Silicate inclusions in Mont Dieu IIE iron and its formation process.

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We have carried out a mineralogical investigation of inclusions in the Mont Dieu IIE iron, to establish a better basis for understanding the segregation mechanism of partial melts. Elemental distribution maps indicate that the most common is FeS. One inclusion contains a very small silicate inclusion as in Colomera. Chromian diopside with 34 mol % NaCr2SiO6 are enclosed in glassy matrix rich in Si, K, and Na. This mineral links Mont Dieu and other IIEs. Our model assumes that segregation of partial melts took place. Discovery of FeS inclusions with the same shapes as IIE irons, suggests that segregation of another partial melt took place in the same body.