Proposal of surveys, analyses and evaluation methods for the effects of heat and hydrothermal water at geological repository

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The effects of heat and hydrothermal water on surroundings of geological repository were investigated. Considering this result, the surveys, analyses and evaluation methods for the planning of Preliminary Investigation and its following site-specific surveys are investigated. The applicable surveys/analyses/evaluation methods are summarized, corresponding to the survey targets, stages and classified type areas. Survey targets are roughly subdivided into shallow and deep parts. Evaluation items for shallow part are as follows: regional surface imagery, regional geological structure, drilling and logging data, subsurface temperature distribution, fluid flow, permeability distribution, water-rock interaction. Evaluation items for deep part are as follows: estimation of deep temperature, concealed heat source/deep heat source and deep fractures. Survey stages are divided into surface survey, subsurface survey with boring survey and future estimation. Classified type areas are as follows: forearc plain, forearc mountain, Quaternary volcanic terrain, backarc plain, backarc mountain. An overall picture of surveys, analyses and evaluation methods is presented.