Crystal Data: Monoclinic. *Point Group*: 2/*m*. As anhedral grains to 0.5 mm and granular aggregates to 3 mm in concentrically zoned, ovoid nodules.

Physical Properties: *Cleavage*: Good on {100} and imperfect on {001}. *Tenacity*: Brittle. *Fracture*: Uneven. Hardness = ~6 D(calc.) = 4.483 Nonfluorescent.

Optical Properties: Translucent. *Color*: Brownish black, dark gray in reflected light. *Streak*: Brown. *Luster*: Vitreous.
Optical Class: Biaxial (+). α = 1.778(8) β = 1.783(8) γ = 1.805(8) 2V(meas.) = 40(10)° 2V(calc.) = 51.5° *Pleochroism*: Strong, *X* = colorless, thicker ones, *Y* = medium dark brown, *Z* = nearly colorless or brownish. *Absorption*: $Y > Z \approx X$. *Dispersion*: Noticeable, inclined. *Anisotropy*: Very weak.
R_1-R_2: (470) 8.3-8.6, (546) 8.1-8.4, (589) 8.0-8.3, (650) 7.9-8.1

Cell Data: *Space Group: P*2_1/*m*. *a* = 8.9652(4) *b* = 5.7306(2) *c* = 17.6770(9) β = 116.053(6)° Z = 2

X-Ray Diffraction Pattern: Mochalin Log REE deposit, Chelyabinsk Oblast', South Urals, Russia.
3.009 (100), 3.523 (99), 15.85 (83), 4.665 (68), 3.116 (56), 2.874 (55), 2.640 (54), 8.03 (41)

Chemistry:

	(1)		(1)
CaO	4.81	FeO	[3.35]
MnO	0.92	Fe_2O_3	[3.78]
La_2O_3	22.16	TiO_2	0.19
Ce_2O_3	20.05	SiO_2	27.35
Pr_2O_3	1.09	F	0.23
Nd_2O_3	2.18	H_2O	[1.54]
MgO	1.38	–O = F	0.10
Al_2O_3	11.25	Total	101.50
ThO_2	0.32		

(1) Mochalin Log *REE* deposit, Chelyabinsk Oblast', South Urals, Russia.; average electron microprobe analysis, Fe^{3+}:Fe^{2+} from charge balance, H_2O by stoichiometry; corresponds to $(Ca_{0.94}Th_{0.01}La_{1.49}Ce_{1.34}Nd_{0.14}Pr_{0.07})_{\Sigma=3.99}(Al_{2.42}Fe^{3+}_{0.52}Fe^{2+}_{0.51}Mg_{0.38}Mn_{0.14}Ti_{0.03})_{\Sigma=4.00}Si_{4.99}O_{20}[(OH)_{1.87}F_{0.13}]$.

Mineral Group: Gatelite supergroup.

Occurrence: Nodules of the deposit have a contact metasomatic origin, probably formed during fenitization of granitic pegmatites in the exocontact of an alkaline intrusion.

Association: Ferriperbøeite-(La), allanite-(Ce), allanite-(La), bastnäsite-(Ce), bastnäsite-(La), ferriallanite-(Ce), ferriallanite-(La), ferriperbøeite-(Ce), perbøeite-(Ce), törnebohmite-(Ce), törnebohmite-(La).

Distribution: At the Mochalin Log *REE* deposit, 14 km north of Kyshtym, Chelyabinsk Oblast', South Urals, Russia.

Name: The suffix indicates the La-analogue of *perbøeite*-(Ce).

Type Material: A.E. Fersman Mineralogical Museum, Russian Academy of Sciences, Moscow, Russia (5253/1; 96484).

References: (1) Kasatkin, A.V., N.V. Zubkova, I.V. Pekov, N.V. Chukanov, R. Škoda, Y.S. Polekhovsky, A.A. Agakhanov, D.I. Belakovskiy, A.M. Kuznetsov, S.N. Britvin, and D.Y. Pushcharovsky (2020) The mineralogy of the historical Mochalin Log REE deposit, South Urals, Russia. Part I. New gatelite-group minerals ferriperbøeite-(La), $(CaLa_3)(Fe^{3+}Al_2Fe^{2+})[Si_2O_7][SiO_4]_3O(OH)_2$ and perbøeite-(La), $(CaLa_3)(Al_3Fe^{2+})[Si_2O_7][SiO_4]_3O(OH)_2$. Mineral. Mag., 84, 593-607.