

ABOUT THE FIRST LARGE PLATINUM NUGGET FROM RUSSIA

Andrey L. Chudnov

geologist, Vysokogorskiy mining and processing plant, Nizhniy Tagil, Ural, chudnov_andrei@mail.ru

First large platinum nugget was found in early July 1827, in the Middle Urals, near the Nizhny Tagil zavod (“zavod” = mining area), that belonged to the privy councillor Nikolay Nikitich Demidoff.

This discovery was unusual in many ways. Its size was unusual: the nugget was the biggest one of ever found at the time.

The place of its discovery was unusual – in a remote area from the known platinum placers. In general, platinum from the Nizhny Tagil region placers was discovered only two years prior to this find – in July 1825. It was described in the “Gornyi Zhurnal (Mining Magazine)”: “top-quality metal from European part of the Urals in the gold-bearing Sukho-Visim mine”. This nugget was unearthed within the modern boundaries of Nizhny Tagil town.

And, the most important thing, it was the first ever found.

The nugget, due to its uniqueness, had travelled to the capital pretty quickly. Its detailed description was published in the “Gornyi Zhurnal (Mining Magazine)” in August 1827.

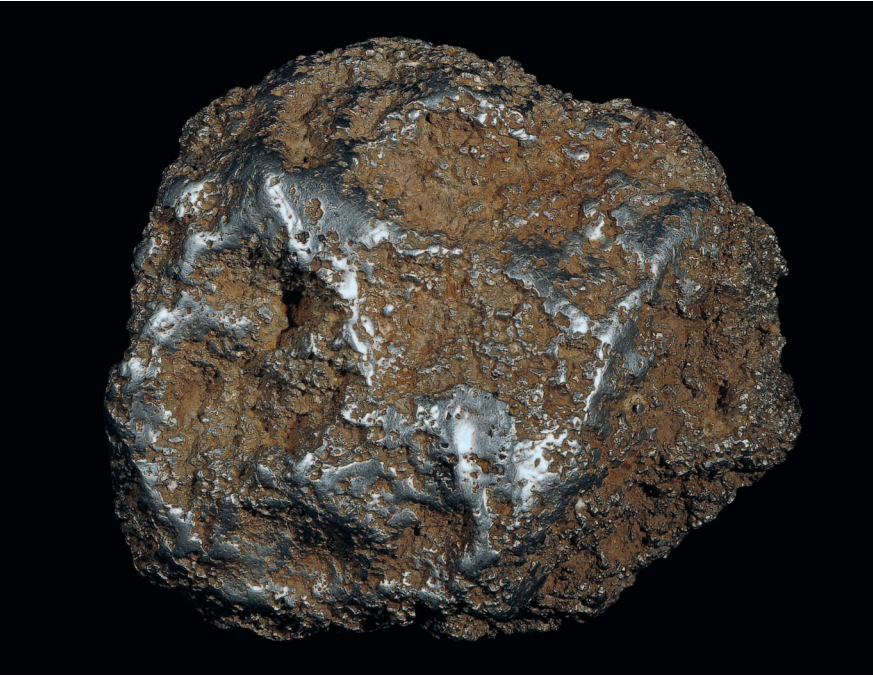
“In June 1827, in the Nizhny Tagil zavod, they found two platinum nuggets; one of them, due to its size, should be counted as the only of the kind: it weighs – the foreigners will hardly believe – 10 pounds and 54 zolotniks (4.325 kg – ACh.). This boulder looks like massive substance of irregular spheroidal shape with many hills and hollows; its length is 4 inches and 2 lines (10.67 cm – ACh.), its width – 3 inches and 8 lines (9.65 cm – ACh.), and its thickness – 2.5 inches (6.35 cm – ACh.), and the longest circumference – 1 foot and 1 inch, by Imperial (English) units system. Its color – pale-led, close to silver; the surface of emerging areas is worn-out and smooth, as if was forged, and in hollow areas the surface is granular, with remnants of iron-bearing red clay... This nugget is found in a clay layer during mining for brick-making in the region of Nizhny Tagil zavod”.

1. View of the Nizhny Tagil zavod village. Painting "Walking on Lisjei Gore (Fox Mountain)" by Isaac F. Khudoyarov in 1830–1840 (canvas + oil). © The Nizhny Tagil Museum-Reserve "Gornozavodskoy Ural". Published with kind permission of the Nizhny Tagil Museum-Reserve "Gornozavodskoy Ural".



2. The Demidov platinum (isoferroplatinum) nugget. 10.7 x 9.4 x 6.0 cm, 4 313.9 g. The Diamond Fund of the Russian Federation, No. 9. © The Gokhran of the Russian Federation. Published with kind permission of the Gokhran of the Russian Federation. Photo: Michael B. Leybov.

For more information about platinum nuggets collection in the Diamond Fund of the Russian Federation see article by Vasiliiy N. Orlov (Orlov, 2010).



Over eleven years (the nugget was already not the heaviest one at that time) the Grigoriy E. Shchurovskiy, professor of Moscow University, had published the refined data about its locality of discovery. He wrote, that the nugget was found “on the eastern slope of the Urals, on the right riverbank of Tagil river, 1.5 versts (1.6 km) away from the Nizhny Tagil zavod, close to the so-called Red rock...”. Another description read: “in the red clay at a depth of 1.5 arshins (approximately 1 m)”. In 1890, this description was included in an essay “Platinum” by Dmitriy N. Mamin-Sibiryak. He also added that he saw this nugget depicted among papers of local lore enthusiast Dmitriy P. Shorin. It means that one of the Nizhny Tagil clerks sketched the nugget prior to its shipment to St.-Petersburg. Possibly, this drawing is still kept in an archive. It would be interesting to have a look at this sketch, particularly in scope of the nugget dimensions given: “6 cm long and 4.5 cm wide”. This is significantly less than its actual size. It is still a mystery – whether Dmitriy N. Mamin-Sibiryak saw the very nugget depicted or not. In any way, in 1827 this find was shipped to the capital, but was delivered there indirectly. First, it was chemically “preliminarily examined”, by college assessor Helm.

Chemical analysis of platinum nuggets – is a infrequent analysis. Even nowadays it is almost non-applicable in order not to ruin natural rarity. One can believe that platinum “nuggets” as well as platinum from the placers (or the “sand” platinum) contain 70–90% of platinum with the rest consisting of impurities of iron, copper, nickel, iridium and others.

The “pure platinum content” in that nugget was determined to be “up to 50%; but the precise definition of platinum or other metals was not made due to a lack of time”. Going forward, we have to men-

tion, that the “precise definition” was not made till nowadays. Later there was the capital. The uniqueness of the rarity was appreciated in St.-Petersburg at the highest level. Via Count Egor F. Kankrin, the Minister of Finance of the Russia, it was presented to “His Highest Imperial Majesty”. We can only guess how much impressed was the Emperor. Probably he was surprised. This small, fist-size, piece of metal had impressive weight. When observing, one should hold it with two hands. Nothing similar was ever found in the world “at that time”. According to the scientist opinion, there were “only two pieces of native platinum” known, originated from Equatorial Colombia: one – 15 zolotnik (64 gram – ACh.), which is stored in the Berlin Museum, and another – 1 1/3 pounds (546 gram – ACh.), is “an important artefact at the Royal museum in Madrid”. Platinum from Brazil was all “sandy”. After inspecting the rarity, Nickolas I ordered to get the nugget back “to its possessor, the owner of Nizhny Tagil Mine, privy councillor Demidoff; however according to the highest permission” the nugget “should not leave Russia, as being the State Treasure”.

The Royal expectations were met: “This boulder” since 1831 was stored in the mineralogical collection of the Cadet Corps Mining Museum which later became the Mining Museum at the St.-Petersburg Mining Institute. James Dickson, esq., who visited St.-Petersburg and published his notes in Philadelphia at the “Monthly American Magazine of Geology and Natural Science”, saw the nugget at the Museum. In the article “On silver, gold and platinum of Russia” Dickson writes: “Young Demidoff (obviously, Anatoliy – ACh.) was still visiting Italy, but I was attentively accepted by his relative and agent Danilo. His (Demidoff’s – ACh.) office contains many attractive specimens of platinum, many of which are intended to