Reconstruction of Middle Miocene Neba volcano, Neba village, Nagano Pref.

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Middle Miocene Neba volcano was newly discovered in the Neba village, Nagano Prefecture, Central Japan (Sakamoto and Takada, 2005). Unlike large volcanic complexes in the Shitara district, south of the Neba district (Takada, 1987), volcanic rocks of a small scale are scattered in this district (Kuno, 1967). However, we found the vent concentrated area, in which several vents associated with hydrothermal alteration, for example, Benten, Shirobuchi, Tajima, Kamabuchi, and Kuroji vents, are distributed within the area of 900 m x 600 m in size. Because the above vent concentrated area as a whole forms a funnel shaped crater, we define it as the central crater of the Neba volcano.

Benten vent, trending N30E, and 70m in length, was multiply formed: the vent breccia formation in the 1st stage, and the 2nd & #8211;the 4th stage basalt intrusions successively. Shirobuchi vent, 100 m in length, has the trend perpendicular to the trend of Benten vent, and was formed by the 1st vent breccia and the 2nd basalt intrusion. Tajima vent, 70 m in length, was composed of a basalt intrusion cutting a vent breccia. Kamabuchi vent, 70 m in length, has a tear drop shape, and consists of a vent breccia in the outer margin, and a basalt intrusion surrounding the basement Ryoke granite in its core. The Ryoke granite as the host rocks near each vent is suffered partly from hydrothermal alteration, and partly develops the networks of dikelets. Fall back deposit near the bottom of the crater is observed at Shikizakura. Near vent deposit is identified: the lowermost facies at Anada and the lower facies at Nashinodaira.

We propose that the vents in the central crater of the Neba volcano were formed by multiple intrusions following the initial phreatomagmatic explosion. We reconstruct the cross section of the crater with the 550 m altitude differnce: the bottom is 600 m, and the top 1150 m a.s.l.

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