Latrobe Valley Regional Rehabilitation Strategy

Update on Implementation Action 5:

Alternative & contingency rehabilitation options

09 February 2021

VICTORIA State Government

Purpose of this Presentation

To provide a progress update on LVRRS Implementation Action 5 – *Identify alternative & contingency rehabilitation options to manage land stability and fire risks if sufficient water is not available*

What we'll cover

1. Context
2. Approach
3. Next steps

Why explore alternative rehabilitation options?

Water availability in the Latrobe River system has reduced- mine rehabilitation must plan for a drying climate

Stakeholders requested that non-water options be further explored

Help inform the consideration of declared mine rehabilitation plans

Safe and Stable

Two key requirements for a rehabilitated coal mine to be safe and stable:

- Fire risk is no greater than the surrounding area

- The walls and floor of the mine will not collapse

There are many other things that are required to make the mine “safe”, however these are two significant, basic requirements.

Managing the potential for coal fires

- Covering the coal with soil or water
- Fire management systems (sprinklers etc)

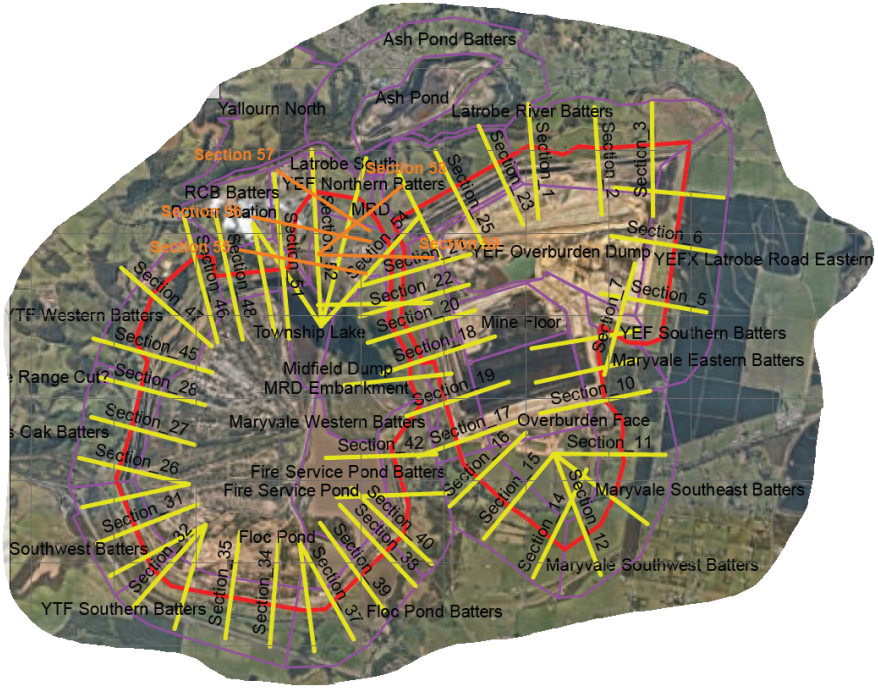
Assessing mine wall stability

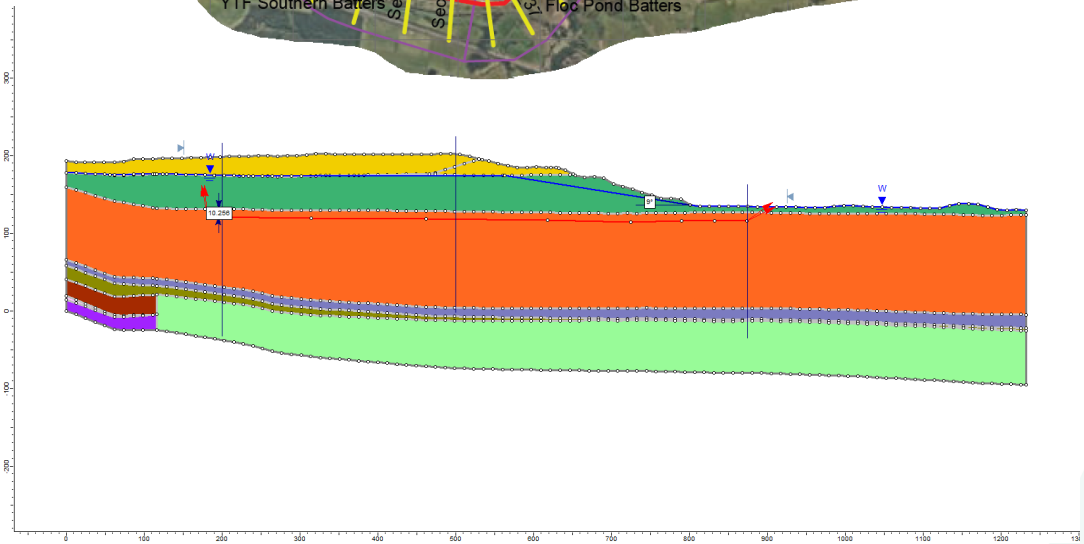
When **stabilising forces** are greater than **destabilising forces**, the wall is stable

A **Factor of Safety** is calculated by dividing the stabilising forces by the destabilising forces

A Factor of Safety is selected to **allow for uncertainties** in the ground conditions

Assessing mine wall stability



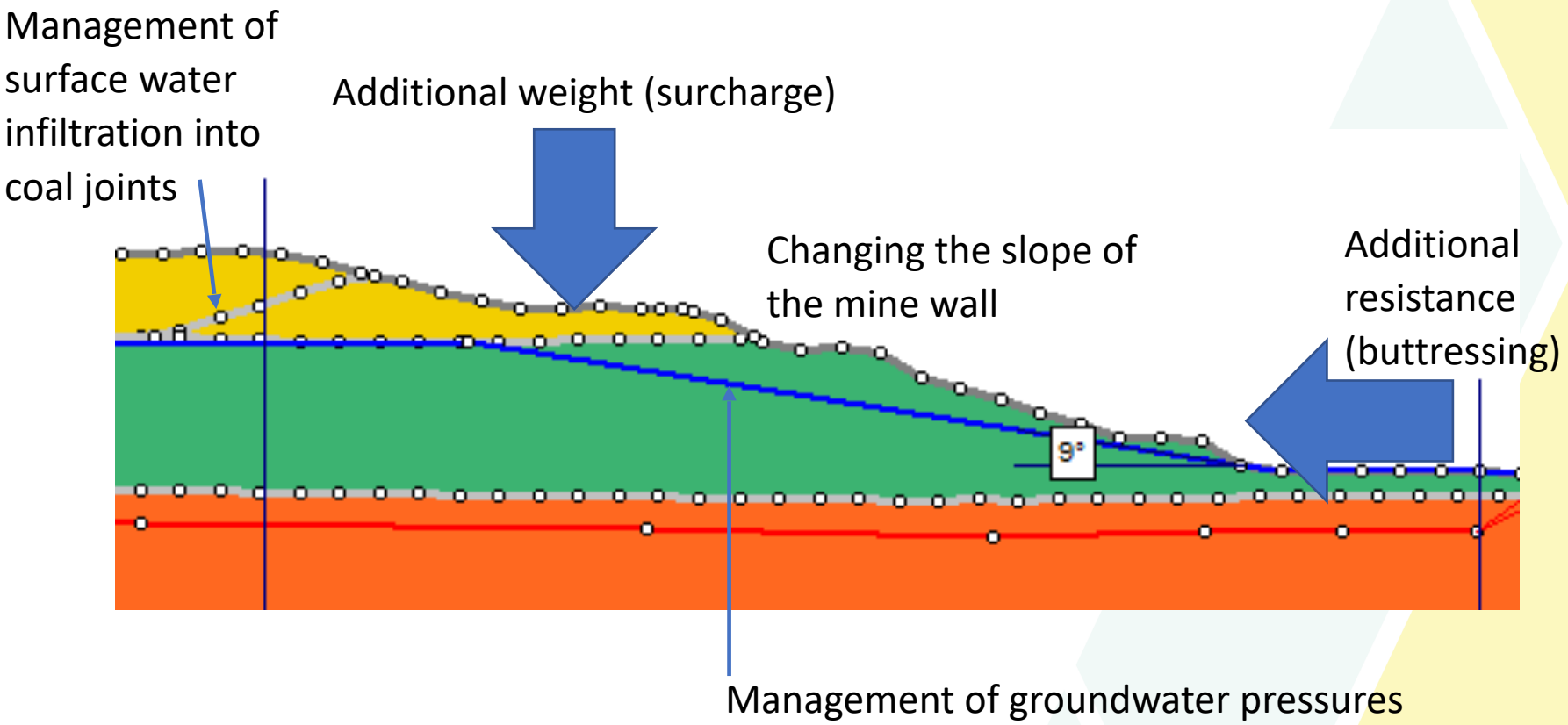


Create cross-sections through the planned final walls of each mine

For each geological layer, assign material strength properties

For each cross-section, assess the stability of the wall under different rehabilitation concepts

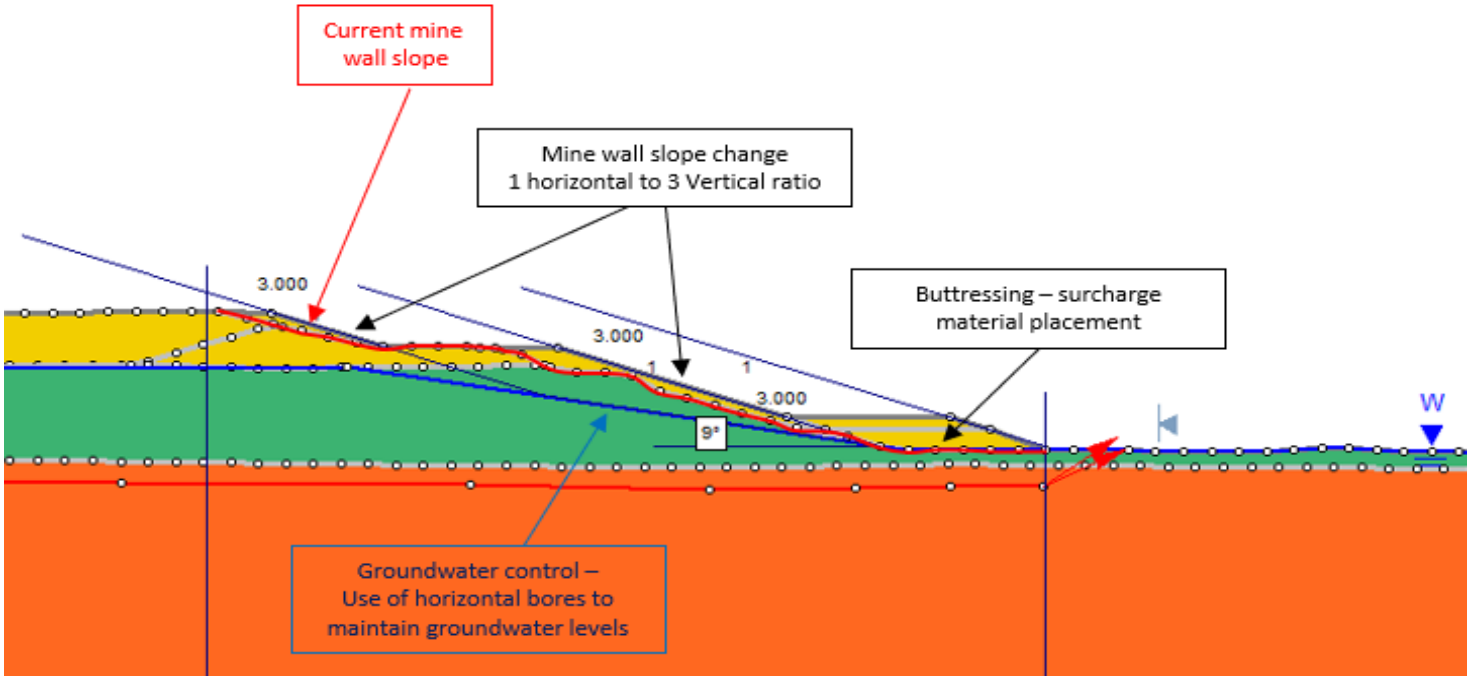
Assessing controls on mine wall stability



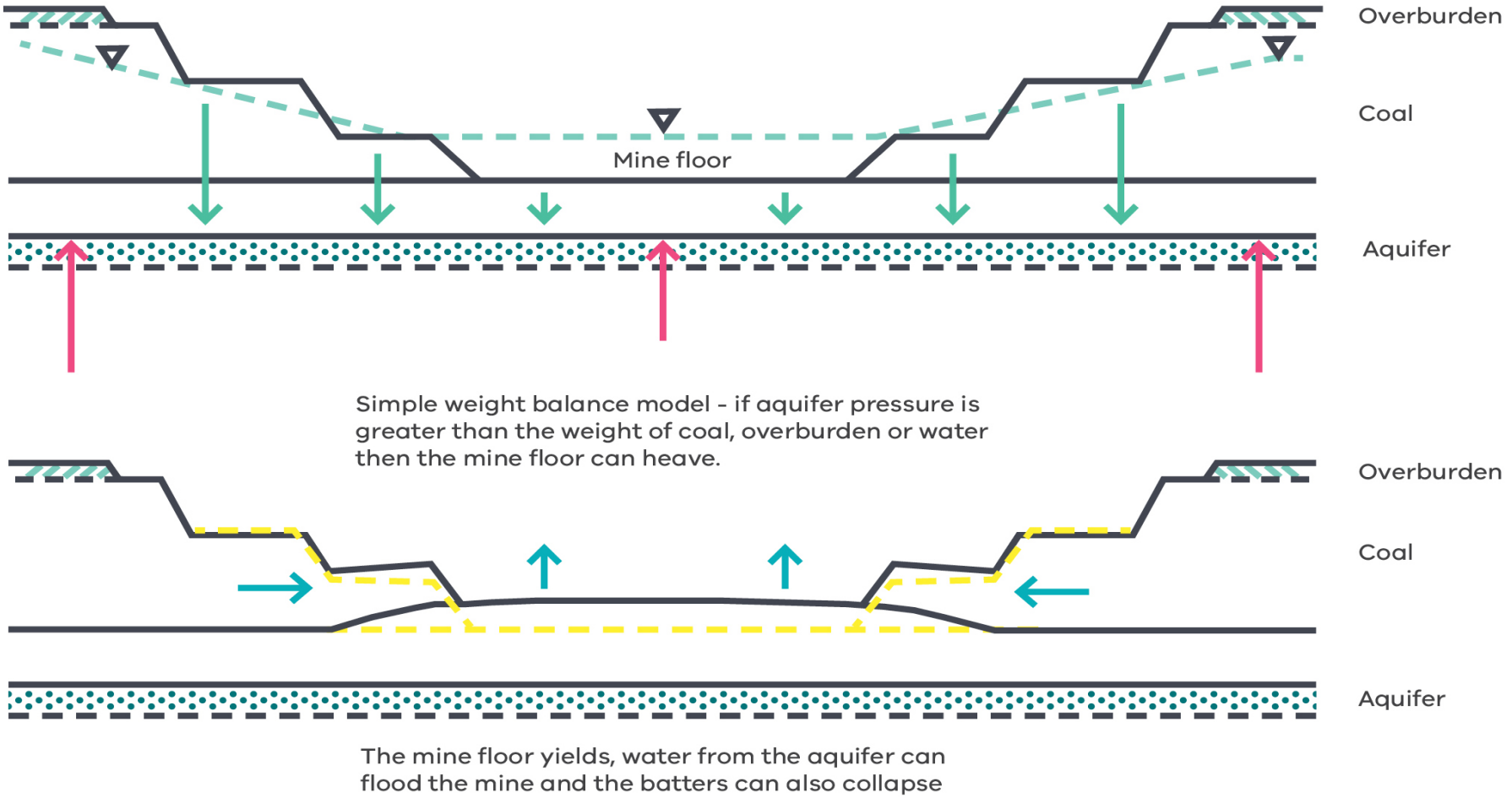
The analysis will help understand…

For non-water rehabilitation options:

- How can the walls of each mine be made ‘stable’?
- What are the main technical constraints (e.g. availability of fill material)?
- What are the ongoing maintenance requirements to keep the mines safe, stable and sustainable?
- What are the ongoing risks?



Management of floor heave



Staged assessment process

- Develop cross sections through the mines ✓
- Set up a geotechnical model (one mine) ✓
- Analysis of what would be required to maintain stable mine walls ✓
- Assessing earth moving requirements
- Assessing long-term groundwater management requirements
- Consolidate and report findings (June 2021)

Thank you