

**Angas Zinc Mine**



# **PEPR Review and Closure Plan**

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# Progress on PEPR Review and Closure Plan



- ❑ Environmental outcomes and criteria tables, encompassing operational, rehabilitation and closure phases constructed in conjunction with DMITRE and reviewed by the SCCC sub-committee. These are the basis for the PEPR and closure plan
- ❑ Closure Plan submitted to DMITRE on the 28th November
- ❑ Revised PEPR submitted to DMITRE on the 28th December
- ❑ Site trials, investigations and observations indicate that vegetation can be established on the cover proposed in the PEPR

# TSF Rehabilitation Trial - Annual Summary



- ❑ After two seasons of monitoring the TSF rehabilitation trials the main observations made were that
  1. The proposed TSF cover (the low profile treatment) supported vegetation right through to harvest in December 2012.
  2. Oats grew well indicating at this stage that vegetation (annual oat pastures) may be sustainable in the long term
- ❑ Observations of vegetation on site soil stockpiles and cleared areas shows significant establishment and growth.

# TSF Cover Design Options



- ❑ The approved capping profile is HDPE with soil cover as detailed in the 2007 MARP and the 2012 draft PEPR.
- ❑ URS are conducting a preliminary assessment of the MARP cover and 5 alternative capping options including:
  - Four SA EPA ‘default’ capping systems, based on landfill guidance which include compacted clay, geosynthetic clay liners (GCL), geomembranes and composites.
  - An evapotranspiration (ET) or phytocover as previously discussed.

**Based on the findings of the assessment to date, further discussions will be held with DMITRE.**

# Progress on Cover Design, Soil Testing



- ❑ **Field investigations conducted, soil sampling and ongoing analysis**
- ❑ **Preliminary options modelling in progress**
- ❑ **Based on the findings of preliminary modelling, further detailed soil testing undertaken**
- ❑ **Next steps:**
  - **Further discussions with DMITRE regarding review and assessment of options**
  - **Refinement of modelling and assessment to identify preferred options**

# Mine rehabilitation – the steps

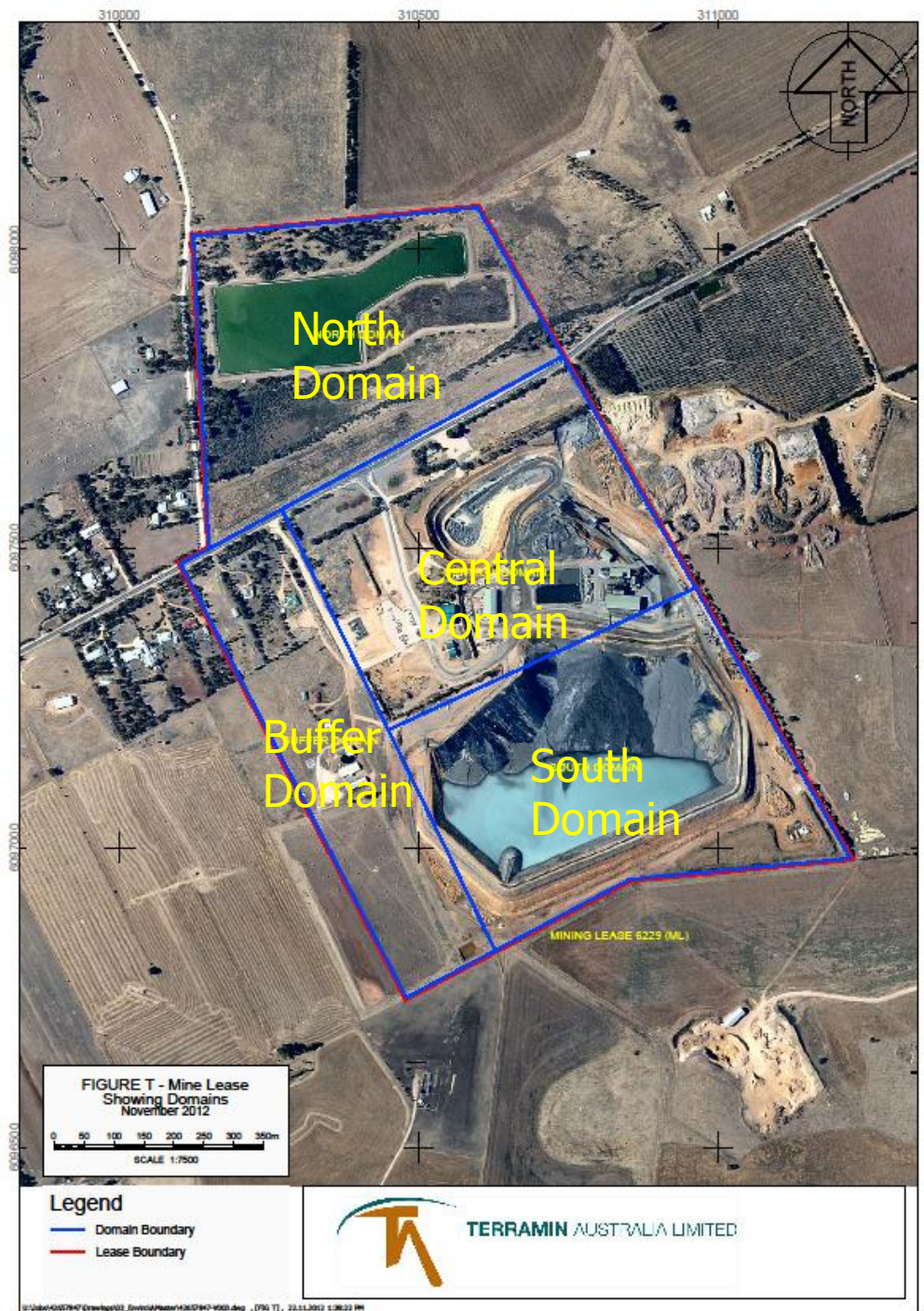


- ❑ **As per DMITRE presentation, the PEPR and Closure Plan is to be taken through the review & approval process**
- ❑ **Capping options are assessed and refined in parallel leading to selection of preferred options.**
- ❑ **Preliminary closure tasks & timelines have been developed to a draft stage subject to PEPR, Closure Plan and capping option assessment and review.**

# Mine Site Domains

- North domain – no works required
- Central domain – infrastructure removed, earthworks and revegetated
- South – TSF earthworks, capping and vegetation
- Buffer - remediation of mining affected areas, houses and sheds to remain

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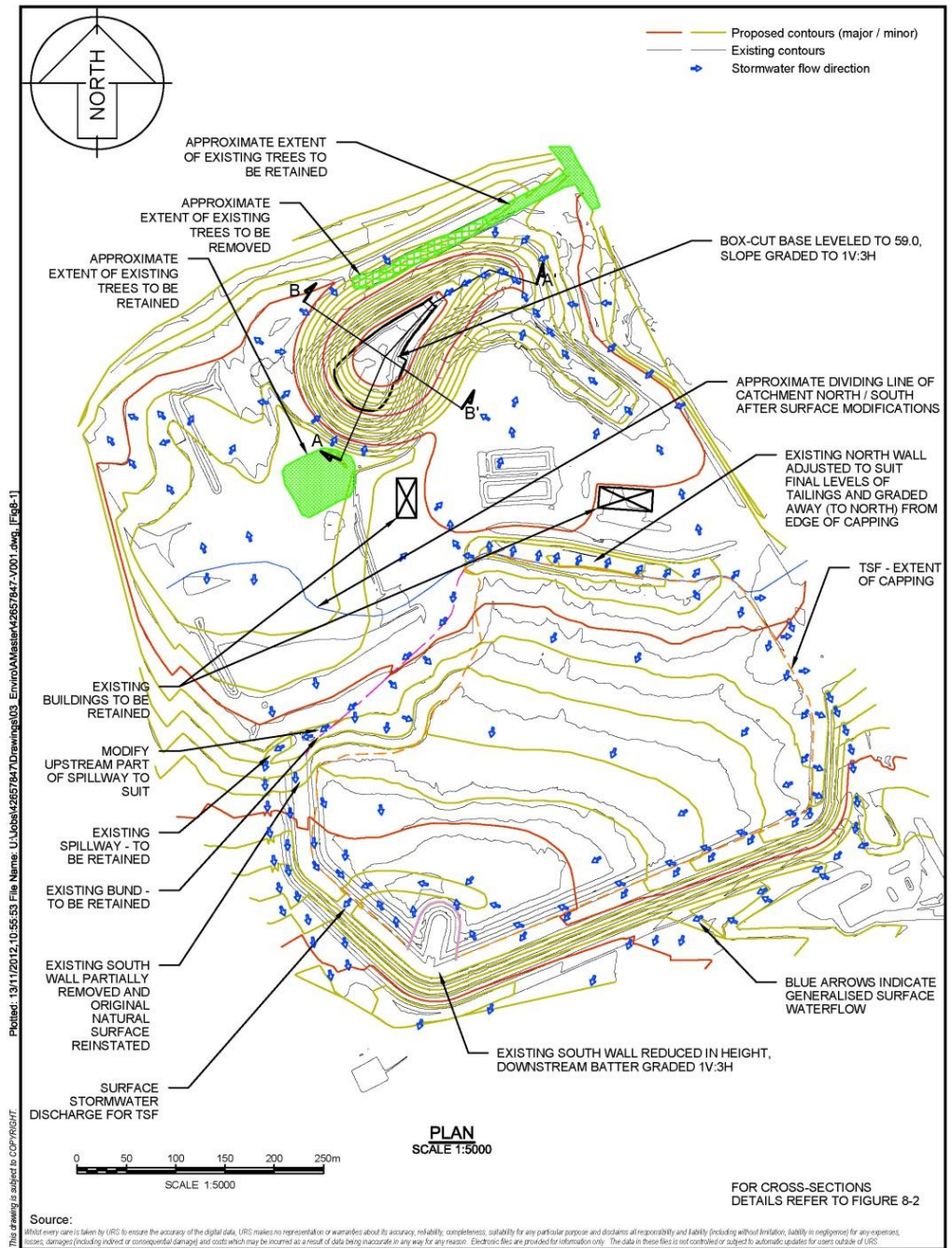
# The Rehabilitation Steps – a preliminary overview



- ❑ TSF surface & pore dewatering – approx. 12 months
- ❑ Southern domain – earthworks, capping, equipment removal – approx. 2 years
- ❑ Boxcut – recontouring walls to a stable profile 1:3, engineer portal – approx. 2 months
- ❑ Fill mine voids with backfill and remaining space with water – approx. 6 months
- ❑ Central domain – removing infrastructure, contaminated soils, reshaping and revegetation works – approx. 9 months
- ❑ Monitoring the completion outcomes and criteria will be ongoing until all criteria are met.



# Post Closure Contours



# Current View



# Proposed View

