. a = 5.412(5) b = 9.434(5) c = 19.953(10) β = 94°52(10)' Z = 2, or *Space Group:* Pnmn. a = 5.439(1) b = 9.509(2) c = 19.878(6) Z = 2

**X-ray Powder Pattern:** Wilagedera iron prospect, Sri Lanka. 3.320 (100), 4.995 (85), 2.490 (80), 9.92 (60), 2.716 (50), 2.681 (45), 3.430 (40)

<b>Chemistry:</b>	(1)	(2)		(1)	(2)
SiO <sub>2</sub>	25.20	24.59	Na <sub>2</sub> O	0.10	0.06
TiO <sub>2</sub>	0.28	0.08	K <sub>2</sub> O	0.93	0.24
Al <sub>2</sub> O <sub>3</sub>	4.85	0.80	F		0.12
Fe <sub>2</sub> O <sub>3</sub>	6.98		Cl		0.91
FeO	33.10	41.73	H <sub>2</sub> O <sup>+</sup>	1.98	
MnO	0.66	0.92	H <sub>2</sub> O <sup>-</sup>	0.12	
MgO	3.39	2.89	S	2.96	4.25
CaO	0.16	0.00	–O = S, (F, Cl) <sub>2</sub>	1.48	2.38
BaO	20.35	23.05	<b>Total</b>	<b>99.58</b>	<b>97.26</b>

(1) Wilagedera iron prospect, Sri Lanka. (2) Do.; by electron microprobe; Mössbauer spectroscopy indicates Fe<sup>2+</sup>:Fe<sup>3+</sup> = 1.19.

**Polymorphism & Series:** 2O, 2M<sub>1</sub>, 1M polytypes.

**Mineral Group:** Mica group.

**Occurrence:** As monomineralic veinlets and lenses in a banded magnetite deposit capped by banded magnetite-barite rock. The ore zone and associated interbedded calc-schists and gneisses are of metasedimentary origin, of approximately granulite facies grade.

**Association:** Magnetite, chalcopyrite, pyrite, pyrrhotite, barite.

**Distribution:** At the Wilagedera iron prospect, North Western Province, Sri Lanka.

**Name:** Honoring Dr. Ananda Kentush Coomaraswamy (1877–1947), the first Director of the Mineral Survey of Ceylon (Sri Lanka).

**Type Material:** n.d.

**References:** (1) Pattiaratchi, D.B., E. Saari, and T.G. Sahama (1967) Anandite, a new barium iron silicate from Wilagedera, North Western Province, Ceylon. *Mineral. Mag.*, 36, 1–4. (2) Filut, M.A., A.C. Rule, and S.W. Bailey (1985) Crystal structure refinement of anandite-2Or, a barium- and sulfur-bearing trioctahedral mica. *Amer. Mineral.*, 70, 1298–1308.