

# What is a geological repository?

The proposed Chandler Facility is classified as a 'deep geological repository' located in a semi-arid environment with no recorded earthquakes within the immediate vicinity of the Proposal area.

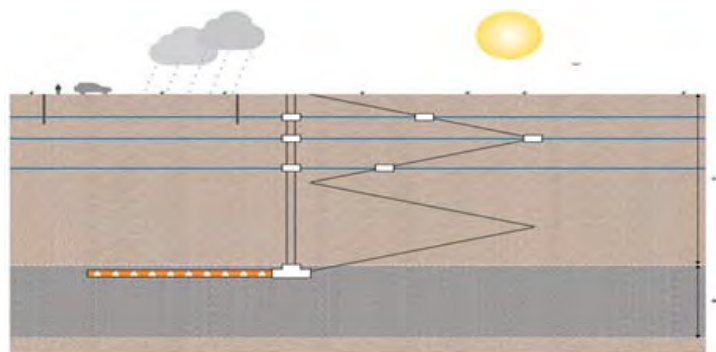
The key difference between a landfill and a geological repository is that landfills rely on man-made containment barriers, which ultimately fail over time. A geological repository relies on natural geological barriers to provide containment in the long term.

A geological barrier (in this case, a dry salt bed) ensures isolation of waste from the environment over hundreds of thousands to million of years. This is something an engineered barrier cannot achieve.

The Chandler Salt Bed is approximately 250-300 metres thick and is located approximately 850 metres below the surface.

## Principle benefits of a geological repository

- ✓ Provide the highest levels of containment principally through the use of carefully selected **natural geological barriers**.
- ✓ Can **permanently isolate** waste from the environment, something a man-made barrier alone cannot achieve.
- ✓ **Lifespan of containment is in the hundreds of thousands to millions of years.**
- ✓ Does 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 on-going potential liability** as there is a permanent isolation of the waste from the environment in the geological barrier.
- ✓ **Globally considered 'best practice'.**



Waste would be permanently isolated approximately 850 metres below the surface within a 500 million year old salt bed approximately 250-300 metres thick.



email [info@tellusholdings.com](mailto:info@tellusholdings.com)

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