



Apple and Pear Growers
Association of SA, Inc.

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Public Submissions
Mining Regulation Branch
Department for Energy and Mining
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SUBMISSION - BIRD IN HAND GOLD PROJECT

The Apple & Pear Growers Association of South Australia raises the following concerns regarding the proposed Bird in Hand Gold Project that have not been addressed in Terramin's application for Mining Lease. The Application identifies that water from mine inflows and mine affected runoff will be treated, mixed with groundwater and/or mains water to account for losses then recharged via wells back into the fractured rock aquifer. There are some risks not adequately addressed in the Application that this process has potential to negatively impact on the supply and quality of groundwater in the region.

1. The Wallbridge Gilbert Aztec Report (WGA 191368) prepared for the Inverbrackie Creek Catchment Group highlights deficiencies with respect to the Managed Aquifer Recharge components against the Principles for the recharge of water to the aquifers using MAR approaches in the Western Mt Lofty Ranges Water Allocation Plan. It highlights that knowledge gaps and gaps in the identification of risks associated with the option of MAR at the proposed Bird in Hand Gold Prospect presents significant risks to water quality and existing users. Further it summarizes that management options have not been clearly identified to counter or control all the likely risks that surround MAR in a fractured rock aquifer where there are many existing users and the EV of the water is potable and that MAR remains a high-risk option for water management at this location.
2. The Terramin application does not adequately characterize the fractured rock aquifers and demonstrate with certainty that MAR will adequately recharge water supply to neighbouring bores. According to Geoscience Australia, "characterising groundwater flow in fractured rock aquifers is difficult with existing techniques and groundwater flow direction can be related more to the orientation of fractures than to the hydraulic head distribution. Recharge in fractured rock aquifers is usually local and intermediate."
3. The seeping of water into the mine will constitute a take of water that requires authorization under the Natural Resource Management Act 20014 (SA). The modelling indicates a worst-case scenario of grouting to reduce inflows by 70%, modelled to be an ingress of 1.2 ML/day. Terramin has advised that it has secured the water allocation needed for the project but it is not clear if it includes all the groundwater inflows.
4. The contingency measures outlined in 3.4.6.2.1 to manage any unexpected water inrushes indicate that "if the hanging wall fault/fracture was intercepted unexpectedly, Terramin would expect to have the situation rectified within the 2 week period to ensure no impact to existing groundwater users, otherwise operations would need to be suspended until a further solution was identified and approved by the mining regulator." If there is an unexpected water inrush of sufficient scale to impact on nearby bores, this could have a major impact on neighboring irrigators. During the peak summer irrigation period, apple trees require very frequent irrigation and restricted access to water for a 2-week period could lead to tree stress, a reduction in crop size and fruit quality and during extreme heat, crop losses. If Terramin cannot rectify the situation within the 2-week period, they do not indicate how they will prevent further water ingress into the mine and ongoing impact on existing groundwater users.

Yours sincerely,

Susie Green
Chief Executive Officer