

Case Study

Tailings Thickener Strategy Study

AE Young Engineers was engaged by a **Bowen Basin mining company** to assess a **repair or replacement strategy** for a **CHPP tailings thickener**. The existing thickener, **approximately 20 years old**, exhibited multiple defects, including **leaks and structural concerns**.



Tailings Thickener

Assessment & Strategy Options

Three potential solutions were evaluated based on **lifespan, cost, process improvements, and plant downtime**:

- **Repair the existing thickener**
- **Install a new raised tailings thickener**
- **Install a new flat-bottom tailings thickener**

Each option was analysed with a **full cost estimate**, integrating **manufacturer data and construction costing** from previous projects. The assessment also considered how a **replacement thickener** could be effectively integrated into the **existing CHPP infrastructure**.



Tailings Thickener

Overcoming Inspection Challenges

Past attempts at **internal thickener inspections** were unsuccessful, making it difficult to evaluate repair viability. AE Young Engineers leveraged **existing inspection data** to conduct a **condition review**, identifying the **likely cause of leaks without draining the thickener**.

By delivering a **detailed strategy and cost analysis**, AE Young Engineers enabled the client to **make an informed decision** on the most effective path forward for the tailings thickener

