

Crystal Data: Monoclinic. *Point Group:* n.d. In grains, prismatic with pyramidal terminations, striated parallel elongation, to 0.2 mm.

Physical Properties: Hardness = n.d. VHN = 882–900 (100 g load). D(meas.) = 3.75(1) D(calc.) = 3.77

Optical Properties: Opaque. *Color:* Black. *Luster:* Vitreous to resinous.

Optical Class: Biaxial. *Anisotropism:* Distinct.

R₁–R₂: (440) 14.7–15.8, (460) 14.6–15.7, (480) 14.5–15.7, (500) 14.5–15.8, (520) 14.6–15.8, (540) 14.7–16.0, (560) 14.8–16.2, (580) 14.8–16.2, (600) 15.0–16.3, (620) 15.1–16.4, (640) 15.2–16.5, (660) 15.2–16.5

Cell Data: *Space Group:* n.d. $a = 33.80(5)$ $b = 4.578(5)$ $c = 19.99(3)$ $\beta = 93.40(5)^\circ$ Z = 18

X-ray Powder Pattern: Koscheka deposit, Uzbekistan.

2.92 (100), 3.70 (80), 1.682 (65), 1.650 (55), 2.60 (50), 1.692 (50), 2.192 (48)

Chemistry:

	(1)	(2)
TiO ₂	61.7	61.52
Fe ₂ O ₃	0.7	
V ₂ O ₃	36.2	38.48
Cr ₂ O ₃	1.2	
Total	99.8	100.00

(1) Koscheka deposit, Uzbekistan; by electron microprobe, average of ten grains, V³⁺ confirmed by titration, total Fe as Fe₂O₃; corresponds to (V_{1.90}³⁺Fe_{0.04}Cr_{0.01})_{Σ=1.95}Ti_{3.05}O_{9.09}. (2) V₂Ti₃O₉.

Polymorphism & Series: Dimorphous with schreyerite.

Occurrence: In veins cutting siliceous schists.

Association: Chlorite, pyrite, rutile.

Distribution: From the Koscheka uranium deposit, Auminzatau Mountains, central Kyzylkum region, Uzbekistan.

Name: For the Kyzylkum Desert, Uzbekistan, where it was first found.

Type Material: Mineralogical Museum, St. Petersburg University, 17408; Mining Institute, St. Petersburg, Russia, 1197/1.

References: (1) Smyslova, I.G., A.I. Komkov, V.V. Pavshukov, and N.V. Kuznetsova (1981) Kyzylkumite V₂Ti₃O₉ – new mineral of vanadium and titanium of a group of complex oxides. Zap. Vses. Mineral. Obshch., 110, 607–612 (in Russian). (2) (1982) Amer. Mineral., 67, 855–856 (abs. ref. 1). (3) (1982) Mineral. Abs., 33, 309 (abs. ref. 1).