

DIAMONDS: A SKETCH PORTRAIT (History of discovery of the Russian deposits and their genesis)

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1. **Diamond** (0.7 x 0.6 cm)
in diamond-bearing eclogites.
Udachnaya pipe, Yakutiya, Russia.
OJSC ALROSA.
Photo: M.A. Bogomolov.

2. **Diamond** (1.0 x 0.8 cm)
in diamond-bearing eclogites.
Udachnaya pipe, Yakutiya, Russia.
OJSC ALROSA.
Photo: M.A. Bogomolov.

Diamond is one of the most attractive minerals, both for jewellers and researchers. Not many people have challenged its title as the king of precious stones, the standard of hardness and beauty. Being just a carbon in its idealized chemical formula and having a very simple crystalline structure, it nevertheless possesses many amazing crystallochemical features and physical properties, not typical for other minerals. For instance, what other natural crystalline matter has a polymorphic variation with mineral hardness varying through the entire Mohs scale, e.g., from “10” in diamond to “1” in graphite? Diamond is an indicator of unusual mineral formation conditions. Our understanding of where it can form is in constant evolution. The intrigues surround a possibility of its synthetic production! It is not surprising that vast and diverse information was accumulated during the history of its research, and it continues to grow quickly. In this article, we attempted to sketch a portrait of this amazing mineral, including a limited information about its mineralogy, genesis and, especially, facts regarding the discovery history of the Russian diamond deposits.

At present, Russia is one of the leading diamond producers in the world. It is among the top 3 countries based on volumes of production and possesses the largest reserves, discovered not only in Siberia, but also in the European part of the country, as became apparent during the last decades. The two diamond provinces in Russia are in the Yakutia and Arkhangelsk areas. Studying the dia-





3. **Diamond**
(1.0.6 x 0.4 cm) in
kimberlite.
Kimberly, South
African Republic.
Fersman
Mineralogical
Museum RAS,
275172.

Photo:
M.B. Leybov.

4. **Diamond**
(0.8 x 0.6 cm) in
kimberlite. Orange
river, South African
Republic. Fersman
Mineralogical
Museum RAS,
30101. Photo:
M.B. Leybov.

5. **Diamond** crystals
from the Arkhangelsk
pipe. Photo is
presented by the
"SeverAlmaz" company.



monds and their deposits, especially their genesis, is traditional for Russian mineralogy. For this reason, we start with a brief review of modern ideas about genetic diversity of diamond in nature (Garanin, 2010).

Genetic types of diamond deposits and occurrences

Only several decades ago, the scientists firmly believed that all significant diamond deposits are related to kimberlite and lamproite rocks, which usually form explosive pipes. The existence of other genetic types (for examples, diamondiferous meteorites) was, of course, known, but they were considered as completely exotic and only of scientific significance. During the last fifty years, new information was collected, suggesting that genetic diversity of diamond deposits is much wider.

#28 320.70 ct.



#29 342.57 ct.



Уникальные якутские алмазы Unique Diamonds from Yakutia, Russia



#30
298.48 ct.



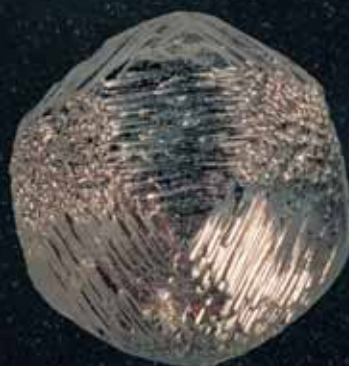
#31
232.10 ct.

Фото: Михаил Лейбов
Photo: Michael Leybov

#33 101.11 ct.



#32
167.42 ct.

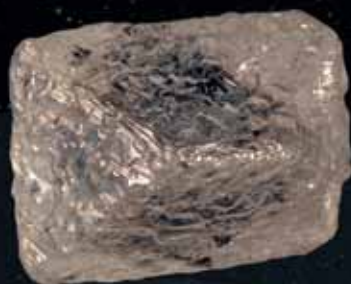


#34
105.98 ct.



Diamond Fund of the Diamond and Jewellery
Алмазный фонд Гюхрана России, State Reserve (GOKHRAN) of Russia (AF)

#37 44.62 ct.



#35 106.54 ct.



#36
76.53 ct.

