Yarlongite $(Cr_4Fe_4Ni)C_4$

Crystal Data: Hexagonal. *Point Group*: 6*mm*. As irregular grains to 0.06 mm.

Physical Properties: *Cleavage*: Perfect on {001}. *Tenacity*: Brittle. *Fracture*: Conchoidal. Hardness = 5.5-6 D(meas.) = n.d. D(calc.) = 7.19

Optical Properties: Opaque. *Color*: Steel-gray; grayish white in reflected light. *Streak*: Black. *Luster*: Metallic.
Optical Class: Medium anisotropy.
R: (470) 42.74, (546) 46.70, (589) 48.59, (650) 51.10

Cell Data: *Space Group*: $P6_3mc$. a = 18.839(2) c = 4.4960(9) Z = 6

X-Ray Diffraction Pattern: Calculated pattern.
6.920 (100), 2.023 (98), 3.596 (55), 1.798 (54), 2.105 (50), 1.825 (47), 2.493 (36)

Chemistry:

	(1)
C	9.22
Fe	40.60
Ni	8.54
Cr	41.38
Total	99.74

(1) Luobasha mine, Tibet Autonomous Region, China; average electron microprobe analysis; corresponding to $(Cr_{4.14}Fe_{3.79}Ni_{0.76})_{\Sigma=8.69}C_4$.

Occurrence: In heavy mineral separates from an ophiolitic podiform chromitite.

Association: Cohenite, tongbaite, khamrabaevite, qusongite, diamond, moissanite, wüstite, iridium ("osmiridium"), osmium ('iridosmine"), periclase, chromite, native iron, native nickel, native chromium, forsterite, Cr-rich diopside, intermetallic compounds Ni-Fe-Cr, Ni-Cr, Cr-C.

Distribution: From the Luobasha mine, Qusum County, Shannan Prefecture, Tibet Autonomous Region, People's Republic of China.

Name: From the first part of the name of the river, *Yarlong* Zangbo River, near the Luobusha ophiolite.

Type Material: Geological Museum of China (M11650) and at the Institute of Geology, Chinese Academy of Geological Sciences, Beijing (45).

References: (1) Shi, N., W. Bai, G. Li, M. Xiong, Q. Fang, J. Yang, Z. Ma, and H. Rong (2008) Yarlongite: A new metallic carbide mineral. Acta Geologica Sinica, 83, 52-56.