

**Before a Hearings Panel Appointed by the
Selwyn District Council and Canterbury Regional Council**

Under

the Resource Management Act 1991
(Act)

And

In the Matter

an application under section 88 of the
Act by Bathurst Coal Limited in
relation to the completion of mining
and closure and rehabilitation of the
Canterbury Coal Mine in the Malvern
Hills, Canterbury

**Summary Statement of
Sioban Doreen Hartwell (Water Quality)
for Bathurst Coal Limited**

Dated: 26 October 2021

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INTRODUCTION

1. My full name is Sioban Doreen Hartwell.
2. I have the qualifications and experience set out at paragraphs 1 - 5 of my statement of evidence dated 1 October 2021.
3. I reconfirm that I have read and agree to comply with the Code of Conduct for Expert Witnesses in the Environment Court Practice Note 2014.
4. In this statement, I provide a summary of the key points in my evidence and respond to the evidence provided for the Council which I have read.

KEY POINTS

5. My evidence comments on water management including compliance monitoring as it relates to erosion and sediment control at the CCM site.
6. I have provided support to Bathurst Coal Limited (**BCL**) in relation to site water management at their Canterbury Coal site since 2017, including collating their Environmental Management Plan in 2018 and providing 'on-call' technical support to the site team to review drainage and sediment pond sizing calculations and management approaches.

Compliance during CCM operation

7. Since I first visited the site in 2017 I consider that BCL has made significant improvements in its approach to erosion and sediment control, including water treatment and proactive erosion prevention. This is evidenced in their record of compliance with its resource consent requirements over the last 2 years, which I have reviewed.
8. My overall conclusion in terms of my review of these records, is that BCL has complied with discharge consent conditions over the last two years, including for the intensive rainfall event that occurred in May 2021.

Surface water management systems

9. Based on my review of the Surface Water Management Report, supporting calculations provided to me by BCL and current progress on site, it is my

view that BCL are taking a “best practice” approach to surface water management systems for closure to minimise sediment release.

10. Further, BCL advocates for an adaptive management approach through the closure and post closure period and I support this as it provides some flexibility to respond to any issues that arise over these periods. As a result, I consider that BCL has minimised the potential for long term impacts on receiving water quality associated with erosion and sediment release.
11. I have reviewed the Section 42A reports issued by both Environment Canterbury and Selwyn District Council. As a general comment I did not identify any major concerns in relation to erosion and sediment control.
12. In terms of sediment control, in the long term with vegetation established and all final contouring and drainage systems in place, there should be minimal sediment release to surface runoff, meaning both the Northern ELF Pond and Tara Pond should not be needed long term for sediment control. However, it would be prudent to retain both pond systems until the closure works are proven to be effective (as is currently planned).

Comments on section 42A reports and conferencing

13. At paragraph 395 of the ECan Section 42A report a number of actions are proposed associated with decommissioning the current water treatment system over the closure period. I consider the clauses practical and achievable and support their inclusion.
14. There are two points raised in ECan Section 42A reports that were discussed in conferencing with Dr Adrian Meredith of ECan on 19 October 2021 and relate to my evidence:
 - (a) Firstly, Dr Meredith¹ advocated for development of habitat for mudfish through excavation of sediment within the Tara Stream bed. I raised in my evidence concern that such activity within a stream bed would be difficult to undertake practically without causing sediment release. In discussion Adrian noted he felt these deep zones could be relatively small and potentially created by hand-digging. If habitat

¹ Section 42A Officer's Report, 24 September 2021 at [387]

can be created without releasing sediment to the stream this would address my concern.

- (b) Second, in paragraph 394 of the ECan section 42A report there is a recommendation that the 50 NTU consent limit for turbidity that applies to location CC02 is retained (CRC170541) and that the turbidity limit "is assessed within the discharge itself at the discharge point". In conferencing we discussed that post closure the achievement of full vegetation cover should mean that measurement of turbidity is no longer required. The pragmatic approach would be to retain the current compliance location and condition for turbidity until the post closure period begins and then remove it – since at that point in time the more important metric is full vegetation cover in the upstream catchment. I note that moving the compliance point was agreed in relation to post closure compliance monitoring of other parameters that are associated with acid mine drainage (**AMD**).

Conclusions

15. Overall, in my opinion the closure works that are in progress and are planned are appropriate, with both design and construction being in line with acceptable good practice. My expectation is that the ongoing and future performance in relation to sediment release being minimised will continue if the works are progressed as planned, with associated continued compliance with consent conditions related to sediment release.
16. In relation to erosion and sediment control I am not aware of any outstanding matters or concerns from ECan in relation to the approach Bathurst has taken.



Sioban Hartwell

26 October 2021