Re-examination of the 1910 Usu eruptive products

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There are similarities in eruptive styles of the Usu March 31, 2000 and the Usu 1910: no apparent magmatic extrusion such as lava nor a large amount of pumice fall like the eruption in 1977-8, position of crater where the eruption occured moved here and there. It is understood that the eruptive product of the 1910 do not contain essential material. However, it is worth re-examine presence of essential material in Usu 1910, with the same technique used in the Usu 2000 and Miyakejima 2000 cases. In the case of Usu 2000 eruption, it was once thought that there was no or very small amount of essential material, however, finally it was shown that about the half of the March 31 ash was essential. In the case of Miyiakejima 2000 volcanic ash, it was thought that there was no essential material, however, it was again finally concluded that the content of essential material of about 30 percent, according to our observations. Samples were taken by diging a hole in the vicinity of the top of the Yosomi-Yama on August 25, 2000, by Hoshizumi and Miyagi. They are sieved (0.25-0.18mm), cleaned, polished, and observed with EPMA. Hand picking (to select an arbitrary particle with tweezers under the stereoscopic microscope) was not done to exclude person's subjectivity. Polished ash particles were classified based on the matrix texture of Backscattered Electron Images. In the 1910 samples, there is no particles with the same characteristic of ``Us-2000g'', the essential material of the Usu 2000 ash. Half the number or less in the 0.25-0.18mm section is a particle with highly altered features. The one that occupy many most in the rest of particles is phenocryst fragments, where feldspar occupies many most, and fresh glassy particle was about 10-20 percent. The composition of the matrix mineral in the fresh glassy particles was analyzed by EPMA. Mg# of the pyroxene microlites converge around 0.61, An # of the feldspars concentrates 60, and the Mg/Mn ratio and Al2O3 wt % of the magnetites was around 10 and 3, respectively. Judging from the brightness of the BEIs, the glassy particles are clearly more mafic in composition than the all essential material of the Usu volcano after 1663. In order to judge whether this group is essential material of the Usu 1910, it is necessary to obtain more detailed information about the eruptive product of the somma formation stage of the Usu volcano.