1. Gold nugget Pigeon. Diamond Fund # 310. Weight 3 480.6 grammes, 21.3 x 15.5 x 2.8 cm.

Extracted in 1938, Southern Mining Administration, Dalstroi Trust. Placer operations in the lower part of River Orotukan (tributary of the River Kolyma), Yagodninskiy District, Magadan Oblast.

The shape is tabular, angular with even and locally carved outlines, deformed by ridge-like feature 8.5 x 4.5 x 0.7 cm, lateral tabular outfit and elongated hole. At its wide back is the flattened-elongated triangular protuberance. It reminds a bird with a spread wing. The nugget is well rounded. The surface is smoothened, weakly wavy, irregularly covered by imprints of needle quartz crystals.



GOLD NUGGETS FROM MAGADAN AND CHUKOTKA AT THE *DIAMOND FUND* EXHIBITION

Vasilii N. Orlov, Gokhran of Russia, vasil.orlov2010@yandex.ru

Photo: Michael B. Leybov

This paper of Vasiliy N. Orlov, our author and employee of Gokhran of Russia, is last in a series of his four papers, dedicated to gold nuggets at the *Diamond Fund* exhibition (Orlov, 2008; Orlov and Taishcheva, 2013; Orlov, 2017).

Everyone, who visited the *Diamond Fund* exhibition in the Moscow Kremlin, for sure remembers its central showcase with nuggets of gold and platinum, found in Russian deposits during more than 150 years. Obviously, it is just a small part of gold mined in Russia during this period. This collection has 101 nuggets, each of which is a unique natural creature, combining unrepeatable and odd shape, characteristic colour and heavy weight. Many of them have personal names in addition to inventory numbers.

We published descriptions and photographs of these nuggets in groups based on regional distribution and gradually moving from the Urals, where first finds were made, to the East. This brought us to the last topic of the story, to the Russian Northeast.

Editorial

The Magadan Oblast yielded a great deal of unique nuggets. The Dalstroi Trust started its victorious march across the Northeast of the USSR from here. First, it was Magadan Oblast, then it continued from right bank of River Lena to the northern and eastern limits of Chukotka and northern part of modern Khabarovsk Krai, including the Shantar Islands.

The first place in a row of Magadan nuggets belongs to the Southern Mining Administration, located in the village of Orotukan. In 1931, geologists of the Second Kolyma Expedition under the leadership of V.A Tsaregradskiy came to the mouth of the River Orotukan and founded a camp. A village was later built at this location. It was Orotukan 1. During placer mining the village was relocated upstream above the placer. The modern village is on the right bank in the middle part of the River Orotukan. Nugget # 310, named *Golub' (Pigeon)*, was extracted in 1938 (*Fig.* 1).

We then move to the Shturmovoi Operations and Maxim Gorky Northern Mining Administration in the village of Khatynnakh, Yagodninskiy District, Magadan Oblast. Shturmovoi Operation was established in 1934 at one of the richest placer gold deposits of the River Mylga, a right tributary of the lower part of River Taksan, which is a left tributary of River Kolyma, in its upper part. Economic placer reserves were discovered along the Creek Shturmovoi, a right tributary to the middle part of River Chek-Cheka (right tributary in the lower part of River Mylga) and then along the entire valley of River Chek-Cheka to River Mylga. In 1935, a village was already under construction in this area.

Famous writer Varlam Shalamov wrote in one of his letters: "There were nuggets. We could collect them and had to pass to the mining supervisor, if their weight was above 50 grammes. Smaller nuggets were dumped into a wheelbarrow. There were days when we had up to twenty nuggets". Varlam Shalamov witnessed a find of the famous nugget (#414, Fig. 2), which was named Mephistopheles for its incredible shape. This nugget

The *Diamond Fund* exhibition was opened in 1967 on the territory of the Moscow Kremlin. It is a subdivision of the *Gokhran* of Russia, the Federal Government Institution "State Institution on Formation of the State Fund of Precious Metals and Precious Stones of the Russian Federation, Storage, Release and Use of Precious Metals and Precious Stones under the Ministry of Finance of the Russian Federation" (according infomation on official *Gokhran* website – http://www.gokhran.ru/en/)

2. **Gold** nugget *Mephistopheles*. Diamond Fund # 414. Weight 20.25 grammes, 2.9 x 1.9 x 0.8 cm. Extracted on 4 March 1944, Shturmovoi Operations, Northern Mining Administration, Dalstroi Trust, Yagodninskiy District, Magadan Oblast. The shape is flattened-elongated, with smooth and abruptly curvilinear outlines. In cross-projection, it is lens-shaped. In plan view are the three lateral protuberances: two arcuately bent and sharpened and one lump-shaped. On the front side are the smoothened arcuate ridge-like feature and several small concave depressions. Nugget is well rounded. Its surface is smooth, with cavernous fragments.



15. Gold nugget. Diamond Fund # 339.

Weight 2 284.2 grammes, 12.7 x 10.2 x 5.7 cm.

Extracted in 1946, Pioneer Operation, Tenka Mining Administration, Dalstroi Trust. Placer of Creek Klyuch, a tributary of Creek Tenistyi (tributary of River Tenka that joins Kolyma), Tenka District, Magadan Oblast.

The shape is lumpy, elongated and flattened, distorted oval in plan. It is lensoidal in long- and cross-projections. The nugget is a fragment of the goldquartz vein. Gold fills a complex system of mutually cross-cutting cracks in quartz. Nugget is well rounded. The surface is smooth, locally wavy.



16. Gold nugget. Diamond Fund # 424. Weight 2 957.3 grammes, 15.0 x 9.5 x 6.0 cm.

Extracted in 1945, Pioneer Operation, Tenka Mining Administration, Dalstroi Trust. Placer of Creek Klyuch, a tributary of Creek Tenistyi (tributary of River Tenka that joins Kolyma), Tenka District, Magadan Oblast.

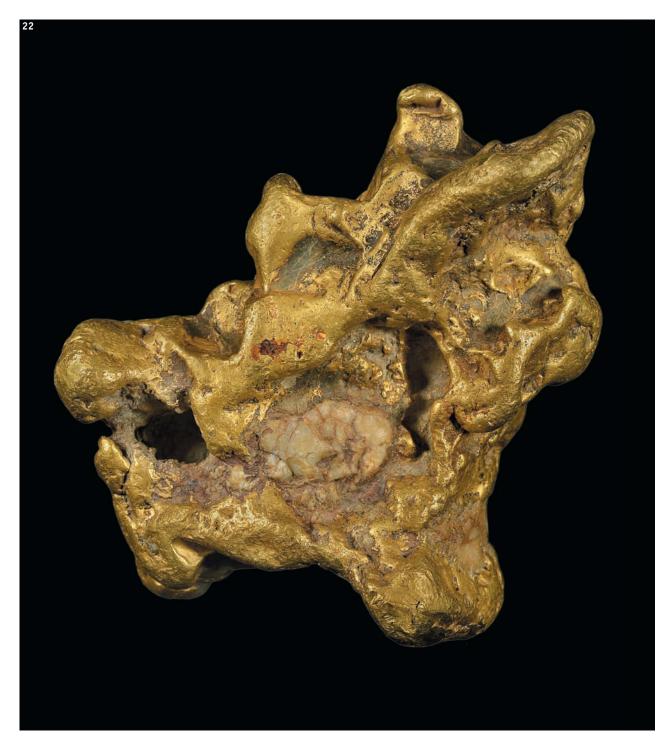
The shape is elongated and flattened. It is a non-equilateral quadrangle with rounded angles and smooth outlines. The nugget is a fragment of the gold-quartz vein. Gold fills a diverse system of cracks in quartz, appearing on surface of the nugget as subparallel curvilinear veinlets of diverse width, dissemination and large rivet amebous spots. Nugget is well rounded. The surface is smoothened, slightly wavy and locally cavernous.



22. **Gold** nugget. Diamond Fund # 865.

Weight 2 333.4 grammes, 12.6 x 9.8 x 6.5 cm.

Extracted in 1963, Komsomolskiy Operation. A placer in the middle of River Ichuveem, Chauna District, Chukotka Autonomous District. The shape is irregular, angular-lumpy, slightly flattened-elongated, with coarse, but smooth curvilinear ridge features (1.5–3.2 × 0.1–0.3 cm) and lumpy lateral outfits. Nugget is semi-rounded. The surface is coarsely cavernous, locally hilly. The caverns are of diverse shape: cup-like and cavernous. The outstanding parts are rounded. On the surface are the imprints of quartz druse crystals with rounded ribs.



gave a name to this village. It became a base of the Komsomolskiy mining enterprise to mine Ichuveem placer gold and its tributaries. Nugget # 865 (*Fig.* 22) was recovered from this placer.

All nuggets displayed at the *Diamond Fund* exhibition are the best natural memorial to all people who discovered and developed placers and their followers. The huge territory of our country from the Urals to Chukotka has been covered owing to their forces and desire for prospecting of new deposits and work at the edge of what's humanly possible. In is impossible to imagine, which powerful force drew them to impassable taiga, mountains and hills, and cold rivers, creeks, and swamps. This force and human energy are recorded in each displayed nugget at the *Diamond Fund* exhibition.

Acknowledgements

The publisher is heartfully grateful for cooperation and permission to publish a series of articles on precious metal nuggets from the *Diamond Fund* exhibition. In particular, we thank Andrey V. Yurin, Director of Gokhran, and Alexander L. Nikolaev, Head of Gokhran Department.

Preparation of each article was accompanied by photo sessions at the *Diamond Fund* of Russia. During this work, we

received a great deal of help from the employees of the *Diamond Fund* – Tatiana A. Moskvina, Evgeniy G. Gapanyuk, Vitaly E. Venzenko, Yuriy V. Strokov and Elena N. Makarova. We are grateful to all of them for provided help.

References

- *Klepikov V.N.* (1992) The Largest Gold Nuggets from Placers in Northeastern Russia (basic information) // Kolyma, 1992, nos. 10–11, pp. 14–20 (in Russian).
- Kolyma district. Brockhaus and Efron Encyclopedic Dictionary. St. Petersburg, **1809-1907** (in Russian).
- Kolyma Technical Bulletin, nos. 7, 8, Severovostokzoloto, Magadan, **1978** (in Russian)
- *Orlov V.N.* (2008) The Oldest Gold Nuggets from the *Diamond Fund* of Russian Federation. Mineral Observer // Mineralogical Almanac, vol. 13c, pp. 4–17.
- *Orlov V.N., Taishcheva I.B.* (2013) Uralian Gold Nuggets of the 20th Century in the *Diamond Fund* of Russia. Mineral Observer // Mineralogical Almanac, vol. 18, issue 1, pp. 44–66.
- *Orlov V.N.* (2017) Gold Nuggets of Siberia at the Exhibition of the *Diamond Fund*. Mineral Observer // Mineralogical Almanac, vol. 22, issue 1, pp. 8–37.

