

## The uptake behavior of antimony with earth surface materials at Ichinokawa mine in Saijo city in Ehime prefecture

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Antimony (Sb) is element which come into Periodic table 15 group, and this chemical behavior is similar to arsenic (As). These elements have toxic for human, so we hope to understand about these elements behavior at earth surface. These elements are sorbed by earth surface materials which is formed secondary minerals at earth surface and is considered to be good sorbents (Fukushi 2017), because many earth surface materials are produced fine grain so its specific surface area become large (Tsukimura and Nakazawa 1994) and it is produced metastable phase. Typical earth materials are clay minerals (smectite, vermiculite and so on), metal (hydroxide)oxide materials (ferrihydrite, goethite and so on), carbonate minerals (calcite, aragonite and so on) and so on. There are number of studies about As uptake behavior with earth surface materials from field observations and laboratory studies. On the other hand, the investigation of Sb uptake behaviors are very limited. So we hope to understand Sb behavior by earth surface materials. In order to investigate Sb behavior, we should focus on the site with high Sb concentration. The purpose of the study is to understand the Sb uptake behaviors with iron oxide or carbonate minerals of which occurrences can be observed at the tunnel at Ichinokawa mine.