|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **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 | — | Yes | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Generic calculations to assess the possibility of methane hydrate formation. | Periglacial | The influence of methane hydrate formation on the temperature of the rock has not been evaluated but it should be similar to that of ice formation see Section 2.2. |
| Glacial | Glacial |
| Groundwater flow | No | Excavation/operation | — | No | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Periglacial |
| Glacial | Glacial |
| Groundwater pressure | Yes | Excavation/operation | — | Yes | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Generic calculations to assess the possibility of methane hydrate formation. | Periglacial | The influence of methane hydrate formation on groundwater pressure has not been evaluated but it should be similar to that of ice formation see Section 2.2. |
| 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 | — | Yes | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | The influence of fracture geometry has been evaluated in the current safety assessment. The generic model calculations indicate that the formation of methane hydrates may be disregarded. | Periglacial | Neglected: of little significance. See also Section 2.2. |
| 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 | — | Yes | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Generic calculations to assess the possibility of methane hydrate formation. | Periglacial | Should be similar to the formation of ice: see Section 2.2. |
| Glacial | Glacial |
| Gas composition | Yes | Excavation/operation | — | Yes | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Generic calculations to assess the possibility of methane hydrate formation. | Periglacial | Neglected: The generic calculations indicate that methane hydrate formation may be disregarded, and no gas phase is expected in the rock volume at the site. |
| Glacial | Glacial |
| Structural and stray materials | No | Excavation/operation | — | No | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Periglacial |
| Glacial | Glacial |
| Saturation | Yes | Excavation/operation | — | Yes | Excavation/operation | — |
| Temperate | Temperate |
| Periglacial | Neglected; saturated conditions in the bedrock is assumed. | Periglacial | Neglected; saturated conditions in the bedrock is assumed. |
| Glacial | Glacial |