



What is a near surface geological repository?

The proposed Sandy Ridge Facility is classified as a near-surface 'geological repository' located in a semi-arid environment.

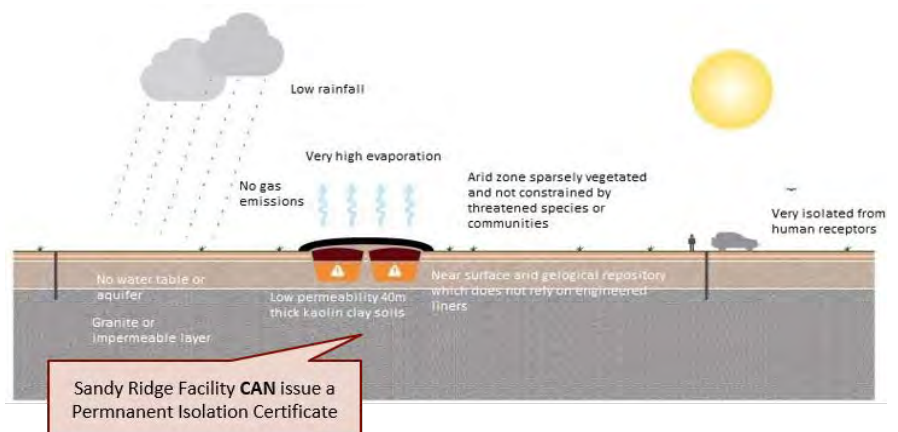
The key difference between a landfill and a geological repository is that landfills rely on man-made containment barriers, which ultimately fail over time, whereas geological repository relies mainly on geological barriers to provide containment in the long term.

A geological barrier (in this case, the dry kaolin clay bed) ensures isolation of wastes from the environment over tens of thousands of years. This is something an engineered barrier cannot achieve.

The Sandy Ridge kaolin clay bed is approximately 160 km long, 40 km wide and 36 m thick, and finished forming approximately 70 million years ago.

Principle benefits of a near surface geological repository

- ☑ Provide the highest levels of containment principally through the use of carefully selected **natural geological barriers** such as kaolin clay.
- ☑ Multi-barrier 'arid near-surface clay' geological repository can **permanently isolate** waste from the environment, something a man made barrier alone cannot achieve.
- ☑ Clay geological repositories do not require ongoing monitoring after the end of an institutional control period as they are **passively safe**.
- ☑ By storing like-with-like this creates and **opportunity for future recycling/ recovery** of valuable materials. A geological repository today is a potential future mine of tomorrow.
- ☑ There is **no ongoing potential liability** as there is a permanent isolation of the waste from the environment in the geological barrier. This will allow waste customers to receive a permanent isolation certificate



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