

Hazelwood Inquiry info/DPC@DTF

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To Hazelwood Inquiry
info/DPC@DTF
cc
bcc
Subject Morwell Mine Fire Submission

Title: Mr

First Name: Michael

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Organisation represented (if applicable): -

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Content of submission (you can choose multiple): Measures taken by Hazelwood Coal Mine to prevent fire

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M_Gunter-20140512-submission.pdf

[REDACTED]
North Melbourne
Victoria, 3051
Monday 12th May 2014

Hazelwood Mine Fire Inquiry
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Dear Board of Inquiry Members,

Evidence of a triple-backup plumbing system at Morwell Open Cut

My apologies for submitting a third submission, after telling you that #2 would be the last. I do so because informal discussions with [REDACTED] only yesterday left me with the impression that there may have been a couple of relevant technical "plumbing" details with the old SEC reticulation that he may not have had the time to share with you already. If I am wrong about this, and you already have a comprehensive schematic of the old SEC reticulation backup supplies, then this submission is superfluous and I apologise.

There are some notes on page 2 followed by a colour schematic on page 3. The schematic is a crude mud map overlay on one of the still images from the 1977 video already submitted: **VPRS 5061/P0002/83 "Document No 002216 Fire Fighting In The Open Cut. Master"**.

Yours faithfully,

Michael Gunter

Notes:

There used to be approx 100km of water reticulation piping in the Morwell (Hazelwood) mine. The system had (i) four electric pumps taking dirty water from Level 8 to a 100,000 gallon settling tank up on undisturbed ground beside the open cut, then to a small treatment works, with the outflow going to the Hazelwood pondage.

The 100,000 gallon tank had a dual function, in that its default plumbing configuration allowed it to act as the header tank to a gravity-feed back down into the same interconnected piping network of dirty water pumps, and ring mains at every level of the mine. This allowed gravity feed from the main tank even if all four primary sump pumps lost electric supply.

The first backup was by (ii) five electric pumps fed from the Hazelwood pondage, these would automatically start pumping whenever the primary pumps down on Level 8 could not deliver sufficient (or any) dirty water from the mine sump.

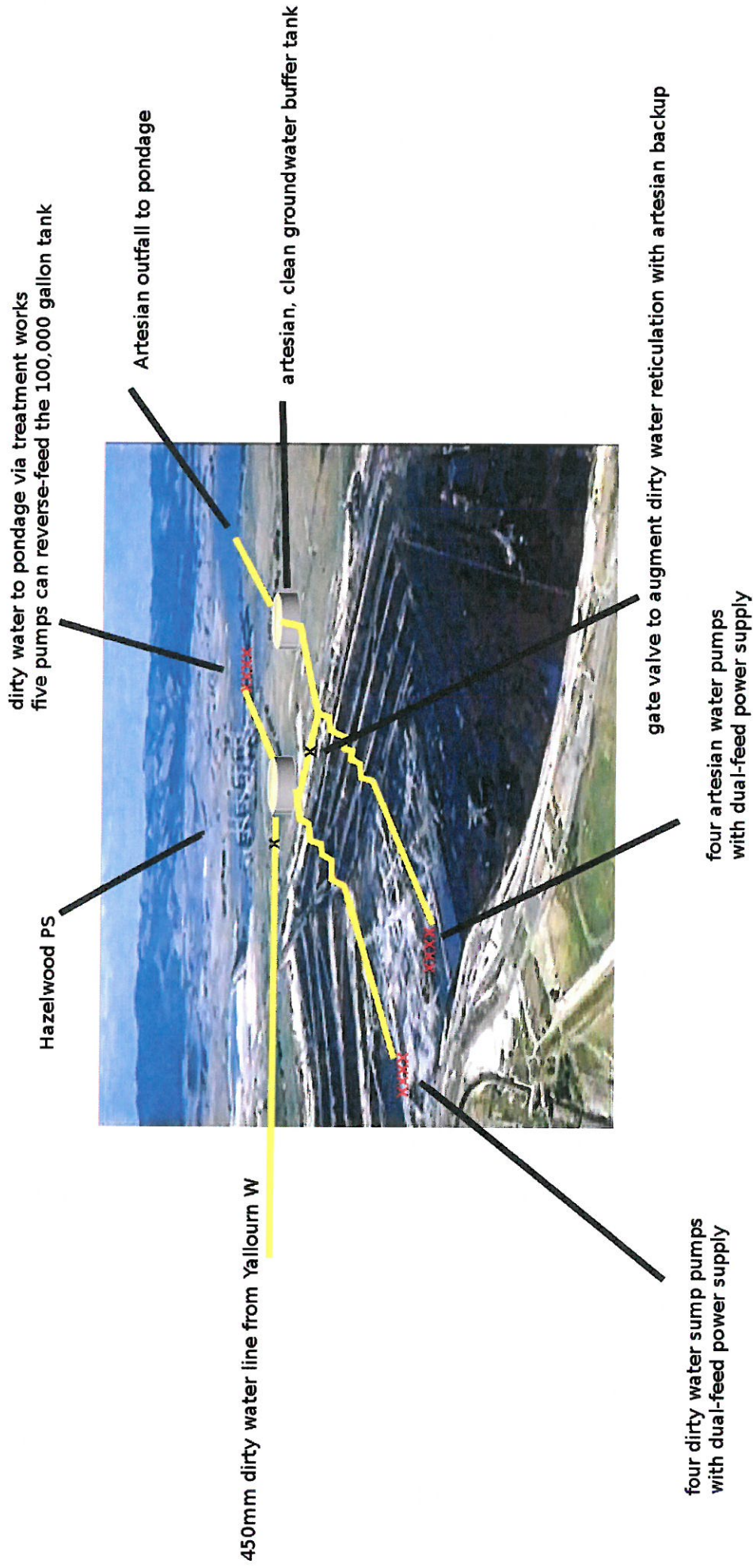
However the 100,000 gallon tank could potentially run dry and be useless unless it was maintained full by second and third stage backup systems:

(iii) Another pumping system dewatered the mine by a system of bores in the floor of the mine, collecting relatively clean artesian water via a separate series of pumps and pipes feeding uphill directly into the Hazelwood pondage, thus keeping the floor of the mine from being flooded by the natural water table. In an emergency, there was an interconnecting pipe and gate valve up high near the rim of the mine that could stop flow going into the pondage, and divert it into the firefighting "dirty water" circuit to ensure another level of backup.

(iv) Finally, a backup 450mm dirty water supply from Yallourn W "via" Loy Yang ("via" not strictly correct because the supply was, and apparently still is, a branch line off the main Yallourn W to Loy Yang pipeline). It seems that in recent years a dredge was damaged during a mine fire because the mine operator had LOST THE KNOWLEDGE about the available "dirty Loy Yang" supply -- a 450mm diameter pipe -- to top up the 100,000 gallon main firefighting tank.

In summary as I understand it now, **this is a fire suppression system with four independent means of supply**. Such redundancy builds resilience, which if lacking in recent years must urgently be fully restored to how the SEC used to run things responsibly. Restoration of that resilience will be important if future big fires at Hazelwood, Loy Yang, Yallourn W and Anglesea are to be prevented.

Rough schematic showing multiple backups to the main dirty sump-water firefighting water supply. This schematic overlay on a photo of the mine is my understanding of the basic layout as told to me by Bill Brown on 11th may 2014. It may add to what Mr Brown has already told the inquiry.



NOT SHOWN: 100km of ring mains and subsidiary reticulation at every level within the mine these are basically directly connected to the dirty water line which runs from the mine sump to the *bottom* of the main 100,000 gallon tank (on the left).