

Crystal Data: Monoclinic. *Point Group:* 2/m. As grains, to < 1 mm, the rhombic shape of which is controlled by intersecting parting and cleavage planes. *Twinning:* Lamellar twinning on {111}.

Physical Properties: *Cleavage:* {001}, perfect; parting on {111}. *Fracture:* Uneven. *Tenacity:* Brittle. Hardness = 3 VHN = n.d. D(meas.) = 8.50 D(calc.) = 8.53

Optical Properties: Opaque. *Color:* Bright bronze, tarnishing darker and duller; pale cream in polished section. *Streak:* Black, shining. *Luster:* Metallic. *Pleochroism:* Perceptible.

Anisotropism: Strong; greenish gray to yellowish brown.

R₁–R₂: (400) 43.1–45.0, (420) 44.2–46.0, (440) 45.1–47.0, (460) 45.9–47.8, (480) 46.6–48.4, (500) 47.1–49.0, (520) 47.6–49.5, (540) 48.0–49.9, (560) 48.4–50.4, (580) 48.8–50.7, (600) 49.2–51.1, (620) 49.6–51.5, (640) 50.0–51.9, (660) 50.4–52.3, (680) 50.7–52.7, (700) 51.0–53.0

Cell Data: *Space Group:* C2/m (probable). a = 11.066(1) b = 8.085(1) c = 7.965(1) β = 134.0° Z = 4

X-ray Powder Pattern: Synthetic Ni₃Bi₂S₂.

2.836 (100), 2.864 (65), 2.336 (55), 3.98 (30), 4.04 (25), 1.989 (25), 1.648 (25)

Chemistry:	(1)	(2)	(3)	(4)
Ni	30.3	26.8	29.7	26.76
Bi	60.1	63.6	50.8	63.50
Pb		trace	9.5	
S	9.1	9.2	9.6	9.74
Total	99.5	99.6	99.6	100.00

(1) Langis mine, Canada; by electron microprobe; corresponds to Ni_{3.64}Bi_{2.03}S_{2.00}. (2) Sudbury, Canada; corresponds to Ni_{3.18}Bi_{2.12}S_{2.00}. (3) Insizwa, South Africa; by electron microprobe; corresponds to Ni_{3.28}(Bi_{1.62}Pb_{0.31})_{Σ=1.93}S_{2.00}. (4) Ni₃Bi₂S₂.

Occurrence: As grains in other hydrothermal sulfide and arsenide minerals.

Association: Galena, bismuth, bismuthinite, tetradyomite, hessite, cubanite, maucherite, nickeline, sperrylite, gold, chalcopyrite, pyrrhotite, pentlandite, siegenite, bravoite.

Distribution: In South Africa, from the Insizwa Cu–Ni deposit, Waterfall Gorge, Eastern Cape, South Africa [TL], and in the Loolekop carbonatite, Phalaborwa, Transvaal. In Canada, at the Strathcona mine, Sudbury, and from the Langis mine, Casey Township, Cobalt–Gowganda area, Ontario; in the Gaspé copper mine, Quebec; and at the Gros Cap area, near Great Slave Lake, Northwest Territories. In the Noril'sk region, western Siberia; from the Karik'yavr Cu–Ni deposit, Kola Peninsula; and in the Allarechensk region, Murmansk, Russia. At the Zinkwand mine, Schladminger, Styria, Austria. From Nebral, Málaga Province, Spain. In the Rakha copper deposit, Bihar, India. From the Ban Phuc Ni–Cu–PGE deposit, northwest Vietnam. At Kambalda, 56 km south of Kalgoorlie, Western Australia.

Name: After Professor Robert Lüling Parker (1893–1973), Swiss Federal Institute of Technology, Zurich, Switzerland.

Type Material: n.d.

References: (1) Michener, C.E. and M.A. Peacock (1943) Parkerite (Ni₃Bi₂S₂) from Sudbury, Ontario: redefinition of the species. *Amer. Mineral.*, 28, 343–355. (2) Peacock, M.A. and J. McAndrew (1950) On parkerite and shandite and the crystal structure of Ni₃Pb₂S₂. *Amer. Mineral.*, 35, 425–439. (3) Petruk, W., D.C. Harris, and J.M. Stewart (1969) Langisite, a new mineral, and the rare minerals cobalt pentlandite, siegenite, parkerite and bravoite from the Langis mine, Cobalt–Gowganda area, Ontario. *Can. Mineral.*, 9, 597–616. (4) Fleet, M.E. (1973) The crystal structure of parkerite (Ni₃Bi₂S₂). *Amer. Mineral.*, 58, 435–439. (5) Brower, W.S., H.S. Parker, and R.S. Roth (1974) Reexamination of synthetic parkerite and shandite. *Amer. Mineral.*, 59, 296–301. (6) Criddle, A.J. and C.J. Stanley, Eds. (1993) Quantitative data file for ore minerals, 3rd ed. Chapman & Hall, London, 418.

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