|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **Variable influence on process** | | | **Process influence on variables** | | |
| **Influence present? (Yes/No Description)** | **Time period/Climate domain** | **Handling of influence (How/If not - Why)** | **Influence present? (Yes/No Description)** | **Time period/Climate domain** | **Handling of influence (How/If not - Why)** |
| Temperature in bedrock | Yes | Excavation/operation | Influence neglected; little significance compared with other influences. | No | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Periglacial |
| Glacial | Glacial |
| Groundwater flow | Yes | Excavation/operation | Influence neglected, since biofilms in excavated areas can be removed before closure. | Yes | Excavation/operation | Influence neglected. All groundwater data obtained at the site already include the presence of biofilms. Effects from changes in biofilm thickness are deemed negligible. |
| Temperate | Influence neglected due to low flow rates. | Temperate |
| Periglacial | Periglacial |
| Glacial | Influence neglected; presumably low levels of nutrients. | Glacial |
| Groundwater pressure | No | Excavation/operation | — | No | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Periglacial |
| Glacial | Glacial |
| Gas phase flow | No | Excavation/operation | — | No | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Periglacial |
| Glacial | Glacial |
| Repository geometry | No | Excavation/operation | — | No | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Periglacial |
| Glacial | Glacial |
| Fracture geometry | Yes | Excavation/operation | Neglected. This influence has negligible effect on the overall microbial activities in the rock volume around the repository. | No | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Periglacial |
| Glacial | Glacial |
| Rock stresses | No | Excavation/operation | — | No | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Periglacial |
| Glacial | Glacial |
| Matrix minerals | No | Excavation/operation | — | No | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Periglacial |
| Glacial | Glacial |
| Fracture minerals | Yes | Excavation/operation | Process not handled in detail; variations in the amounts of fracture minerals have a low impact on the overall microbial processes. | Yes | Excavation/operation | Process not handled in detail. The production-consumption of fracture minerals by microbial processes have a low impact on the overall amounts of minerals. |
| Temperate | Temperate |
| Periglacial | Periglacial |
| Glacial | Glacial |
| Groundwater composition | Yes | Excavation/operation | Process not handled in detail; sulfate reduction assumed to proceed to completion. | Yes | Excavation/operation | Process not handled in detail; sulfate-sulfide equilibrium calculations assuming microbial mediation. Sulfide contribution from possible CH4+H2 accounted for. |
| Temperate | Temperate |
| Periglacial | Periglacial |
| Glacial | Glacial |
| Gas composition | No | Excavation/operation | — | No | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Periglacial |
| Glacial | Glacial |
| Structural and stray materials | Yes | Excavation/operation | Process not handled in detail; calculations of sulfide production assuming microbial reduction with structural and stray materials. | Yes | Excavation/operation | The degradation of iron, steel and organic stray materials evaluated for different time periods. |
| Temperate | Temperate |
| Periglacial | Periglacial |
| Glacial | Glacial |
| Saturation | No | Excavation/operation | — | No | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Periglacial |
| Glacial | Glacial |