

TRANSITIONAL ENVIRONMENTAL PROGRAM

Restoring the water balance

Central Queensland has been severely impacted by significant wet weather events since the flood inundation of 2008. By late-2010, Ensham mine had received rainfall exceeding the cumulative 10-year average, resulting in the unintended collection of a significant amount of rainwater in our mine pits.

In December 2010, Ensham applied to the Department of Environment and Resource Management (DERM) for a Transitional Environmental Program (TEP) to authorise the controlled release of limited volumes of water – also known as dewatering – from our mining pits. Prior to approval of the TEP, Ensham consulted with a broad range of local and regional stakeholders to clarify the objectives of the TEP and seek their views. The TEP was subsequently approved by DERM with Ensham successfully releasing 7,000 ML of water through the wet season, without report of environmental harm occurring. Many stakeholders supported Ensham's transparency in displaying the results of water quality monitoring on its website throughout the release period.

During the same wet season however, continued extensive rainfall over the mine replaced most of the water released as part of the TEP, resulting in 20,000 ML of water continuing to be temporarily stored in a number of mine pits. Almost half of this water still remains as a legacy of the water trapped during the 2008 flood inundation of the Ensham mine. While this water remains on site it prevents the recommencement of mining in the pits currently being used for temporary storage and makes it impossible for Ensham to restore and maintain the site water balance.

The restoration and maintenance of Ensham's mine water balance is critical to our mining operations, and in order to achieve this we have applied to DERM for a new TEP to authorise the controlled release of water into the Nogoia River during high flows.

The objectives of the TEP are to ensure that site water balance can be restored and the mine can safely recommence operations in the affected pits while dewatering activities are conducted in a manner that protects downstream water quality.

Water quality

The dewatering activities proposed in the TEP will be conducted in a manner that generally meets the discharge conditions outlined in our current Environmental Authority (EA).

The water quality limits applicable to releases of water under the TEP are proposed to be consistent with the limits of Ensham Mine's current EA, with the exception of electrical conductivity and suspended solids.

While higher end of pipe limits are proposed for these parameters, our TEP application proposes a higher natural flow to ensure suitable dilution and protect downstream water quality.

As part of our application, we have undertaken downstream dilution modelling to ensure there will be no risk to the downstream domestic water supply and that water quality remains well within the *Australian Drinking Water Guidelines (2004)*.

The diagram over the page provides an overview of the how the water quality will be maintained during the proposed dewatering activities.

Water quality will be closely monitored in accordance with DERM's Fitzroy Model Water Conditions, and pit water will not be released if the TEP limits would be exceeded.

Our TEP application proposes to release mine water into the Nogoia River in a controlled manner over three years. However these activities will only be undertaken during significant flow events, in line with our proposed TEP application.

TEP conditions

The conditions of this proposed TEP are similar to those authorised for the dewatering activities that took place in 2010/11, and include:

- a significant minimum flow requirement in the Nogoia River at all times, providing suitable dilution for a release volume of up to 300 ML/day
- a total release volume of up to 20,000 ML over a three-year period.

Importantly, the TEP will also provide for the cessation of dewatering with enough time to allow for a significant volume of natural flow to continue through the system, ensuring there is no impact on downstream water quality.

Ensham will continue to provide the results of water quality monitoring on its website.

Ongoing maintenance and monitoring

Ensham has invested significantly in infrastructure to ensure future inflow of water to the mine site is minimised, including:

- flood protection levees to a design specification to withstand a 1,000 year Average Recurrence Interval ('ARI') flood event which proved effective during the 2010/11 wet season
- reducing the risk of rainfall being held on site with the upgrade of rainfall run-off diversion systems to minimise run-off into mining pits.

We have also upgraded the mine water reticulation system to enhance water transport, release capability and monitoring.

This upgrade includes construction of a nine kilometre pipeline linking the northern section of the mine to the mine water reticulation system and the installation of real time "in-stream" water quality monitors up and downstream of our operations, water release pumps to manage the release of water and flow monitors on all water release points.

Where to from here?

Ensham has commenced consultation with key stakeholders regarding our TEP application, including DERM, local and regional Councils and members of the Fitzroy Water Quality Advisory Group.

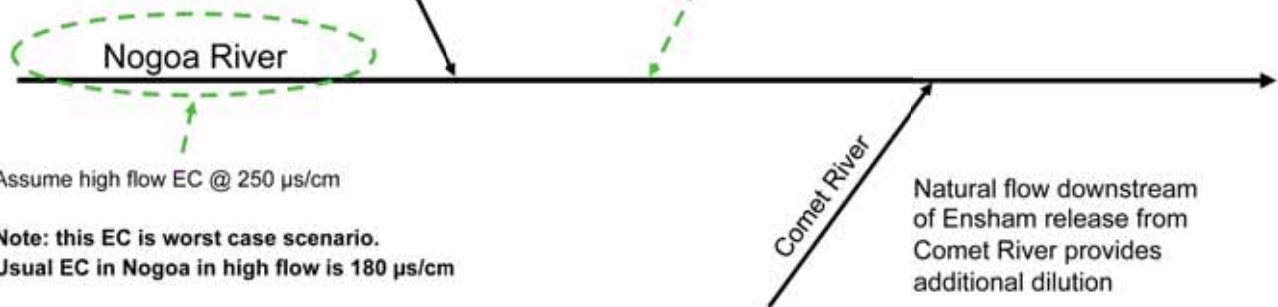
More information

If you would like more information please contact Colin Moffatt or Jan Green at Ensham Resources.

DOWNSTREAM WATER QUALITY MANAGEMENT

Direct release to Nogoia River rate up to 300 ML/day @ EC 10,000 $\mu\text{s}/\text{cm}$

Release (pump) rate varied by flow meters to control downstream EC or other physical parameters to meet compliance



Note: this EC is worst case scenario.
Usual EC in Nogoia in high flow is 180 $\mu\text{s}/\text{cm}$

Note: Comet River EC is generally higher than Nogoia River EC during high flow events



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