Strontiochevkinite $(Sr, La, Ce, Ca)_4(Fe^{2+}, Fe^{3+})(Ti, Zr)_4Si_4O_{22}$

Crystal Data: Monoclinic. *Point Group:* $2/m$. As rounded grains, up to 1.5 mm. *Twinning:* Thick parallel or interpenetrating twins seen in polished section.

Physical Properties: Hardness = ∼5 D(meas.) = n.d. D(calc.) = 5.44

Optical Properties: Opaque. *Color:* Flesh-pink; dark gray in reflected light, may show deep red internal reflections. *Luster:* Submetallic. *Anisotropism:* Strong, in shades of gray.

Cell Data: *Space Group:* $P2_1/a$. $a = 13.56$ $b = 5.70$ $c = 11.10$ $\beta = 100.32°$ $Z = 2$

X-ray Powder Pattern: Near Sarambi, Paraguay.
3.01 (100), 1.97 (75), 2.19 (70), 2.51 (40), 2.73 (30), 2.85 (25), 3.21 (10)

Chemistry:

	(1)		(1)
SiO_2	20.45	Cr_2O_3	0.04
TiO_2	23.16	FeO	6.02
ZrO_2	10.30	MnO	0.08
Al_2O_3	0.11	CaO	2.05
Y_2O_3	0.05	SrO	19.60
La_2O_3	9.18	BaO	0.38
Ce_2O_3	9.35	Na_2O	0.02
RE_2O_3	0.05	Total	100.84

(1) Near Sarambi, Paraguay; UO_2, ThO_2, Nb_2O_5, PbO, MgO, K_2O, all $< 0.01\%$; corresponds to $(Sr_{2.17}Ce_{0.66}La_{0.65}Ca_{0.42}Ba_{0.03}Na_{0.01})_{\Sigma=3.94}(Fe^{2+}_{0.96}Mn_{0.01})_{\Sigma=0.97}(Ti_{3.26}Zr_{0.96}Al_{0.03}Cr_{0.01})_{\Sigma=4.26}Si_{3.91}O_{22}$.

Occurrence: In the more mafic bands of fenite dikes formed radially around carbonatite plugs.

Association: Sanidine, aegirine, nepheline, hematite, zeolites, strontian loparite, lamprophyllite.

Distribution: In the Sarambi carbonatite complex, about 27 km northeast of Sarambi, Paraguay.

Name: For the *strontium* content and relation to *chevkinite*.

Type Material: The Natural History Museum, London, England, 1984,482; National Museum of Natural History, Washington, D.C., USA, 161154.

References: (1) Haggerty, S.E. and A.N. Mariano (1983) Strontian-loparite and strontio-chevkinite: two new minerals in rheomorphic fenites from the Paraná basin carbonatites, South America. Contr. Mineral. Petrol., 84, 365–381. (2) (1984) Amer. Mineral., 69, 1192–1193 (abs. ref. 1).