



**WIM RESOURCE**  
Think Ahead, Move Ahead

# AVONBANK MINERAL SANDS PROJECT

MINE REHABILITATION

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Factsheet



*Avonbank Trial Mining*



*Successful Rehabilitation within Avonbank project area*





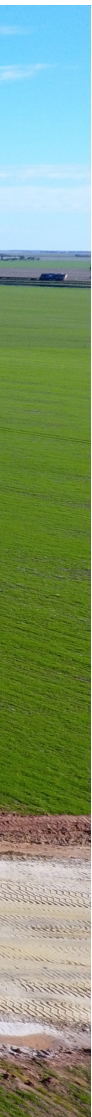
Ore mining



Sand tails drying



Stockpiles



Overburden placement



*Subsoil placement*



*Barley crop 2021*



*Lupin crop 2022*



*Wheat crop 2023*



*Test pit ore mining*



*Topsoil placement*



*Harvesting crop (barley)*



*Rehabilitation soil monitoring during the growing season*



*Monitoring crop growth (barley)*



*Rehabilitated area (barley)*



**The Avonbank Demonstration Trial was undertaken to test the feasibility of mining, processing and rehabilitation within the proposed Project area. It involved:**

- Excavation of a test pit and removal of over 11,000 tonnes of ore
- Construction of a Demonstration Scale Wet Concentration Plant (WCP) at site
- Processing of ore through the WCP over a period of six months to produce a high-quality Heavy Mineral Concentrate (HMC)
- Rehabilitation of the test pit back to a cropping land use and on going monitoring

Prior to mining detailed soil surveys were undertaken to understand the existing conditions and to determine how best to separate the upper and lower soil horizons.

Following the soil surveys, topsoil and subsoils were stripped and three separate stockpiles were established for topsoil, upper and lower subsoil units and a fourth stockpile was established for excavated overburden.

Following removal and stockpiling of the soils and overburden, ore was excavated and trucked to the pilot plant for processing.

The excavated ore was processed in the pilot plant to separate the Heavy Mineral Concentrate from the coarse and fine sand tailings.

This process involved washing and screening ore and desliming the sands through the desliming cyclones to remove the fine tails.

The ore was separated over gravity separation spirals to produce concentrate and coarse sand tails streams. Coarse sand tails and fine tails were co-disposed back to the mining pit cells.

Water was recovered to use in the process.

In-pit tails were left to consolidate for around 9 months. Geotechnical testing was undertaken

to demonstrate that the tails had consolidated sufficiently. Following tails consolidation, overburden was placed followed by placement of the subsoils and topsoil.

Following topsoil placement, the area was seeded with barley in 2021, lentils in 2022 and wheat in 2023.

Rehabilitation monitoring was conducted during each growing season.

The site showed no material evidence of ground movement or erosion, and the estimated crop yield monitored through each growing season were similar or higher in the rehabilitated site than the unmined areas in 2021 and 2022.

The same rehabilitation process will be applied during operations.

Rehabilitation of mined areas will be completed within 4 years after initial disturbance of each mining cell.

The overarching rehabilitation strategy will be to recover as much soil from the effective rooting zone as practicable and to separate the upper soil horizons from the lower more hostile units.

Sand tailings will be deposited into the mined cell to a depth of approximately 3 m from the surface. After drying, the tailings will be covered with overburden, subsoil and finally topsoil. The topsoil will be seeded with a broadacre agricultural crop.

The rehabilitated landform must be stable, sustainable and in line with the agreed end land use.

There will be no stockpiles or voids left upon completion of mining. Rehabilitation will be considered complete when all rehabilitation objectives/criteria are met.

The final landform will be commensurate with the surrounding areas and the pre-mining landscape.

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