



## Sandy Ridge - Geology

Geology is a fundamental factor in site selection for geological repositories. Therefore, both regional and local geological investigations were completed for the proposed Facility. The investigations were undertaken to confirm the suitability of the location selected for the proposed Facility met “best practice”.

The Proposal is located within the Archean Yilgarn Craton. This is a crustal block that covers a large part of southern Western Australia. The craton is very old. It formed between 3,000 and 2,600 million years ago. Today, the landscape is flat which has been eroded, weathered and influenced by sedimentation over many millions of years.

The current landforms have been in place for about 250 million years. The Yilgarn Craton has been tectonically stable for ten times that period. Additionally, there is no evidence that the central portion of the Yilgarn Craton has been subject to glaciation, even during the most recent ice age during the last 70,000 years.

The proposed development envelope, which is about 1,000 hectares, is situated over a very large granite deposit. The granite formed about 2,700 million years ago. Since then, it has been subjected to various weathering processes, including kaolinization (which formed the kaolin clay).

Between 2014 and 2016, Tellus has drilled over 200 holes across the proposed development

envelope. The geological profile of the proposed Facility is shown above and best described as:

- 0-1 m - sand.
- 1-3 m - sandy gravel.
- 3-5 m - silcrete.
- 5-7 m - mottled zone.
- 7-23 m - kaolin.
- 23-27 m - saprock.
- 27 m - oxidized granite.
- 32 m and beyond - granite.

The proposed development envelope is in an area that has the lowest possible earthquake hazard rating. No moderate or strong earthquakes have been recorded within 200 km of the site over the last 60 years.

It is also located within the central portion of the eastern section of the Indo-Australian Tectonic Plate which is moving at around 5.6 cm per year towards the northeast which provides high levels of confidence for stability over the very long term.

The investigations confirmed that, from a geological perspective, the current location of the Proposal is ideal for a geological repository. This has been confirmed by independent international experts.



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