|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **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 | Neglected; little significance compared with other influences in expected temperature range. | No | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Process not specifically addressed; extrapolation of results from temperate conditions. | Periglacial |
| Glacial | Glacial |
| Groundwater flow | Yes | Excavation/operation | Mechanical erosion not specifically addressed. Grouting procedures and specifications will prevent erosion. | Yes | Excavation/operation | See Section 3.1 Groundwater flow. |
| Temperate | Temperate |
| Periglacial | Periglacial |
| Glacial | Glacial |
| Groundwater pressure | Yes | Excavation/operation | Neglected; little significance compared with other influences. | No | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Process not specifically addressed; extrapolation of results from temperate conditions. | Periglacial |
| Glacial | Glacial |
| Gas phase flow | Yes | Excavation/operation | Process not specifically addressed. Grouting procedures and specifications will prevent erosion. | Yes | Excavation/operation | See Section 3.2 |
| 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 | Generic fracture parameters used in modelling the influence of grout on groundwater compositions. | Yes | Excavation/operation | See Section 3.1 |
| Temperate | Temperate |
| Periglacial | Process not specifically addressed; extrapolation of results from temperate conditions. | Periglacial | Process not handled. |
| 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 | No | Excavation/operation | — | No | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Periglacial |
| Glacial | Glacial |
| Groundwater composition | Yes | Excavation/operation | Site-specific Forsmark groundwater composition used in generic modelling of impact of grout on water chemistry. | Yes | Excavation/operation | Generic modelling to evaluate changes in composition of groundwater circulating around a grouted fracture and consequent precipitation-dissolution of minerals. |
| Temperate | Temperate |
| Periglacial | Process not specifically addressed; extrapolation of results from temperate conditions. | Periglacial | Process not specifically addressed; extrapolation of results from temperate conditions. |
| Glacial | Glacial |
| Gas composition | No | Excavation/operation | — | No | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Periglacial |
| Glacial | Glacial |
| Structural and stray materials | Yes | Excavation/operation | Grout composition used for generic modelling of changes in groundwater circulating around a grouted fracture and consequent precipitation-dissolution of minerals. | Yes | Excavation/operation | Influence not evaluated; assumptions made regarding grout properties in different applications. |
| Temperate | Temperate |
| Periglacial | Process not specifically addressed; extrapolation of results from temperate conditions. | Periglacial | Process not specifically addressed; extrapolation of results from temperate conditions. |
| Glacial | Glacial |
| Saturation | Yes | Excavation/operation | Saturated conditions assumed. | No | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Process not specifically addressed; extrapolation of results from temperate conditions. | Periglacial |
| Glacial | Glacial |