

I'd like to thank the Panel for their hard work on reading all the material presented and in its endeavour to provide for a wider range of community representation.

I pass on apologies from my father James Hanan and my brother and sister Grant & Kate Hanan.

Our submission focused on the long-term quality of water particularly in relation to the downstream implications of the proposed Bendigo Ophir mine. The application before us does not deal adequately with the environmental risk that the goldmine will have over the lower Lindis catchment. Particularly we are concerned about the risk on the water that we, and others, drink.

We have detailed these concerns in our submission. We present our submission and comments at this hearing as community members rather than technical or legal specialists.

MGL is looking to extract significant value from this part of Otago. We ask that the company do its 'best efforts' to mitigate the risks that we, and many others, have outlined. We also seek to have in place robust plans should any calamity occur.

I will focus on three themes where we believe that the company and Panel could improve and do more to allay our concerns. I will then quickly address the responses to our submission made by the applicant.

The three themes are accuracy, process and standards.

1. Regarding accuracy. We detailed multiple examples in our submission where MGL experts had commented on the lack of detailed information on the lower Lindis catchment, both in the substantive application and subsequent additions. The respondent rebuffed these concerns in his section 53 response citing that they were made out of context. Yet in the very same report on paragraph 72 regarding the Lindis Aquifer they state quote

In my professional opinion, the LARA has not received sufficient scientific investigation or monitoring from ORC or other scientific body (e.g., Earth Sciences NZ) consistent with the Lindis River and LARA's importance in regional water management. Currently there are only partial formal studies, informal studies, desktop hydrological assessments to support hearing evidence, and little continuing monitoring aside from surface water at Ardgour Road and Lindis Peak.

unquote

And also in his response to the Panel's RFI on the same day on the Ardgour Aquifer he states, quote (39)

"Little is known about the Ardgour aquifer in terms of its dispersion and hydrochemistry" unquote

Two EDS reports, from Dr Leeanne Morgan and Jennifer Webster Brown, also point out the limited data available and detail problems with the modelling so far undertaken.

Taken together, this points to significant gaps in the understanding of the various downstream interactions and those gaps will mean the panel will be making decisions on incomplete information, thereby increasing the project's risk profile.

As we have previously requested, **use of a proven model** would enhance the accuracy of the modelling and provide greater confidence that the outcomes being proposed will in fact occur.

**The application should not proceed until the applicant has increased its understanding of the hydrology of the area.** Once this has been done all previous modelling needs to be rerun using the new model and resubmitted to the Panel.

2. Regarding Process. We hold general concerns about the underlying premiss of the overall process, that of speed. We also have specific concerns that the proposed 'hot tubbing' may undermine independence thereby increasing the risk profile on the environment.

A project of this complexity requires a significant level of examination and should not be hurried. We are part way through a process in a multi-layered review where sequential reports, RFIs, and responses and counter responses, spread across numerous groups, are making it difficult to maintain a unified, coherent record. It is hard to see the wood for the trees. This compressed process increases the probability that some risks are overlooked. That risk is not compatible with a project of this scale and uncertainty. It is worth asking what's the urgency? The gold will still be there in a year's time.

And unless carefully managed hot tubbing is likely to create proximity and familiarity bias among others. I am sure that the panel will put in place protocols for correct engagement and solutions for where impasses occur. For example, written terms of reference stating experts owe duty *only* to the regulatory outcome, not to the party that may be paying them Or where experts disagree, the default setting should be to the more protective criteria, the default being the safest design where uncertainty exists. We hope that there are similar processes for the 'workshops'.

Although not in a formal hot tubbing situation you can see the issue in this example. In our submission we suggested that a 10 year ARI proposed by MGL was insufficient for the silt and sedimentation ponds. The consultant Geosolve recommended that a 50 year ARI was appropriate for the Shepherds Silt pond. This has now been countered with an ARI of 20 years by the applicants consultants. (EGL 30th Jan)

Ten, twenty, and fifty years represent different failure probabilities: 10%, 5%, 2% per year. A compromise of twenty years from 50 years is a negotiated increase in

environmental risk. Central Otago has a long history of highly localised flash flooding and with projected climate change, this is only going to increase.

**The environment is not something to negotiate over, it has no direct voice. Its protection comes from the veracity of the process.**

### 3. Regarding Standards.

The applicant frequently states that various parts of the application meet New Zealand standards, from dam building to water quality. But we ask that the panel also consider whether those standards are sufficiently robust for the specific risks here. We also ask that should there be a level of debate around the required standard, that the panel again seek the most precautionary option.

For example, the lack of a geomembrane to line the various dams and ponds comes under some conjecture between the experts. Where there is disagreement, the Panel should adopt the safest standard available. Simply put in the lining.

We ask that the panel look at the worst case scenario and select solutions *across the full application* with that in mind. **The consequences of even a small miscalculation can have indefinite negative implications on this part of Otago and the water we drink.**

I would quickly like to address the response to our submission by the applicant

- **On the omission of critical aquifers** - The applicant states the credentials of the representatives and notes the reports filed but does not point to areas where the aquifer was covered. Why? Because there wasn't anything meaningful stated.
- **On Inadequate understanding of ground - surface water Interactions and need for use of a proven model.** We covered this in the section on the need for accuracy. The respondent appears focused on limiting liability rather than addressing the substantive data gaps. We note continued 'backfilling' by the applicant. This should have been fully addressed at the substantive application stage.
- **On No effective modelling of plume prediction.**  
In a recent RFI response the applicant stated that 28 tonnes of sulphur would be advancing at 0.9 meters per day from the TFS. This was the first acknowledgement I could find of the likely plume flows. Yet for us no such information was provided - quote "MGL was unable to commission the development of a calibrated and fully optimised groundwater flow and transport model within the Shepherds creek alluvium, Ardgour Aquifer and the LARA during the time of the primary effects assessment, due to the deficit in aquifer geometry and calibration data"

- On **Climate Change**. The respondent mainly dealt with the design elements of the TFS but nothing on the project as a whole. And on carbon abatement the respondent simply does not address it, which is a requirement of the FTAA.
- On the **Lindis aquifer needs to be treated as both surface and groundwater**. Our respondent notes that Quote “ MGL has a comprehensive understanding of the dual interaction” unquote. But at no time does it address the issue. **And further, On the difference in water quality between groundwater and surface water** I failed to understand the logic. If water moves between the two then there has to be a unified quality metric. We notice some movement here by the ORC.
- And finally on **Plan Change 5A - Water Allocation**. The respondent notes that In the case of a calamity the ORC will be in the difficult position of potentially seeking extra water from upstream farmers to enable dilution of a polluted downstream aquifer. Something of a Hobson's choice. The Lindis River is fully allocated. We have no way of knowing what will occur because a remediation schematic has not been presented.

In conclusion the Panel is being asked to make decisions on incomplete information (accuracy), within processes that increase the likelihood of error, and against standards that may not reflect the level of risk involved.

We submit that the application should be declined. If the Panel is not minded to decline at this stage, then the application should be paused to allow MGL to address the identified information gaps.

Should the Panel nevertheless be minded to approve the application, it should do so only with the most exacting standards and robust, enforceable conditions applied throughout.

To misquote Einstein, “God does not play dice with the environment, and neither should we”.

Once again we thank the Panel for its work and do not envy its task.

Does the Panel have any comments or questions?