THE DIAMONDS

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Diamond

- the firmest substance on the Earth.
- is the crystal updating of pure carbon.

History:

The name *diamond* is derived from the ancient Greek *αδάμας (adámas*), "proper", "unalterable", "unbreakable, untamed". Diamonds are thought to have been first recognized and mined in India, where significant alluvial deposits of the stone could be found many centuries ago along the rivers Penner, Krishna, and Godavari.

Identification:

Molar mass - 12.01 $g \cdot mol^{-1}$

Color - Typically yellow, brown or gray to colorless. Less often blue, green, black, translucent white, pink, violet, orange, purple and red.

Crystal habit - Octahedral

Crystal system - Isometric-Hexoctahedral

Fracture - Conchoidal (shell-like)

Mohs scale – hardness 10

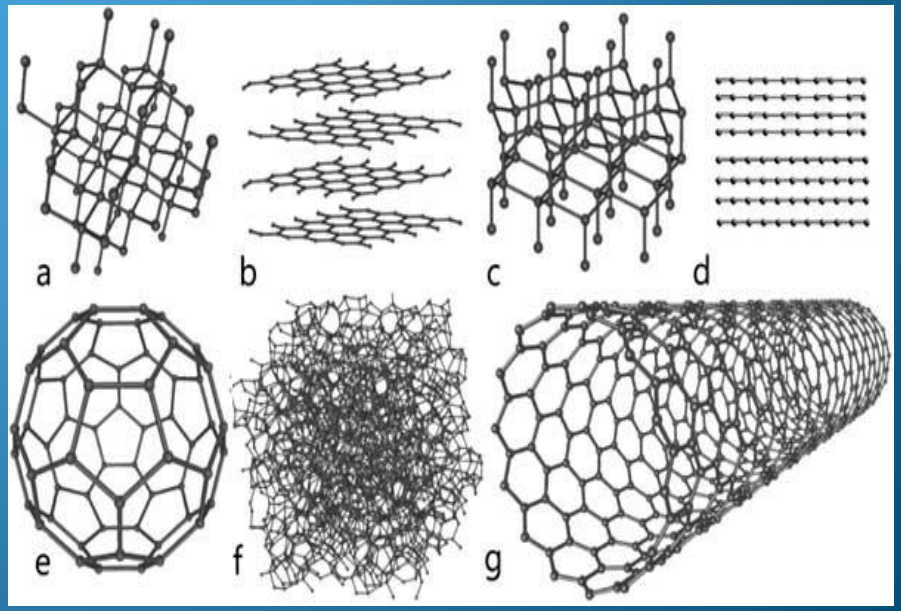
Streak – Colorless

Specific gravity - 3.52±0.01

Density - 3.5–3.53 g/cm^3

Optical properties - Isotropic

Dispersion - 0.044

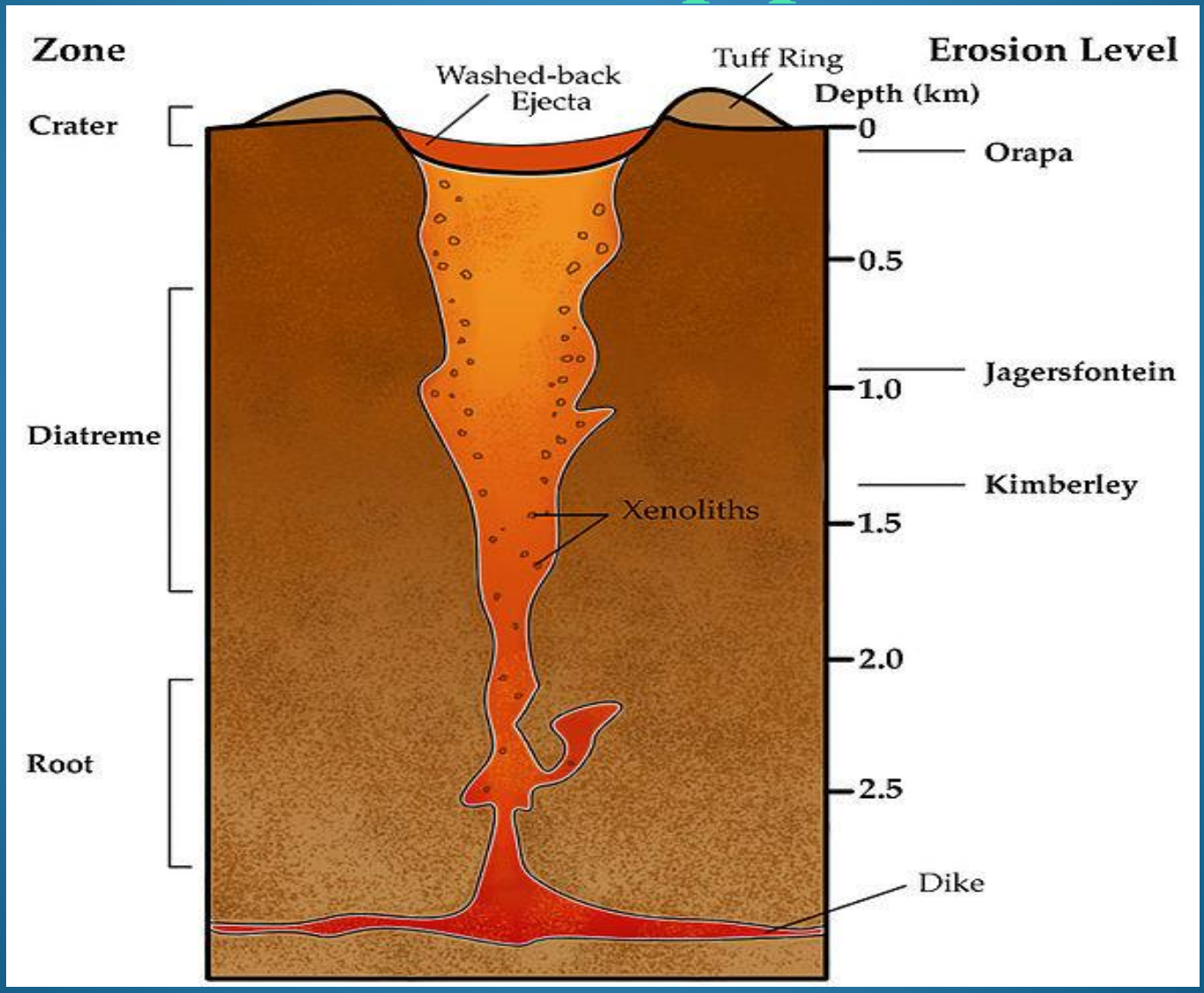


Formation

The conditions for diamond formation to happen in the lithospheric mantle occur at considerable depth corresponding to the requirements of temperature and pressure. These depths are estimated between 140 and 190 km though occasionally diamonds have crystallized at depths about 300 km as well.

Also diamonds formed in diamantiferous kimberlites and volcanic pipe.

Schematic diagram of a volcanic pipe



Where and how to extract diamonds?

Ordinary diamonds are and extracted worldwide in the special volcanic breed, named a kimberlite.

Now diamonds are extract from two types of deposits: radical (kimberlites and lamproite pipes) and secondary – scatterings.

The main center of extraction there were South African countries and minor - Brazil.

Diamantiferous kimberlites pipe:

Yakutia

Diamond in a kimberlite pipe:

The well-known diamonds:

“Yellow diamond of Tiffani”

“The princess"

“Malt liquor of Rods"

“The miner”

Now you know:

- About a mineral Diamond
- Its History
- Identification
- Formation
- Where and how to extract diamonds?
- The well-known diamonds

Thanks for your attention!