

Carbon-bearing materials found in volcanic basalt on surface at Shimonoseki, Japan

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The present paper is summarized as follows:

1) First example of carbon-bearing materials in volcanic rocks on surface is reported on phlogopites in Shimonoseki-shi, Yamaguchi, Japan.

2) Carbon-bearing materials are relicts of melting of basalt to produce phlogopite crystal in druses of basalt.

3) Origin of carbon is considered to be calcites in deeper places transported by meteoritic impacts at first, which are broken by magmatic melting.

4) Carbon-bearing micro-grains with spherule texture on phlogopite plates are formed as gas explosive and quenched processes during high-temperature formation with fluids of carbon dioxides.