|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **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. | Yes | Excavation/operation | Neglected; the effect on temperature is negligible. |
| Temperate | Temperate |
| Periglacial | Influence neglected; of little significance to water composition and matrix porosity. | Periglacial |
| Glacial | Influence neglected; little significance compared with other influences. | Glacial |
| Groundwater flow | No | Excavation/operation | — | No | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Periglacial |
| Glacial | Glacial |
| Groundwater pressure | Yes | Excavation/operation | Neglected; effect on reaction rates and solubilities is negligible. | 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 | No | Excavation/operation | — | Yes | Excavation/operation | Generic modelling that indicates that this influence is negligible. |
| Temperate | Temperate |
| Periglacial | Periglacial | Process neglected; little significance. |
| 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 | Common fracture minerals (calcite, silica, etc) selected for generic equilibrium calculations. Influence of silicate minerals and ion-exchange reactions evaluated. Influence of Fe(II) fracture filling minerals on O2 consumption evaluated. | Yes | Excavation/operation | Common fracture minerals (calcite, silica, etc) selected for generic equilibrium calculations. Influence of silicate minerals and ion-exchange reactions evaluated. Influence of Fe(II) fracture filling minerals on O2 consumption evaluated. |
| Temperate | Temperate |
| Periglacial | Periglacial |
| Glacial | Glacial |
| Groundwater composition | Yes | Excavation/operation | Generic modelling of precipitation-dissolution of minerals. Influence of silicate minerals and ion-exchange reactions evaluated. Influence of Fe(II) fracture filling minerals on O2 consumption evaluated. | Yes | Excavation/operation | Generic modelling of precipitation-dissolution of minerals. Influence of silicate minerals and ion-exchange reactions evaluated. Influence of Fe(II) fracture filling minerals on O2 consumption evaluated. |
| Temperate | Temperate |
| Periglacial | Periglacial |
| Glacial | Glacial |
| Gas composition | No | Excavation/operation | — | No | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Periglacial |
| Glacial | Glacial |
| Structural and stray materials | No | Excavation/operation | — | No | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Periglacial |
| Glacial | Glacial |
| Saturation | Yes | Excavation/operation | Influence neglected; little significance. | No | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Periglacial |
| Glacial | Glacial |