

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

Under

the Resource Management Act 1991

And

In the Matter of

applications 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

**Statement of Evidence of
Claire Elizabeth Hunter (Planning)
for Bathurst Coal Limited**

Dated: 1 October 2021

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INTRODUCTION

1. My name is Claire Elizabeth Hunter. I am a Director with the firm Mitchell Daysh Limited, a planning and environmental consultancy operating throughout New Zealand. I have 16 years' experience in this field. Attached as **Appendix A** to my evidence is a list of recent project work I have been involved with.
2. I hold an honours degree in Environmental Management from the University of Otago. I am a member of the Resource Management Law Association and an Associate Member of the New Zealand Planning Institute.
3. I have been working with Bathurst Coal Limited (**BCL**) for the past three years. My firm was initially engaged to review the original resource consent applications that had been prepared and lodged for the retrospective resource consenting and expansion of the Canterbury Coal Mine (**CCM**), and the Selwyn District Council (**SDC**) and Environment Canterbury (**ECan**) section 95A – E notification reports. I have visited CCM on a number of occasions during both its operational period, as well as most recently on the 15th September 2021 to view the closure and rehabilitation activities occurring on site.
4. While this is not an Environment Court hearing, I have read and agree to comply with the Code of Conduct for Expert Witnesses in the Environment Court Practice Note 2014. This evidence is within my area of expertise, except where I state that I am relying on material produced by another person. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed in my evidence.

SCOPE OF EVIDENCE

5. I prepared the Addendum AEE for Closure and Rehabilitation of the CCM and the accompanying draft conditions of consent attached as Appendix 9 (district consent conditions) and Appendix 10 (regional consent conditions) to the Addendum AEE.

6. The Addendum AEE comprehensively outlines and assesses the closure and rehabilitation proposal and I do not repeat it in my evidence. My evidence:
 - (a) Briefly outlines the consenting history and existing environment/consented baseline for the CCM site;
 - (b) Briefly outline key matters within the closure and rehabilitation proposal;
 - (c) Sets out the relevant statutory framework and provides an evaluation of the proposal against that framework;
 - (d) Comments on submissions, consent duration and conditions of consent.
7. In preparing my evidence I have reviewed:
 - (a) The reports and statements of evidence of all other witnesses on behalf of BCL; and
 - (b) The Section 42A Reports prepared by Ms Dawson and Mr Henderson and the technical evidence prepared by others to support these.
8. I note in my evidence where I refer to or rely on the above reports.

CCM HISTORY

9. The CCM is located adjacent to the Coalgate Forest, within the Rural Zone of the Selwyn District, and is accessed off Bush Gully Road, Coalgate. Surrounding land use comprises predominantly forestry and pastoral farming with scattered rural lifestyle blocks. Both the operative and proposed Selwyn District Plans indicate that there are no Outstanding Natural Features, Outstanding Natural Landscapes or Visual Amenity Landscapes within or in the near vicinity of the mine.
10. Mining at the CCM site has been in near continuous operation since around 1872 and there has been an open cast mine since 2003. The mine was approved by resource consent R303578, which was granted by the SDC in 2000. The operator at the time of that 2000 consent was Canterbury Coal

Limited. BCL took over operation of the CCM in 2012 and legal ownership of the assets of CCM in 2013.

11. BCL holds a suite of existing resource consents from both the SDC and ECan (together “**the Councils**”) that authorise a range of activities at the CCM. **Table 1** of the Addendum AEE provides an overview of these consents.

CONSENTING PROCESS

12. Between 2017 and late 2019 BCL lodged applications with the SDC for a land use consent and a revised traffic land use consent and also made a series of applications to ECan in respect of earthworks and water related activities (**Applications**) for retrospective and future activities at the CCM. **Table 2** of the Addendum AEE sets out what these consents are being sought for.
13. These applications were publicly notified, and more than 600 submissions were received, mostly opposing the proposals.
14. For the reasons set out in Mr Pilcher’s evidence, BCL has made the decision not to progress with its planned expansion at the CCM and instead plans for cessation of coal winning and a move into full closure during the course of this year.
15. As the Applications and existing consents anticipated the eventual closure and rehabilitation of the mine, both BCL and Council staff have agreed that there is sufficient scope within the Applications and existing consents to provide for coal winning activities to cease and to bring forward the plan to close and rehabilitate the site. The Addendum AEE was prepared to make this refinement of the original application clear to all parties. My evidence relates to the activities set out in the Addendum AEE.

EXISTING ENVIRONMENT

16. The existing environment includes activities that have existing use rights, existing activities carried out under existing consents and resource consents which have been granted but not yet implemented, where it appears those consents will be implemented.

17. Applying the existing environment is important to the assessment of the Applications given that mining operations are long standing and existing, and any effects from the Applications only need to be considered where they are over and above already consented effects.
18. While there has been an ongoing disagreement between the Councils and BCL as to what is consented for the site, the Applications that are currently being processed and what is reflected in the Addendum AEE, are proceeding on an agreed, but without prejudice basis, as to the extent of the consented existing environment at the site.
19. I provide a summary of the consents being sought by BCL in context of this existing environment below.

EXISTING ENVIRONMENT AND CONSENTS REQUIRED

Land uses

20. As set out in the Addendum AEE, consent is being sought by BCL from SDC for all current (and retrospective) mining activities within the Mining Operations Area (**MOA**) and outside the consented baseline for earthworks and mining activities shown in Figure 1 below.



Figure 1: SDC Existing Environment – Earthworks

21. Out of caution a land use consent to authorise the disturbance of contaminated soil is also being sought (retrospectively) by BCL under the National Environmental Standard for Assessing and Managing Contaminants in Soil (**NES Soil**). Mr Henderson's section 42A report states that a consent under the NES Soil is no longer a requirement. This is on the basis that the closure of the mine is occurring, and the mine will not be expanding into identified HAIL areas¹. I adopt Mr Henderson's pragmatic approach in this regard.
22. As Mr Henderson has also observed many of these activities at the site have now ceased. The focus of the SDC consents is therefore to enable closure and rehabilitation of the site. This involves works to remove existing mining operation related infrastructure and structures, trucking movements associated with this and earthmoving activities to re-create the landforms.
23. BCL is also seeking land use consent for earthworks from ECan. This application was lodged on 16 March 2018, and seeks to authorise retrospective earthwork activities that occurred on the site from 2012, following the notification of the Canterbury Land and Water Regional Plan (**CLWRP**). Prior to the rules within the CLWRP taking effect in 2012, earthworks at the CCM did not require a land use consent under the Canterbury Regional Plans and fall within the existing environment. The extent of this existing environment (as I understand it to be) is shown in Figure 2.

¹ SDC Section 42A Report, paragraph 28

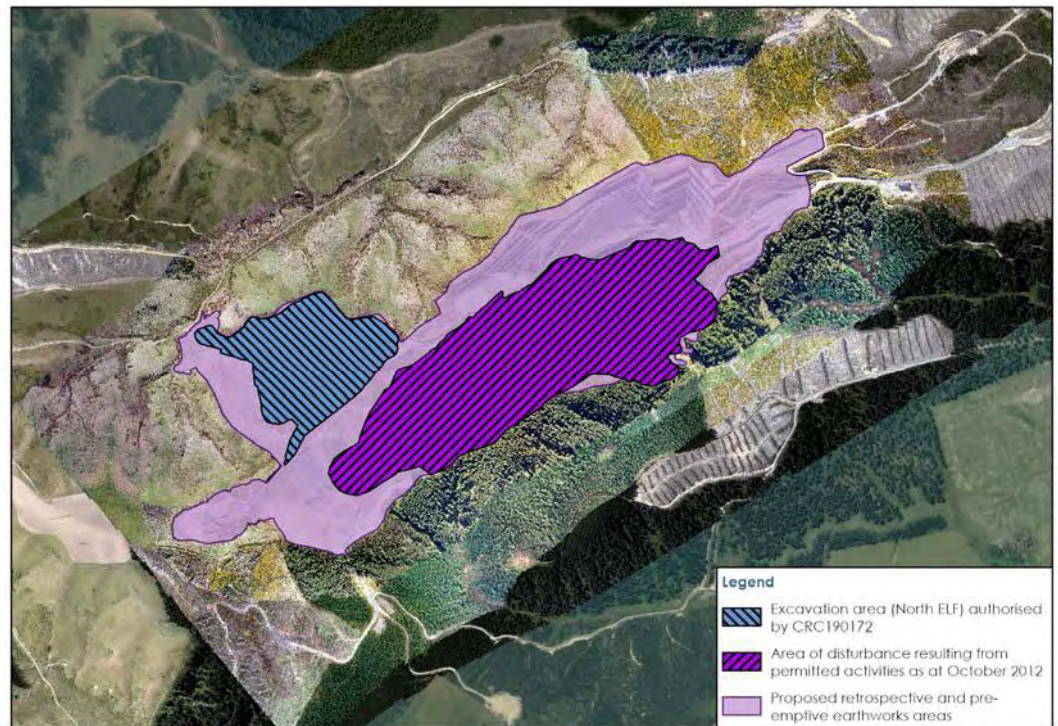


Figure 2: Existing environment relevant to earthwork activities pre 2012

Wetlands

24. As part of a further information request ECan questioned whether as part of the earthwork activity onsite, any wetland removal would be required as this would trigger an additional rule assessment and consent under the CLWRP.
25. It was acknowledged by BCL that an area of wiwi/exotic grass rushland located on the north-west side of the mine has likely been affected by the mining operations.
26. Despite there not being explicit reference in the original application to the wetland rules BCL considered that the scope and content of the applications (including the further information response) sufficiently covered the activities that will affect these wetland areas.
27. This was largely accepted but ECan sought specific confirmation from BCL that the application for CRC184166 is to be specifically amended to specify that earthworks will result in the removal of wiwi rushland/wetlands.
28. Reducing an area of wetland is a non-complying activity pursuant to Rule 5.162 of the CLWRP. This rule took effect in 2012, and any disturbance or

the reduction in seepages and wetlands that may have existed within the active mine footprint prior to this cannot be easily determined. If such areas were affected it is also difficult at this time to determine if they comprised “wetlands” as defined in the CLWRP (or previous operative planning documents). It is also considered that if any such wetlands were in fact present within the active or historic mine areas, then the disturbance and/or removal of such areas associated with the mining activities would have been undertaken in accordance with the appropriate or necessary authorisations prevailing at that time. No additional consents are therefore necessary for the pre 2012 removal of wetlands in my view and I do not consider that there is any need for BCL to offer offsetting or compensation for the loss of these wetlands.

29. The Addendum AEE includes coverage of wetland matters, and this is further discussed in the evidence of Dr Bramley.
30. BCL also holds consent to disturb and remove the Tara Stream wetland, as well as the removal of wetlands associated with the construction of the North Elf. These were issued consent by ECan - CRC183000 and CRC173889 and therefore form part of the existing environment.
31. The existing environment relevant to the removal of wetlands (if wetlands were known to exist) is illustrated in Figure 3 below.

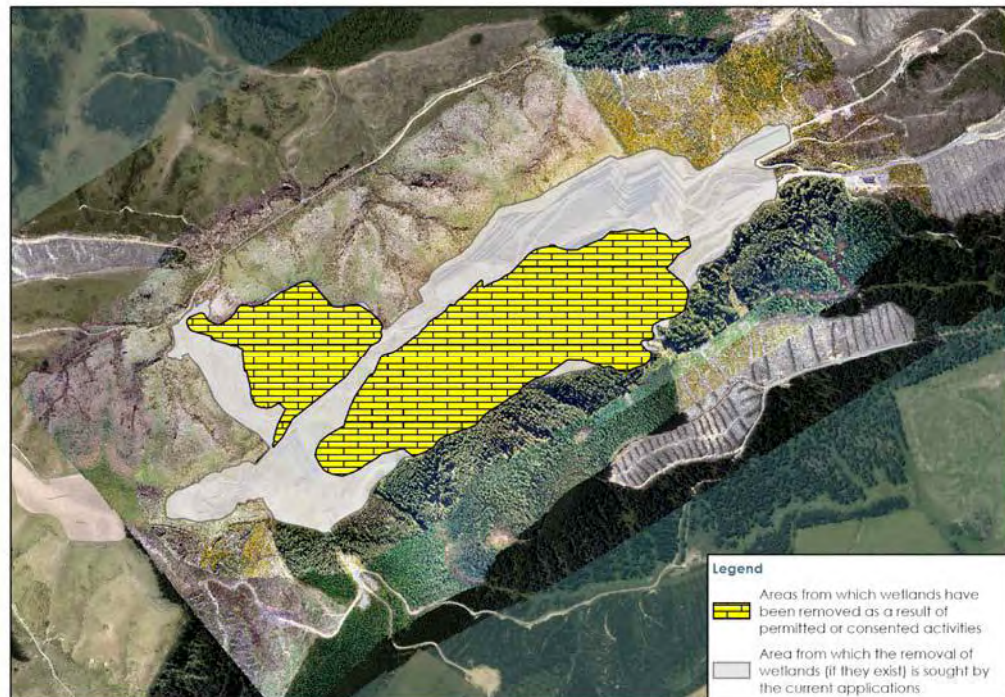


Figure 3: ECan existing environment relevant to the removal of wetlands

Air contaminants

32. CRC200500 seeks to authorise the discharge of contaminants to air, being fugitive dust, from within the mine operation area, as a replacement for CRC146449 that has now expired.

Water permits

33. During ECan's processing of the earthwork consent (CRC184166) it was identified that some minor diversions of water occur between catchments during the earthwork and mining activities, and that the taking of water for dust suppression requires resource consent. BCL lodged consent for these activities on 25 September 2019.

AMD management

34. BCL already holds consents which provide for the implementation of an Acid Mine Drainage (**AMD**) Treatment Strategy and other stormwater and mine affected water treatment discharges to the Tara Stream. These AMD consents (CRC170540 and CRC170541) were granted on 24 January 2017.
35. During ECan's processing of CRC184166 and subsequent applications, it was identified that the AMD consents did not include all the legal land parcels

that the MOA is located within and to/from which contaminants were discharged. BCL maintains the view that these land parcels were omitted from these consents in error. However, given that the management and treatment of mine water flows are essential to the sustainable operation of the mine, BCL agreed to apply for the additional consents to correct the historic errors in coverage. CRC201368 and CRC203016 were applied for as supplementary consents in order to ensure that the AMD consents covered all of the MOA.

36. Despite these additional applications, ECan continued to hold the view that despite the supplementary applications that seek to provide for these activities on the additional land parcels, BCL would still not hold all necessary resource consents to fully implement the AMD or Water Management Treatment Strategy at the CCM.
37. BCL maintains the view that the scope of the existing AMD consents is the entire geographic footprint of the CCM as set out within the legal descriptions listed in the consents. However, to move the closure and rehabilitation process forward BCL agreed to vary the existing AMD Consents (CRC170540 and CRC170541) as part of its closure plan. These variation applications were applied for concurrently with the Addendum AEE.
38. As explained in Ms Dawson's report, ECan subsequently decided to process CRC214320 as a new and replacement consent for CRC170540. CRC214321 remains a variation to CRC170541. Both consents have been accepted and are being processed on a non-notified basis. I understand that these are to be determined, however, as part of this suite of Applications by the Panel.
39. Figure 4 below illustrates how these consents apply to the site.

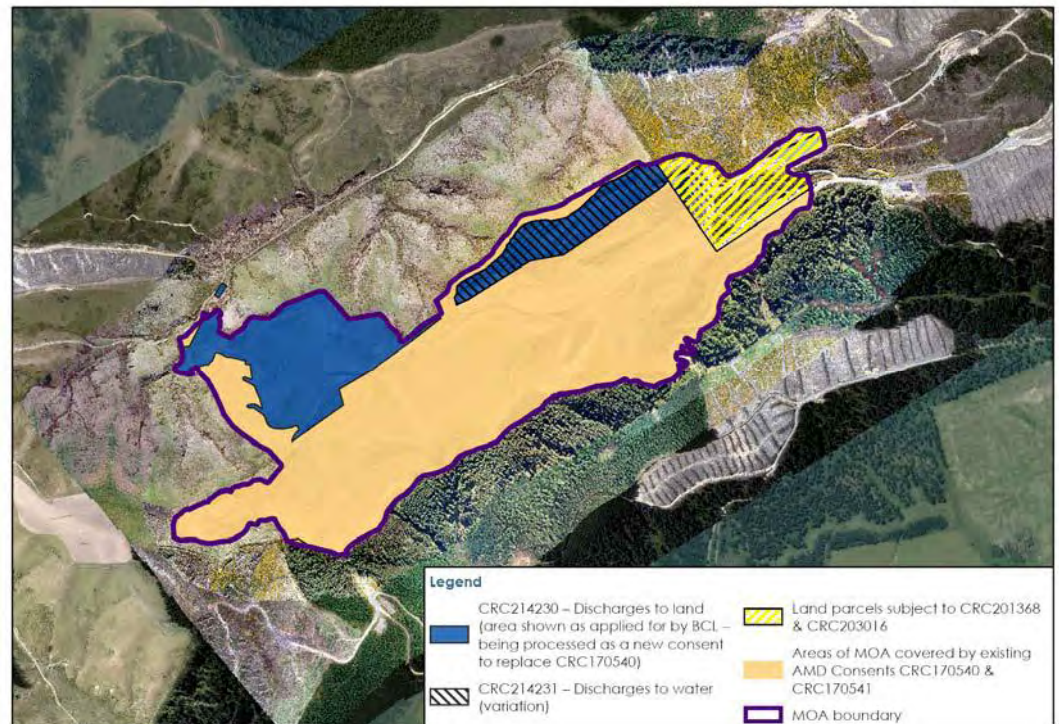


Figure 4: Areas relating to the AMD Consents either held by BCL or being sought as part of these Applications

PROPOSED CLOSURE AND REHABILITATION PLAN

40. As set out in Section 1 of the Addendum AEE, the CCM Closure Project **(Project)** involves the following activities:
- (a) At that time a further few months of coal winning from the N02-N03 Pit (refer to Figure 5 below) – though I understand this is now largely complete;
 - (b) Approximately another 6-12 months of earthworks required to construct the final landforms;
 - (c) Establishment of a vegetative cover, with controlled run-off reporting to the receiving catchments, and creating acceptable conditions for post-mining land uses (pastoral farming and forestry) from 2023.

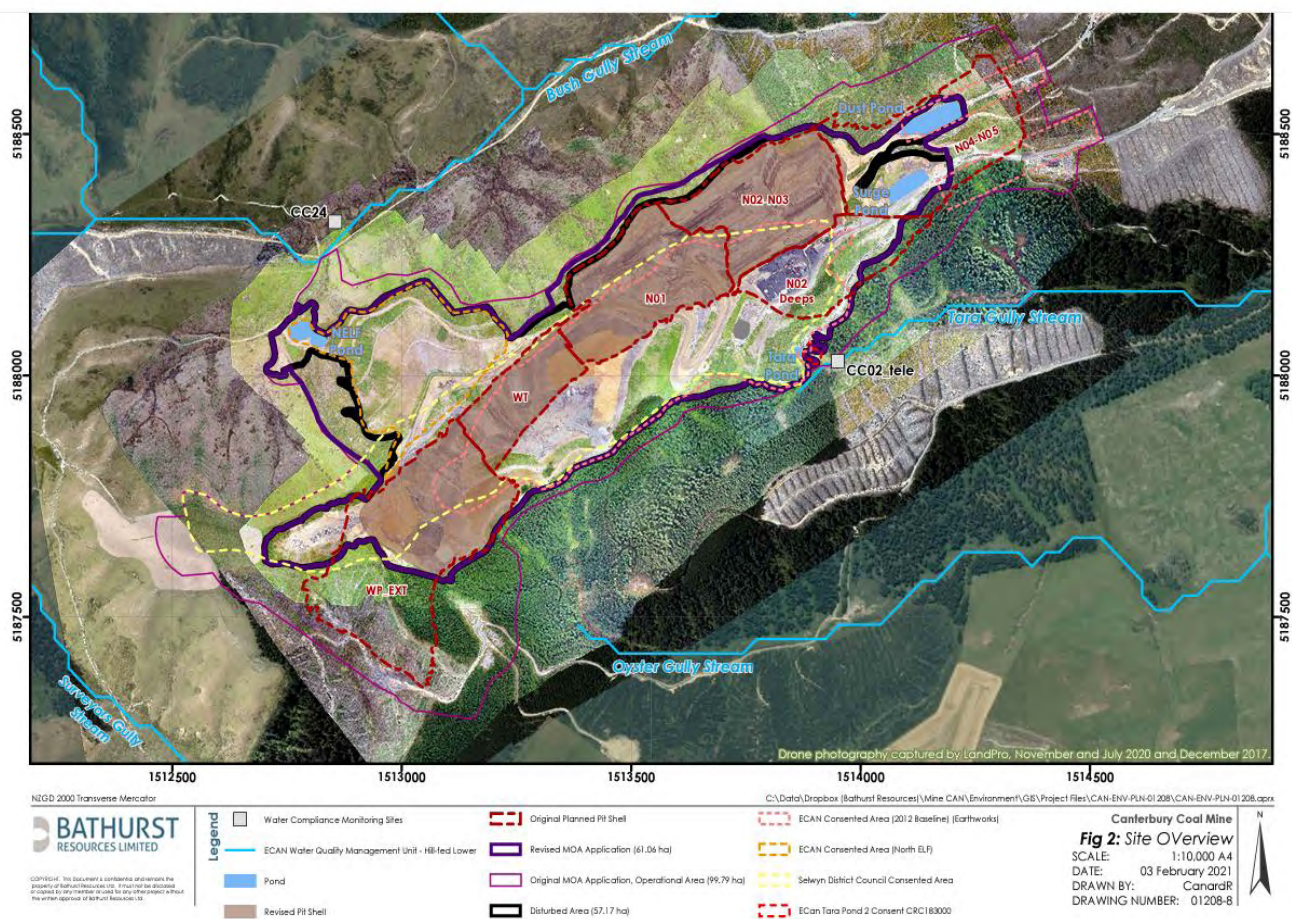


Figure 5: Site Overview

41. Section 2.2 of the Addendum AEE provides a detailed description of the final operational phases.
42. Section 2.3 provides an overview of the closure and rehabilitation activities. These are further explained in the evidence of Mr Sinclair.
43. The Panel will have read these documents and I do not therefore need to repeat this information.
44. I do however wish to make comment on the areas which I consider to be key with regard to the assessment of this closure proposal. These areas relate to:
 - (a) Water management and water quality;
 - (b) Final catchments and landforms; and
 - (c) Wetland management.

Water Management and Water Quality

45. As Mr Sinclair explains the primary objectives of water management during closure and rehabilitation will be to continue to:
 - (a) Separate clean and residual mine influenced water to ensure that only water impacted by the CCM operations is treated prior to discharge, and
 - (b) Treat mine influenced water to ensure that it does not have any adverse effect on the environment and that it meets any discharge criteria set by relevant resource consents or plan rules.

46. In addition to the water management measures that will be maintained during the closure and rehabilitation phases of the Project, water management post closure will include:
 - (a) Once landform closure criteria have been met, water will be re-directed from the mine-water management system to its natural flow path across the rehabilitated landform to its natural catchment;
 - (b) The redirection of water will be determined and triggered by the landform stability and extent of stable vegetative ground cover within the catchment to ensure that erosion or sedimentation will not occur during rain events beyond that which could be expected in the surrounding catchments;
 - (c) Adaptive management trigger action response plans (**TARPs**) will be developed for the water management system post rehabilitation. Dr Weber has provided further detail on this in his evidence. This relates to ensuring long term water quality monitoring and compliance. TARPs will provide secondary controls if performance criteria within consent conditions are not being met;
 - (d) In some areas lined drains may still be required; and
 - (e) Some water may be used for irrigation purposes while the vegetation in exposed or north-facing slopes establishes.

47. Existing consents held by BCL require water quality monitoring and compliance to be measured at downstream points of the site.

48. BCL will continue to implement the approved AMD treatment strategy that has been authorised via existing consents issued by ECan (CRC170541 and CRC173823 and CRC170540).
49. In the mining context, the term 'domain' is used to identify a specific area or structure within the greater mine site. Operationally the CCM is separated into two general mining domains, the Tara Domain and the North ELF Domain (that drains into Bush Gully). The ridge line between Bush Gully and the Tara catchments is the boundary between these two domains. Upon closure these domains will remain the most relevant with respect to ongoing water quality management.

Tara Stream

50. While the rehabilitation plans aim to minimise long term AMD discharges, there may be a requirement to provide ongoing passive treatment of the water from the site prior to it entering Tara Stream. A passive treatment system comprising a mussel shell reactor is proposed. This system will target treatment including:
 - (a) Removal of iron (Fe (which is potentially in the ferrous (Fe²⁺) speciation) by aeration (in standing water on the surface of the MSR), hydrolysis to form insoluble Fe precipitates, and filtration through the mussel shell media; and
 - (b) Removal of Manganese (Mn) and Zinc (Zn) through either co-precipitation/adsorption to Fe precipitates or direct hydrolysis to form insoluble Mn and Zn precipitates.
51. At times, some further dilution within the proposed treatment system will be required to ensure compliance limits can be met for certain elements (zinc and Boron) in the discharge water. It is anticipated that the required dilution will be available during almost all occasions from the N02 pond that is designed to remain as part of the final landform. Dr Weber explains this in further detail in his evidence.
52. BCL will maintain an adaptive management approach to ongoing and the proposed closure water management and quality onsite. In this regard, BCL intends to continue to monitor the surface water quality downstream and respond accordingly to results (i.e. undertake further monitoring as required

or implement additional mitigation actions if monitoring detects any potential issues etc). It may be that periodically maintenance of the treatment system is required to maintain its optimal performance. Dr Weber provides a further explanation as to what this maintenance regime will involve.

53. Over time it is anticipated that the contaminant loads relating to AMD will reduce actual monitoring data will be used to establish future treatment requirements.

Bush Gully Stream

54. The existing North ELF Domain surface water management system comprises contour drains to intercept runoff and direct it to two sediment ponds at the toe of the ELF. Underdrain water also collects in these sediment ponds. The ponds discharge to a tributary of Bush Gully Stream by a floating decant system designed to moderate peak discharge flows and provide surge capacity for suspended sediment management during rainfall events.
55. Post closure the water will follow natural flow paths to the ponds and the decant system will be removed and replaced by a weir. Mr Sinclair explains this in further detail in his evidence.
56. I understand that contaminant concentrations in Pond 2, at the toe of the North ELF have stabilised as construction of the North ELF has been completed. Water quality monitoring also demonstrates that the discharge is consistently meeting CRC173823 compliance limits.
57. It is unlikely that water quality will change significantly from that identified by the current data. Performance monitoring is in place and if contaminants of concern increase an adaptive management response may lead to the installation of a MSR to treat AMD impacted waters as provided for in CRC173823 or develop other water management processes as necessary.

Final Catchments

58. The final landforms will result in a slight change to the area of the catchments and sub-catchments draining into the Waianiwhiwa and Selwyn Rivers. These changes are negligible at a catchment scale (all less than 1% change in the catchment area). Changes to all sub-catchment areas are relatively small, ranging from 0.617% (Oyster catchment) to - 0.307% (Bush Gully). It

is noted from this that whilst a section of the Tara catchment is lost (west side of MOA) a similar-sized section is gained in this catchment to the north of the MOA.

59. The impact of the N02 pond, spillway and drainage channel which will remain long term, will be to buffer surface water runoff, i.e., reduce peak runoff but sustain low flows (to an extent determined by the spillway threshold). It is envisaged that the spill level of the N02 pond could be managed with the lower Tara pond to ensure minimum low flows to the Tara catchment are sustained.

Final Land Uses and Landforms

60. The final rehabilitated land will be suitable for a mix of pasture and forestry land uses, as determined in consultation with the landowners. Native planting may also be undertaken around water bodies and riparian margins by the landowner as a post mining land use.
61. Dr Boffa has provided an assessment of the final landforms from a landscape and visual perspective. He confirms that the objective is to create landforms that reflect and/or are in sympathy with the surrounding natural landscape with surface water flows from the rehabilitated landforms generally reporting to, and in the same proportions to the Tara and Bush Gully Streams as they would have prior to mining.
62. Dr Boffa confirms in his evidence that the final rehabilitated landforms expected on site will achieve the following outcomes:
 - (a) To leave a reasonably naturalised final landform within its surrounding landscape context.
 - (b) Slopes to be finished aesthetically in form and profile to the existing finished areas to the north west of the mine site.
 - (c) All skylines to be natural in form so as not to appear uniform.
 - (d) The slopes and ridgelines visible from neighbouring properties – 295 Malvern Hill Road in particular, to appear natural in skyline, slope, contour and vegetation cover.

- (e) That for consent purposes the proposal final landform be portrayed so its form and surrounding context are reasonably able to be interpreted by Council staff.

Wetland and Ecology Restoration / Management

63. Retrospective earthwork activities at the CCM include the removal and /or disturbance of wetlands over a total area of approximately 1.2ha. Figure 6 presents the vegetation mapping within the MOA.

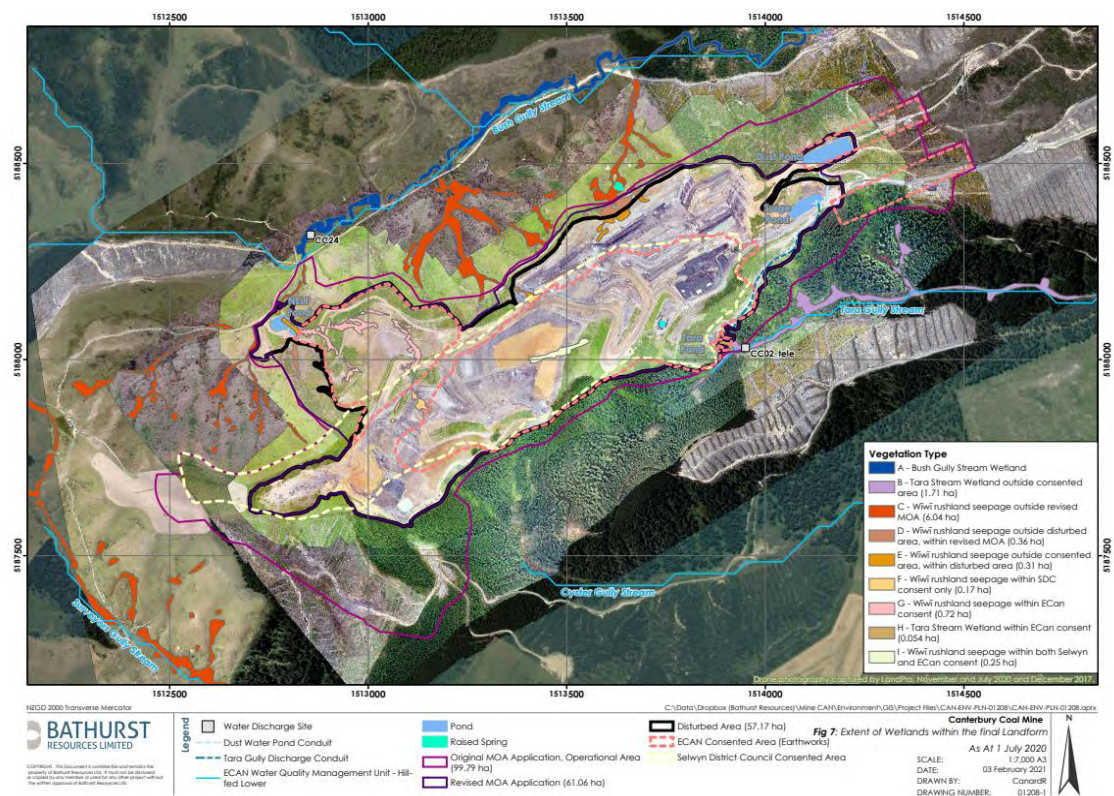


Figure 6: Vegetation and Wetlands within the CCM and surrounds

64. In order to identify the location of seeps/wetlands that may have already been removed from any location within the MOA review of the historical aerial photographic imagery (1995-1999) that existed prior to 2012 (consented baseline) was undertaken.
65. The area calculation used to determine the wetland extent that has been affected by current mining operations excludes those that are within the ECan and/or SDC legal existing environment / consented baseline. As discussed in paragraph 28 this excludes those which may have existed

within the earlier mining footprint pre 2013 and therefore do not require retrospective consent.

66. BCL currently has an agreed compensation package in place with ECan for the removal of 540m² of wetland associated with the consented but not constructed Tara Pond 2 (CRC183000). The compensation package included the restoration of 2,900m² of wetland vegetation in Bush Gully. Tara Pond 2 is no longer required as part of the mine closure plan and this consent will be surrendered. The Tara wetland will not be affected as a result, however BCL intends to incorporate the agreed compensation works for Tara Pond 2 as part of its overall wetland enhancement programme proposed.
67. BCL has been involved in ongoing discussions with ECan with respect to offsetting the wetland area removed for the construction of the existing North ELF (CRC190172). The conditions of this consent required the development of a Wetland Offset Management Plan², and a Lizard Management Plan. These discussions included a range of opportunities available to develop a suitable improvement package³. Although in general the proposal was acceptable to ECan, the extension of the 6-month deadline as set out in CRC190172 was given to allow the retrospective SDC land use consent (RC185622) to be processed.
68. As noted, BCL intend to build on this work that has already been presented and this is now reflected in the Wetland Management Plan as outlined in the evidence of Dr Bramley.

STATUTORY EVALUATION

69. This section of my evidence deals with those matters inherent in the Hearing Panel's consideration of the various consents that are being sought by BCL under section 104D and section 104 of the RMA.

² Conditions 16 – 23 CRC190172

³ The most recent of which is detailed in a BCL memorandum dated 23/09/2019 that was presented and discussed at ECan's offices on 14/11/2019.

Overall Activity Status and Bundling of consents

70. While the majority of the activities that will be associated with the CCM Closure Project require consent as a discretionary activity under the Operative Selwyn District Plan, the retrospective nature of the consents that are being sought mean that the resulting activity status will remain that of non-complying.⁴ This is further explained in Mr Henderson's report⁵ and I agree with his analysis.
71. Similarly, retrospective earthworks occurring outside the ECan existing environment⁶ have resulted in the removal of some areas classified as 'seepage wetland'. The removal of a wetland area triggers a non-complying activity status pursuant to Rule 5.162 of the CLWRP.
72. On the basis that all consents from both the SDC and ECan have been "bundled", all activities therefore need to be considered in terms of the requirements of section 104D of the RMA.
73. The Panel will be familiar with the requirements of section 104D, which establishes restrictions on the ability of a consent authority to grant resource consents for non-complying activities. It states:
- (1) *Despite any decision made for the purpose of notification in relation to adverse effects, a consent authority may grant a resource consent for a non-complying activity only if it is satisfied that either—*
 - (a) *the adverse effects of the activity on the environment (other than any effect to which section 104(3)(a)(ii) applies) will be minor; or*
 - (b) *the application is for an activity that will not be contrary to the objectives and policies of—*
 - the relevant plan, if there is a plan but no proposed plan in respect of the activity; or*

⁴ Rule 7.0 – Discharge of CCR material as a hazardous substance and Rule 9.21 Activities and Clearance of Indigenous Vegetation and Indigenous Plant species.

⁵ Paragraph 19 of the SDC section 42A report

⁶ The Canterbury Land and Water Regional Plan ("CLWRP") was notified on 11 August 2012 and rules relating to earthworks on erosion prone land took legal effect on this date. As a result of Rule 5.171, earthworks at the CCM require resource consent for a restricted discretionary activity. CRC184166 seeks retrospective resource consent for earthworks that took place after 11 August 2012.

the relevant proposed plan, if there is a proposed plan but no relevant plan in respect of the activity; or

both the relevant plan and the relevant proposed plan, if there is both a plan and a proposed plan in respect of the activity.

74. I have approached the section 104D(1)(a) assessment in context of the outcome of the closure and rehabilitation activities being fully and properly implemented. This results in the site being restored in a way that will largely emulate the way it was before mining had commenced.
75. In my opinion, any adverse effects from achieving full closure and rehabilitation at the site will be less than minor.
76. From my assessment of the s42A reports it appears that any areas of contention in this regard relate to water management and quality (including aquatic ecology impacts), final landform and catchments (including landscape and natural character values), effects on wetlands and cultural effects. I assess these matters in more detail below.

ASSESSMENT OF EFFECTS

Water

AMD Management and Quality

77. Dr Weber confirms that BCL has as part of its current operations and proposed closure activities undertaken considerable efforts to characterise materials and implement material management options to prevent oxidation and reduce contaminant loads from the site, including reducing historical legacy discharges and downstream effects. AMD affected waters have been directed to specific discharge points and minor additional management and treatment of impacted waters are required to maintain compliance with resource consent conditions.
78. With regard to surface water quality, the modelling confirms that the discharges associated with this Project are likely to remain within existing consent condition limitations (CRC170541) held by BCL for water quality downstream.

79. To ensure ongoing treatment is successful post closure, Dr Weber explains the adaptive management approach BCL will adopt to ensure water management and quality is maintained.
80. With regard to the surface water quality, the modelling confirms that the discharges associated with the closure and rehabilitation are likely to remain within the existing water quality limits of CRC170541 and CRC173823. If any non-compliance is detected as a result of the monitoring that is proposed, adaptive management responses, as discussed in the evidence of Dr Weber can be applied to the site to manage these.
81. Ms Hartwell has provided a further review of the proposed water management and treatment system post closure. Ms Hartwell considers that BCL are taking a “best practice” approach to surface water management systems for closure.
82. In his evidence, Dr Weber responds to the comments made by Ms Dawson, Dr Meredith and Mr Jenkins on behalf of ECan, that further work is necessary to better understand the proposed treatment system and use of TARPs. It is apparent from Dr Weber’s evidence that while there is still some detail to be worked through, I do not think there is insurmountable disagreement between the various technical experts. I maintain my view that with an appropriate water management strategy and adaptive management approach being applied by BCL, water quality will not be adversely affected by what is being proposed.

Water Quality and Aquatic Ecology

83. Dr Hogsden provides an assessment of the operational and post closure discharges and water quality to both Tara Stream and Bush Gully Stream.
84. With regard to water quality, Dr Hogsden concludes that AMD affected waters have been appropriately treated at the site to comply with downstream compliance limits in both Bush Gully and Tara Stream. It is observed that these limits have been established, in part, to support the protection of aquatic values in these waterways. She considers that this indicates AMD may not currently be a significant issue in these waterways.
85. Dr Hogsden also observes that water quality in Tara Stream downstream of the site show a declining trend in contaminant concentrations. This suggests

that the effects of the mining operation are being minimised, likely through the buffering capacity of the Tara Stream wetland and dilution in the ponds.

86. Macroinvertebrate communities have been similar in Bush Gully Stream and Tara Stream in recent years, numerically-dominated by a core group of taxa (snails, oligochaete worms, dipterans) and often sparsely populated with other taxa, suggesting minimal adverse effects of recent water quality. In particular Dr Hogsden considers that the dominance of snails at most sites indicates AMD is unlikely to be currently impacting the streams as snails are sensitive to acidic waters.
87. Dr Hogsden reports that kōwaro, Canterbury galaxias, and upland bullies are present in Bush Gully Stream and kōwaro and Canterbury galaxias have been found in Tara Stream at CC03. She notes that further fish monitoring may assist to better understand the effects on these species however.
88. Dr Hogsden considers that during and post closure and rehabilitation of the site, no further deterioration in water quality, related to AMD contaminants is expected in receiving waterways and flows will be restored to near natural runoff patterns. There may also be an improvement as a result of the rehabilitation and planting that is proposed as part of the overall site closure plans. There is evidence of this occurring following the rehabilitation of the North ELF as I discussed earlier in this evidence.
89. Based on this evidence it is my opinion that what is being proposed will sufficiently protect aquatic ecological values downstream of the site, such that the adverse effects are no more than minor.
90. Dr Hogsden also recommends ongoing aquatic ecology monitoring for a period of two years post closure.

Final Landform, Catchments and Land Uses

Landscape effects

91. In terms of landscape and visual amenity effects, Dr Boffa concludes that:
 - (a) Recent past and current landform rehabilitation is appropriate and is effectively achieving the objectives of the CCM Closure Plan.

- (b) The final landforms proposed are appropriate and have been carefully and sensitively considered. The proposed works will seek to avoid the creation of any sharp or angular edges upon completion of these landforms.
 - (c) The final landforms including slopes, profiles and ridgelines will appear to be natural and will satisfactorily integrate with and be sympathetic to the adjacent and surrounding rural landscape.
92. I understand that there is general agreement between SDC's landscape expert Mr Densem and Dr Boffa that final landscape effects from the rehabilitated landform are acceptable. I agree with Mr Henderson's conclusions that landscape effects are less than minor.

Slope Stability

93. From a geotechnical perspective, the proposed final landforms have been designed to be suitable for the intended land use, being that of farming and forestry. The geotechnical assessment has determined that there is a low risk of future instability at the design geometries and stability criteria adopted. To assist in stability risk management, it is recommended that the final landforms are monitored during construction and quarterly for a period of 12 months post completion.

Catchments

94. Once the final landforms are completed, the resulting catchments are similar to those that would be naturally occurring. Dr Griffiths considers that the hydrological functions within the wider site are therefore anticipated to return to pre-mining capabilities.
95. The impact of the N02 pond, spillway and drainage channel which will remain long term, will be to buffer surface water runoff, i.e., reduce peak runoff but sustain low flows to the Tara catchment (to an extent determined by the spillway threshold).

Natural Character

96. Ms Dawson provides an assessment of the effects of the proposal on natural character within the site. She refers to advice from Dr Alkhaier and Dr Grove which has concluded that there will be adverse effects on the hydrology of

the gully seepages on the NW side of the CCM due to the original landform not being reinstated. There is also some concern that the removal of seepage wetlands on the site may have impacted on the natural character of the area and potentially Bush Gully Stream.⁷

97. In my view it should be recognised that as a starting point for this assessment these features exist within an environment which has been significantly altered by past and present mining activities. In some respects, they have been degraded by historic mining activities, and ongoing activities in the surrounding catchment such as forestry and farming activities. They are not pristine areas of stream habitat and nor would they be if the CCM did not exist in this environment.
98. Dr Griffiths does not share Dr Alkhaier and Dr Grove's concerns that the NW seepage areas will be affected by the final catchment areas. This is because they have persisted during the operational phases of the mining and this indicates that they are largely derived from sub-surface water systems which will be unaffected by the final landforms.
99. The contribution of the seepage wetlands to the Bush Gully Stream is also likely to be small. The effect of removing these wetlands within the CCM is also difficult to quantify given that their removal has already occurred. In this regard, BCL is proposing a comprehensive offset and compensation package which will involve improving a large area of wetland and riparian habitat within Bush Gully Stream. This is also likely to improve natural character within this area. Based on my own observations, there is an obvious improvement in the habitat around Bush Gully Stream where BCL has already fenced off riparian areas and initiated plantings.

Final Land Uses

100. Following closure and rehabilitation, production forestry or pasture grazing are likely to be the predominant activities undertaken on the site. It is considered that such activities will be compatible with the previous mining operations that have occurred on the site.

⁷ ECan Section 42A Report, paragraphs 506 - 509

101. The methodology to construct the ELF's is explained in the evidence of Mr Sinclair. These methods are intended to prevent the exposure of CCR and acid forming waste rock and therefore ensure the compatibility of future land uses on the site. Dr Weber and Mr Sinclair further explain in their evidence that because of the application methodology any risk from exposure from future land uses is considered to be significantly low.
102. Furthermore, should any future and reasonably significant earthworks on the site occur as appears to be a concern of both Mr Henderson and Ms Dawson, this would likely need a resource consent under the CLWRP, the SDC District Plan(s) and/or the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health. Any risk in terms of future land use can also be suitably measured and mitigated (if required) via these planning mechanism and the ongoing and enduring requirements to comply with the closure conditions of consent. For these reasons I disagree with Ms Dawson that a covenant preventing certain land uses from occurring on the post rehabilitated site is needed.

Wetlands

103. The mining activity on site has resulted in the covering or loss of a number of seepage wetlands as described in the Addendum AEE. Dr Bramley has calculated that approximately 1.2ha of wetlands have been removed or lost as a result of mining activity post 2012 which fall within the scope of this consent application. Dr Bramley explains how the loss of those wetlands will be offset and compensated such that the overall net result will be an improvement of wetland values in the vicinity of the site.
104. I note that Dr Grove considers the total loss of wetlands as a result of the mining activities to be 1.42ha. This figure has however been derived from the loss of wetlands that has already been authorised to occur as part of the North Elf construction and Tara Stream, as I have discussed earlier in this evidence at paragraph 30. 1.2ha is the total amount of wetlands affected by these Applications.
105. Dr Bramley confirms that the seepage type wetlands habitats impacted comprise (or were likely to have comprised) of wīwī rushland habitat. He explains that this habitat type is common and widespread throughout the local area and does not provide an important habitat for indigenous fauna,

and as it is of limited extent it does not provide or contribute to an important ecological linkage or network. As explained in the Addendum AEE (refer section 2.3.9.1) Boffa Miskell similarly concluded in its assessment that the wīwī/exotic grass rushland vegetation communities are not representative, are of moderate value in terms of rarity⁸, and/or distinctiveness, have very low indigenous diversity, and low value in terms of ecological context and therefore of low ecological value overall. Dr Bramley's evidence supports these conclusions.

106. Based on this, it is my view that the wetlands affected would have been poor quality examples with very few ecological values, and it does not appear that these habitats would have ever improved even in the absence of the mining activity. Permitted activities such as farming activities and forestry that would have occurred if the mining had not, would have been likely to have resulted in the ongoing disturbance and/or loss of these habitats. For this reason, it is my view that the prevention of mining would not have resulted in the protection of these wetlands.
107. Notwithstanding this, because of their conservation definition of "natural uncommon" and "endangered", I accept that the loss of seepage wetlands is a relevant and important matter to be considered. In terms of the local and regional context however Dr Bramley has confirmed this wetland type and vegetation is common within the Whitecliffs Ecological District (c. 63,050ha) and the permanent loss of around 1.2ha of seepage wetland is of negligible magnitude.
108. In my opinion it can be concluded that these wetlands are not significant based on the limited values that they contain (or would have contained). The loss of these wetlands within the footprint of the MOA is not considered to have more than minor effects. There is no dispute however with regard to the conservation classification that is applied to seepage wetland types, and as a result BCL has taken advice as to how it can best ameliorate the loss of these wetlands. To do so it has developed a Wetland Management Plan as described in the evidence of Dr Bramley.
109. Dr Grove, Dr Alkaier and Ms Dawson also appear to be concerned about the future effects on seepage wetlands on the northern side of the site arising

⁸ Because of they are a naturally uncommon ecosystem and are a national priority for protection (wetlands, located within a threatened land environment (E3.2b)) they trigger the rarity criterion.

from a change or reduction in catchment and surface water hydrology post closure and rehabilitation.

110. In my view there is no evidence to suggest that these existing wetlands will be adversely affected following closure of the site. Dr Griffiths states that the reason for this is because these wetlands have continued to exist during the mining operations despite a reduction in the surface water catchment area during this time. He considers it more likely therefore that these wetland areas are not only as a result of surface water contributions but are most likely sustained by shallow or superficial groundwater movement.
111. I do not agree that any action is necessary to redress or further assess this potential future effect, which appears to be based on speculation only as there is no baseline data available.
112. There is also a practical constraint here, as ongoing and future land use activities such as farming and forestry could further degrade these areas, with BCL having no ability to control this.

Cultural Effects

113. Ms Dawson and Mr Henderson both identify Ngāi Tahu cultural values as a key matter to consider. I agree.
114. Both note that the submission Te Taumutu Rūnanga express significant concern regarding BCL's initial proposal for the continuation of mining and progressive rehabilitation of the site. Key concerns related to the historical loss of wetlands and the decline and threats to indigenous biodiversity.
115. Following receipt of the submission and its decision to close the mine, BCL has liaised with MKT Ltd on behalf of Te Taumutu Rūnanga on its revised plans. As noted in Mr Henderson's report this resulted in MKT providing a set of recommendations for closure. These are set out in paragraph 99 of his section 42A report. Mr Henderson concludes that provided these recommendations can be incorporated into conditions of consent, there are no outstanding matters relating to cultural effects, and that any effects relating to cultural matters are no more than minor.

116. These recommendations have been largely incorporated into BCL's proposal to close and rehabilitate the site. They will be reflected within the proposed conditions of consent, as follows:
- (a) Monitoring of downstream water quality will continue as per the requirements of its current discharge consents.
 - (b) Additional aquatic ecology monitoring of the downstream waterways is being proposed during closure and rehabilitation phases.
 - (c) Downstream riparian margin enhancement is proposed to occur as part of the Bush Gully and North Property wetland enhancement proposal.
 - (d) Key elements of the closure plan incorporate detailed erosion and sediment controls measures. These are described in Mr Sinclair and Ms Hartwell's evidence.
 - (e) An accidental discovery protocol is adhered to onsite and this will continue during the final phases of any earthmoving within the site.
117. Based on the incorporation of these recommendations into the conditions of consent, I agree with Mr Henderson that cultural effects have been adequately addressed by BCL. I note that Te Taumutu Rūnanga may wish to provide further evidence on this.

RELEVANT PLANS

CLWRP – Objectives and Policies

118. The objectives and policies of both the CLWRP are assessed against the proposal, which is now focused on closure and rehabilitation, in Section 6.3 of the Addendum AEE. A further assessment of the relevant provisions for the purposes of section 104D and s104 follows.
119. Sections 2A, 3 and 4 of the CLWRP contain provisions that are relevant to this proposal. In Table 7 of her section 42A report, Ms Dawson outlines the objectives and policies from the CLWRP which are relevant in her view. In **Appendix B** to my evidence, I provide my analysis of these provisions.
120. In summary I conclude that the proposal is not contrary to the relevant provisions of the CLWRP when they are viewed in the round. Considering

the objectives and policies of the CLWRP in this way is consistent with the direction that is set out in the CLWRP, as follows:

*The objectives of this Plan must be read in their entirety and considered together. In any particular case some Objectives may be more relevant than others, but in general no single Objective has more importance than any other.*⁹

121. Ms Dawson comes to a different conclusion and finds that the proposal (or certain elements of the proposal) is contrary to:

- (a) Objective 3.8;
- (b) Policy 4.50;
- (c) Policy 11.4.21;
- (d) Policy 11.4.23;
- (e) Policy 11.4.24;
- (f) Objective 3.17;
- (g) Objective 3.18;
- (h) Policy 4.81; and
- (i) Policy 2A.3.

122. I address each of these matters in turn below.

Objective 3.8

123. Objective 3.8 seeks that *“the quality and quantity of water in freshwater bodies and their catchments is managed to safeguard the life supporting capacity of ecosystems and ecosystem processes, including ensuring sufficient flow and quality of water to support the habitat and feeding, breeding, migratory and other behavioural requirements of indigenous species, nesting birds, and where appropriate, trout and salmon”*.

⁹ Page 55 of the CLWRP – Introduction into the objectives of the Plan.

124. In my view BCL has suitably recognised the connectivity between land operations and onsite water management requirements. An extensive water management system is proposed to continue through rehabilitation and closure phases. I also note that key elements of this water management system are already authorised as part of existing consents held by BCL (CRC170540 and CRC170541).
125. The adaptive management approach that BCL is applying to water management at the site following closure also allows for implementation of a range of mitigation measures.
126. As part of its adaptive management approach BCL also intends to continue to monitor the surface water quality downstream and respond accordingly to results. This may necessitate further monitoring as required or implement additional mitigation actions if monitoring detects any potential issues such as replenishment of the mussel shell bioreactor to ensure it remains effective in its treatment capabilities.
127. Water quality is expected to be managed so that it can meet existing consented compliance limits as a result. The existing consent trigger levels have adopted a suitable protection level for aquatic species within hill fed lower waterbodies and are largely taken from the ANZECC 2000 standards (and as included in the CLWRP).
128. These limits are considered appropriate by Dr Hogsden and Ms Hartwell, and provided the water treatment and discharges from the site can continue to be managed within these limits, the life supporting capacity of freshwater and downstream ecosystems in my view will be safeguarded.
129. Aquatic ecology monitoring is also proposed to continue following closure and rehabilitation of the site to confirm, at the very least, there is no detrimental change from existing conditions in downstream waterbodies following closure and rehabilitation of the site.
130. The final landforms that are proposed and water management on site will result in negligible changes in habitat conditions for aquatic species downstream of the site. Once the final landforms are completed, Dr Griffiths confirms that the resulting catchments will be similar to those that would be naturally occurring. The majority of the final landforms will be constructed to shed water, as would occur naturally. Impacts on hydrological functions

within the wider site are therefore anticipated to return to pre-mining capabilities.

131. The N02 pond which will remain long term is a key feature of the closure water management strategy.
132. I note Ms Dawson's and ECan's technical advisors concerns that during extreme dry periods there may be no flows available from the N02 pond to provide a dilution effect for boron within the CC02 drain and sustain low flows in Tara Stream. There is concern that this may contribute to scenarios where the water quality from the site can not comply with the current consented limits for certain contaminants.
133. This is a scenario which has been modelled by Dr Weber as he explains in his evidence. He explains the conservatism that has been built within this modelling, and although zero flow events are possible, they are expected to be infrequent. This modelling also needs to be further validated through real time monitoring in order to confirm the modelling predictions, further quantify the risk and adjust management responses (TARPs) to achieve the water quality compliance criteria (if needed). Dr Weber outlines these management responses in his evidence.
134. Dr Hickey further concludes that if any non compliance events did occur, this is unlikely to cause adverse effects in the downstream receiving environment as they are not predicted to be long term or frequent events. He considers that the plant and aquatic species affected would be able to withstand such temporary events.
135. Ms Hartwell confirms that the system that is proposed post closure and rehabilitation is consistent with best practice, and Dr Weber also confirms that the longer term approach to the management of AMD is similarly consistent with best practice methodologies. This system and passive ongoing treatment is anticipated to achieve compliance with accepted consented limits for water quality and therefore achieve suitable protection of aquatic species in the waterways.
136. In time, water quality is expected to stabilise to the extent that monitoring and any passive treatment is expected to be significantly reduced.

137. From a water quantity perspective Ms Dawson is also concerned that the long term water management system may reduce flow variability in Tara Stream¹⁰.
138. As noted above the retention of the N02 is intended to maintain a flow to the Tara Stream where this is possible to achieve. Post closure the landforms and catchments will continue to shed naturally, and this will assist in providing variability to the Tara Stream catchment.
139. In my opinion BCL has applied and will continue to apply a robust water management strategy at the site. This will seek to ensure that the potential and actual downstream effects on water quality, water quantity and aquatic ecology remain within acceptable consented limits and are therefore no more than minor.

Policy 4.50 and Policies 11.4.21, 11.4.23 and 11.4.25

140. These policies relate to water takes from within catchments which are determined to be overallocated. Ms Dawson forms a view that the proposed consumptive take for dust suppression purposes would be directly contrary to these provisions. I don't agree with the interpretive approach taken by Ms Dawson in this regard.
141. To better explain, it is useful to understand the context in which the water take on the site occurs.
142. During the mining activity surface water (what might be best described as stormwater or surface runoff) and drainage or shallow groundwater from throughout the MOA has been managed via a centralised network of drains, pipes, pumps and ponds so that potentially contaminated flows are collected, treated, and discharged under controlled conditions. This process has been ongoing since the mine was first developed in 2002, and mine water control is an integral component of mining activity and the maintenance of water quality. As noted by Ms Hartwell it is consistent with best practice for managing and controlling mine influenced water.
143. As part of its operations, BCL also used some of the retained water for dust suppression purposes. It is this activity which Ms Dawson has assessed as

¹⁰ ECan Section 42A Report, Paragraph 650 (c)

being inconsistent with the abovementioned CLWRP policies. Ms Dawson assesses this as a consumptive take which troubles her because the catchment is over-allocated.

144. It appears that Ms Dawson and I agree that the ponds have been created as a result of the diversion of surface water (runoff and stormwater) and drainage water encountered during mining activities. This is important because it confirms that the take from the ponds is not a take from a surface water body (as defined in the CLWRP) or the abstraction from a groundwater aquifer.
145. The water take for dust suppression purposes is a small subsequent activity that occurs once the water has already been diverted into the pond. It is part of the managed water system onsite as a result of the onsite diversions and that water in question is no longer directly available within the immediate catchment area in any case.
146. There are some very minor changes to the hydrology of the site because of the diversion activities within the CCM which means this water is not immediately available within the broader Tara catchment. However these effects have been accounted for as part of that application and assessed as being minor overall. Ms Dawson finds these effects to be acceptable from a catchment allocation perspective.
147. The water take from the pond was not abstracted from a lake, river, stream or aquifer – it was water that was otherwise destined for the ground via rainfall (similar to the re-use of this water as a dust suppressant) or existed within shallow groundwater. Moreover, the take has not been proven to have any adverse effects on the overall catchment hydrology, nor have there been any reported adverse effects on downstream users.
148. It is a minor and temporary activity, necessary to manage dust effects at the site. Specifically, the mitigation of dust effects via water cart was a requirement of BCL's air discharge permit, condition 3 (CRC146449). I also note that the use of this water as a dust suppression has not appeared to be

an issue in the processing of previous consents applied for and obtained by BCL – such as those relating to the North Elf¹¹.

149. A better and pragmatic approach to avoid “double counting” of effects is to assess this subsequent take from the dust pond as a permitted activity in accordance with Rule 5.121 of the CLWRP.
150. Rule 5.121 permits the taking of water from water storage facilities, provided the water storage facility is not within the bed of a river; and written approval from the owner or manager of the storage facility is provided.
151. The ponds created onsite are part of a water storage facility that is operated onsite to divert, store and treat potentially contaminated water before it is discharged. The take for dust suppression purposes is only from these water storage ponds and not from a surface water body or groundwater source.
152. Ms Dawson seems to suggest that Rule 5.121 is applicable to irrigation and hydroelectric storage schemes only. A water storage facility is not defined in the CLWRP. I do not agree that to qualify as a water storage facility a pond must be associated with irrigation and hydroelectric schemes only. Nothing in the Plan leads me to the conclusion that these facilities must be tied only to such activities.
153. Ms Dawson considers it appropriate to assess the take for dust suppression purposes under Rule 5.6. Rule 5.6 is a general rule which applies to any activity that:
 - (a) *Would contravene sections 13 – 15 of the RMA;*
 - (b) *Is not a recovery activity; and*
 - (c) *Is not classified in the CLWRP as any other of the classes of activity listed in section 87A of the RMA.*
154. It attaches a discretionary activity status.
155. Ms Dawson assesses the take as a discretionary activity on this basis.

¹¹ Section 42A Report, prepared by Ms Dawson for Applications CRC173823, CRC173889 and CRC175281, paragraph 121, page 26.

156. Despite this Ms Dawson then relies on the provisions of the CLWRP such as Policy 11.4.24 to form a view that the take is contrary to those provisions.
157. Specifically, Policy 11.4.24 of the CLWRP seeks to:

***Prohibit** the allocation of surface or groundwater which may either singularly or cumulatively result in the allocation limits within Tables 11(e, 11(f), or 11(g) being exceeded.*

(emphasis added)

158. In turn, the CLWRP sets out that it is a prohibited activity for a new take to abstract water from within an overallocated surface water body or groundwater aquifer¹². Policies 4.50 and 11.4.24 are the parent policies for these rules. In my view they have no or very limited utility beyond establishing this framework for the prohibited activity rules in the Plan and they are not relevant insofar as consideration of a discretionary activity is concerned.
159. I therefore do not consider these provisions to be applicable to a water take application where there is an available consenting pathway (or permitted activity rule). Put simply these provisions are the parent policies of Rules 5.125 and 5.130. They are not applicable in a broader context where an activity is not prohibited.

Wetland related objectives and policies

160. Objectives 3.17 and 3.18 relate to wetlands. Ms Dawson assesses the proposal as being contrary to these provisions. These policies seek that the significant indigenous biodiversity values of wetlands are protected, and that wetlands that contribute to cultural and community values, biodiversity, water quality, mahinga kai, water cleansing and flood mitigation are maintained. I do not agree that the proposal is contrary to these provisions.
161. Policy 4.81 states that any take, use, damming or diversion of water, any discharge of contaminants onto land or into water, or any earthworks, vegetation removal or other land uses within a wetland boundary, do not adversely affect the significant values of wetlands. (emphasis added).

¹² Rules 5.125 and 5.130

162. In my opinion the wetland values at issue here were unlikely to have been significant.
163. Dr Bramley's evidence confirms that they are likely to have been degraded from historic mining activities and ongoing pasture and forestry activities, well before resource consenting requirements for the existing mining activities came into existence.
164. Based on historic information, the wetlands that may have been affected by the current mining activity are limited in size and of marginal quality such that their collective and individual values should not be considered as significant in the regional or even the district context when assessed on an objective basis. They are likely to have been poor examples of seepage wetlands.
165. Based on the evidence of Dr Bramley the wetland examples within the site (and have been removed) are also believed to have little cultural and community value, likely to have low indigenous biodiversity and were not of such a size and position so as to be able to significantly contribute to any water treatment or attenuation within the area. The wetlands in question have also not been specifically scheduled in any regional or district planning document to recognise their local or regional scale significance or value and provide further protection.
166. Overall, I do not consider that the proposal will adversely affect the *significant* values of wetlands. For this reason, their loss is not directly contrary to the abovementioned objectives and policies of the CLWRP.
167. Ms Dawson is also concerned that there may have been long term effects on Tara Stream arising from reduced flows as a result of retrospective and ongoing water diversions. Ongoing sediment discharges to Tara Stream is also a matter which has been raised.
168. These effects are difficult to quantify as there is no baseline data to determine the pre-mining state of the wetland. This assessment also needs to be considered against the existing environment which currently allows discharges to occur directly to this wetland area (CRC170541), as well as other land use activities in the catchment such as forestry afforestation and deforestation. Given the modified state of this wetland, I do not agree that the effects on the values within the Tara Stream wetland area as a direct result of the diversions and storage of water onsite will have been significant.

169. Policy 2A.3 is more absolute and requires that the loss of extent of natural inland wetlands is avoided, their values are protected, and their restoration is promoted, unless an exception applies. A “natural inland wetland” is not defined in the CLWRP, however it does define “wetland” as follows:

Includes:

1. *Wetlands which are part of river, stream and lake beds;*
2. *Natural ponds, swamps, marshes, fens, bogs, seeps, brackish areas, mountain wetlands, and other naturally wet areas that support an indigenous ecosystem of plants and animals specifically adapted to living in wet conditions, and provide habitat for wildlife;*
3. *Coastal wetlands above mean high water springs;*

But excludes:

- (a) *wet pasture or where water temporarily ponds after rainfall;*
- (b) *artificial wetlands used for wastewater or stormwater treatment except where they are listed in Sections 6 to 15 of this Plan;*
- (c) *artificial farm dams, drainage canals and detention dams; and*
- (d) *reservoirs for firefighting, domestic or community water supply.*

170. As set out in section 2.3.9.1 of the Addendum AEE, ecological advice suggests that at first consideration, the wīwī rushlands, which do not support an indigenous ecosystem of plants and animals specifically adapted to living in wet conditions, nor provide a habitat for wildlife, do not meet the CLWRP wetland definition. The vegetation community surrounding them is predominantly exotic and is best described as “wet pasture”, which is specifically excluded from the definition of wetlands¹³. The vegetation has also been significantly affected by grazing and pastoral management (including recent application of herbicide at some locations) meaning that its ecological value is, at best, low or very low.

¹³ Both in regional and national planning provisions.

171. Based on this analysis I consider that the wetland types in question at the CCM are expressly excluded from the above definition and the cited policies are not relevant.
172. Having said that, Policy 2A.3 broadly seeks to avoid the loss of any extent of inland wetlands. This outcome is to be achieved regardless of the existing state or quality of those wetlands. I accept that if the policy is in fact relevant (despite what I say above) then the loss of the wetlands in question is at odds with the prescribed outcome to avoid wetland loss.
173. It is perhaps interesting to note at this point that the origins of Policy 2A.3 appear to lie within the National Policy Statement for Freshwater (NPSFW) 2020. This document and the regulations which formed part of the Freshwater reforms initiated by the Government is currently under review and changes specifically to the wetland provisions and the relevance of modified pasture are out for consultation. One of the reasons for this is that there have been considerable difficulties in determining which wetlands qualify for coverage under the NPSFW where that document requires avoidance of any wetland loss. In addition, the NPSFW 2020 came into effect after the applications were applied for and therefore would not have applied prior to this.
174. In the current situation Dr Bramley has assessed the wetlands affected as being of low ecological value. The wetlands were likely to have been of limited extent and were likely compromised (regardless of the mining activity) in terms of their quality and functioning. Despite this, BCL is proposing the implementation of a Wetland Management Plan. Though it does not “avoid” the direct loss that has already occurred, the implementation of the plan will result in net benefits to biological diversity and overall wetland health. In my view the measures are specifically targeted at achieving a better ecological outcome than would be the case if the mining had not occurred at all. This is positive in my view and consistent with achieving restoration of wetlands specifically supported by other policies of the CLWRP such as Policy 4.83.

Operative Selwyn District Plan – Objectives and Policies

175. Mr Henderson lists the relevant objectives and policies within the Operative Selwyn District Plan in paragraph 166 and the following table within his report. I agree with this list and his summary as to the relevant provisions.

176. Mr Henderson finds the proposal to be consistent with the relevant provisions of the Operative Selwyn District Plan, with the exception of the provisions relating to:
- (a) Appropriateness of the final cap material; and
 - (b) Amendments necessary to the proposed terrestrial ecology recommended by Mr Harding to improve the compensation and achieve better ecological outcomes on the site.
177. In my view any uncertainty with regard to the final cap material is adequately resolved by the evidence of Mr Sinclair, Dr Begbie and Dr Weber.
178. Mr Sinclair explains the methodology that is employed in the placement of CCR material and creation of final landforms. He notes that the site rehabilitation plans state a minimum of 500mm thick NAF cap or cover is required for final shaping of the landform, however in practice the capping of NAF material is much thicker than this.
179. As a result of the construction methodology that is employed, at the outer edge of the ELFs there will be a NAF cap of approximately 10 – 15m. Mr Sinclair confirms that this results in a very low likelihood of water or oxygen ingress into the core ELF layers where PAF and CCR are placed and reduces the risk of exposure of these materials should surficial failure of the outer slopes of the ELF ever occur.
180. The stability of the created landforms is discussed further in the evidence of Dr Begbie. He confirms that there is a low risk of future instability of the ELF landforms.
181. Based on this evidence I do not agree that future forestry activities are high risk. As I have stated earlier in this evidence at paragraph 102 I also consider any significant earthwork activities, or a change in land use activity would very likely trigger a consenting requirement.
182. As I have already explained I do not agree that the loss of the smaller seepage wetland areas within the footprint of the mine is an adverse effect.
183. The wetlands were likely to have been of low ecological value and it has not resulted in the loss of overall ecological connectivity or species diversity.

184. Furthermore, the site remediation and offsetting / compensation measures that are proposed will ensure that the effects on indigenous biodiversity are properly recognised, and that overall, biological diversity within the broader site and in more highly valued ecological areas within the broader site will be sufficiently protected, maintained and enhanced in the longer term. In my opinion this is consistent with the management outcome set out in Objective B1.2.1 of the Operative Selwyn District Plan.

Section 104D Conclusion

185. Based on the technical evidence and my assessment which is provided in paragraphs 77 to 117, I conclude that the any adverse effects arising from achieving the full closure and rehabilitation of the site will be less than minor. I make this conclusion on the basis that:

- (a) The evidence of Dr Weber and Ms Hartwell confirms that the approach being taken by BCL in its water management and treatment is consistent with best practice. As a result, water quality is expected to remain within accepted consented limits and will likely further improve overtime.
- (b) If water quality downstream of the site were to change this would be detected by the ongoing water quality monitoring programme and as described by Mr Sinclair and Dr Weber, these effects can be responded to and managed to prevent adverse effect occurring. Further detail regarding the proposed TARPs is provided by Dr Weber, and I acknowledge that further refinement of these may be necessary to address some of the concerns raised by ECan's technical advisors.
- (c) There is a minor hydrological catchment change as a result of the construction and rehabilitation of the final landforms. Dr Griffiths assesses this change as being minor.
- (d) The final landforms are considered acceptable from a landscape perspective.
- (e) The final capping is constructed in such a way to minimise any future land use risk. Geotechnically the landforms created will be sound. The evidence of Mr Sinclair, Dr Weber, and Dr Begbie addresses this.

- (f) In terms of aquatic and terrestrial ecological values, Dr Bramley and Dr Hogsden assess the effects from the closure proposal (as well as retrospective activities) in a local and regional context as being minor. These effects also need to be considered in context of the lawful existing environment which includes authorised mining related discharges to these streams. The catchment is also influenced by adjacent land use activities including farming and forestry activities.
 - (g) Natural character effects on these values need to be viewed in context of the lawful existing environment. They are already modified stream habitats, the effects of the CCM on these environments is considered to be minor in this context and will likely improve post closure.
 - (h) Cultural effects have been considered as part of the closure and rehabilitation plans by BCL. Recommendations made on behalf of mana whenua will be incorporated into the rehabilitation plans and proposed conditions of consent.
186. The Panel will be familiar with the jurisprudence that the term “not contrary to” used in section 104D(1)(b) of the RMA does not mean that the activity must comply with each and every objective and policy in the relevant plan. Rather, that objectives and policies must be looked at in a holistic and overall way. An activity will be contrary to the objectives and policies only if it is clearly “opposed in nature” or “repugnant” to the overall policy direction of the relevant plan.
187. When assessed in this manner and also considering the existing environment, the proposal which now centres on the closure and rehabilitation of the site and the management that is being proposed as part of that (e.g. water treatment and monitoring), cannot in my view be said to be contrary to or inconsistent with the objectives and policies in the CLWRP and the Operative Selwyn District Plan.
188. I accept that when taken in isolation Policy 2A.3 of the CLWRP could be said to be contrary to the loss of wetlands within the MOA. However, there is some uncertainty as to whether the wetlands in question qualify as a “wetland” as defined under the CLWRP. There is also a practical difficulty in being able to assess this as these wetlands no longer exist. This policy may not be relevant. It may also be subject to change given the current

Government review of these provisions in the NPSFM, which creates uncertainty as to how it is intended to be applied and what relevance the policy has to s104D assessment.

189. As I have explained in paragraph 157 I do not agree that the policies of the CLWRP which seek to prohibit further over allocation are applicable to the abstraction for dust suppression purposes.
190. Overall, it is my opinion that the requirements of both section 104D(1)(a) and (b) of the RMA are met.
191. The resource consent applications being sought by BCL which ultimately seek to now close and rehabilitate the site can, therefore, be considered in the broader context in accordance with Section 104 of the RMA.

Section 104 Assessment

192. Section 104(1) sets out the matters that must be had regard to when making decisions on resource consent applications. There are four matters. These are:
 - (a) The effects on the environment of allowing the proposed activity (section 104(1)(a));
 - (b) Any offset or compensation proposal that the applicant proffers and which is designed to create a positive impact (section 104(1)(ab));
 - (c) The relevant provisions of the planning instruments (section 104(1)(b));
 - (d) Any other relevant matter and reasonably necessary to enable the Panel to make its decision (section 104(1)(c)).

Section 104(1)(a) – Effects on the Environment

193. Actual and potential adverse effects, and the way these are proposed to be avoided, remedied, mitigated, and in some cases offset/compensated are addressed in detail in the Addendum AEE and supporting technical reports, and in the evidence of the various experts.
194. In my opinion the effects of the proposed closure and rehabilitation activities have been thoroughly considered by BCL and its experts, and appropriate

management of effects is incorporated into the final landforms and catchments and water treatment strategy.

195. As I have set out earlier in this evidence, I consider the key areas of contention to relate to water management and quality (including aquatic ecology impacts), final landform and catchments, and effects on wetlands.

Section 104(1)(ab) – Offset and Compensation Proposals

196. Section 104(1)(ab) requires decision makers to have regard to “any measure proposed or agreed to by the applicant for the purpose of ensuring positive effects on the environment to offset or compensate for any adverse effects on the environment that will or may result from allowing the activity”.
197. In this case, BCL is proposing a comprehensive wetland enhancement plan and other remediation measures designed to deliver positive effects in relation to aspects of ecology.
198. As described in the evidence of Dr Bramley, the wetland enhancement plan is intended to result in an overall improvement of wetland values within the immediate area. No direct offset of wīwī rush wetland is being proposed because the future persistence of such habitat cannot be guaranteed within the immediate site when the land returns to the landowners’ desired land use. This habitat is also not threatened in the same way as the offsetting and compensation wetland habitats.
199. Instead BCL proposes an integrated approach focussed on enhancement and restoration of two areas of wetland nearby to the CCM site. The details of the enhancement objectives, planting and pest eradication activities and monitoring requirements is set out in Dr Bramley’s evidence. The plan provides for restoration of wetland planting, riparian stream planting and dryland planting surrounding the other plantings. The dryland plantings are necessary to act as a buffer to the wetlands within, to assist with the long-term sustainability of the wetland plantings and to improve the local ecological connectivity.
200. Based on this plan it is my opinion the activities that BCL proposes at the offset sites will result in an overall net gain in wetland values within the Whitecliffs ED. In terms of the ecological advice from Dr Grove (for ECan) and Mr Harding (for SDC), I accept that there may be further detail that needs

to be worked through between the various experts in order to finalise the plan, however it is my overall view that the ecological quality (or lack thereof) of what has been lost needs to be taken into account, and it needs to be recognised that what BCL is proposing by way of offset and compensation will result in an overall beneficial outcome for significant wetlands. What is being proposed is in my view an improvement, not a reduction, in wetland values.

Section 104(1)(b) – relevant provisions of the planning instruments

201. Section 104(1)(b) lists the planning instruments that may contain provisions that are relevant to the consent applications. The relevant planning documents are set out in the Addendum AEE. They include:

- (a) The Resource Management (National Environmental Standards for Freshwater) Regulations 2020;
- (b) Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011;
- (c) The National Policy Statement for Freshwater Management (NPSFM) 2020;
- (d) The Canterbury Regional Policy Statement;
- (e) The Canterbury Land and Water Regional Plan
- (f) The Canterbury Regional Air Plan (“Air Plan”)
- (g) The Operative Selwyn District Plan;
- (h) The Proposed Selwyn District Plan.

NES for Freshwater and NPSFM 2020

202. Subsequent to the lodging of the resource consent applications and their acceptance under section 88 of the RMA, the National Policy Statement for Freshwater Management 2020 (**NPSFM 2020**) and Resource Management (National Environmental Standards for Freshwater) Regulations 2020 (**NES Freshwater**) were notified. These came into force on 3 September 2020.

203. The NES Freshwater contains regulations that establish the activity status for various activities involving natural wetlands and rivers.
204. Section 88A of the RMA operates to preserve the application status of all activities as at the date an application is made. So, for example, if an application is made for a discretionary activity, and then before the application is determined a rule¹⁴ or a regulation¹⁵ takes effect which makes the activity non-complying or prohibited, the application must continue to be processed, considered and decided as a discretionary activity.
205. The NES Freshwater contains a major suite of regulations that control activities in or affecting natural wetlands and waterbodies. Earthwork activities within natural wetlands is a prohibited activity through Clauses 53(1) (a) and (b) and Clause 53(2) (a) and (b) of the NES Freshwater.
206. The RMA definition of “wetland” is broad and inclusive. “**Wetland** includes permanently or intermittently wet areas, shallow water, and land water margins that support a natural ecosystem of plants and animals that are adapted to wet conditions”¹⁶.
207. The NPSFM 2020 establishes a number of implementation policies in relation to a subset of wetlands – natural inland wetlands – and the NES Freshwater contains regulations that establish the activity status for various activities involving natural wetlands (not natural inland wetlands).
208. The NPSFM 2020 provides definitions to help make sense of the new provisions. A natural wetland is defined as a wetland that is not:
- (a) A wetland constructed by artificial means (unless it was constructed to offset impacts on, or restore, and existing former natural wetland);
 - (b) A geothermal wetland; or
 - (c) Any area of improved pasture that, at the commencement date [3 September 2020], is dominated by (that is more than 50% of) exotic pasture species and is subject to temporary rain-derived water pooling.

¹⁴ Section 88A(1)(b)(i).

¹⁵ Section 88A(1)(b)(iii).

¹⁶ Section 2 RMA.

209. A natural inland wetland is a natural wetland (as defined above) that is not in the coastal marine area. In the case of the wetlands that have been affected by the mining activities at the CCM, these are likely to fall within the last exception as set out above.
210. The NES Freshwater provisions require the assessment as to whether a wetland comprises an area of improved pasture must be made by reference to its condition on the commencement date of 3 September. In this case, the wetlands in question have already been removed so there is inherent difficulty in being able to undertake this assessment. Any assessment regarding these areas has therefore been estimated based on historical aerial images from the 1990s. Reference to older historical aerial photographs of the site indicates that any assessment of the extent of seepage wetland using aerial photography is likely to be highly subjective, and that the quality of those wetlands is likely to have been low or very low for more than 30 years.
211. Based on this analysis, it is considered that the NES Freshwater provisions are not applicable to this proposal. Notwithstanding this conclusion, the effect of section 88A also means that the prohibited activity status that is contained within these provisions would not be applicable in any case. Ms Dawson agrees with this.
212. The proposed enhancement activities (if these wetlands meet the definition of a natural inland wetland) will also not trigger any additional consenting requirement under the NES Freshwater provisions. It is likely that following the enhancement activities, the offset wetlands will be in an improved state whereby they are suitably protected by the NES Freshwater provisions in the longer term.
213. However, in my opinion the NPSFM 2020 is a relevant matter that must be considered when considering the applications as per section 104(1)(b)(iii). The objective of the NPSFM 2020 is to ensure that natural and physical resources are managed in a way that prioritises:
- (a) First, the health and wellbeing of water bodies and freshwater ecosystems;
 - (b) Second, the health needs of people; and

- (c) Third, the ability of people and communities to provide for their social, economic and cultural wellbeing, now and in the future.

214. Policies 1 – 3 seek that:

- (a) Freshwater is managed in a way that gives effect to Te Mana o te Wai;
- (b) Tangata whenua are actively involved in freshwater management (including decision making processes) and Maori freshwater values are identified and provided for; and
- (c) Freshwater is managed in an integrated way that considers the effects of the use and development of land on a whole of catchment basis, including the effects on receiving environments.

215. Other relevant policies seek that:

- (a) Freshwater is managed through a National Objectives Framework to ensure that the health and wellbeing of degraded water bodies and freshwater ecosystems is improved, and the health and wellbeing of all other water bodies and freshwater ecosystems is maintained and (if communities chose) improved.¹⁷
- (b) There is no further loss of extent of natural inland wetlands, their values are protected, and their restoration is promoted.¹⁸
- (c) The habitats of indigenous freshwater species are protected.¹⁹
- (d) The national target (as set out in Appendix 3 of the NPSFM 2020) for water quality improvement is achieved.²⁰
- (e) The condition of water bodies and freshwater ecosystems is systematically monitored over time, and action is taken where freshwater is degraded, and to reverse deteriorating trends.²¹

216. For the reasons I have already outlined earlier in this evidence, I consider the proposal to be broadly consistent with the outcomes being sought in the NPSFM. These reasons are summarised below:

¹⁷ Policy 5

¹⁸ Policy 6

¹⁹ Policy 9

²⁰ Policy 12

²¹ Policy 13

- (a) An extensive water management treatment is in place at the CCM. AMD will continue to be treated post closure of the site and this will seek to achieve compliance with existing water quality consent requirements. This system is considered to be consistent with best practice as confirmed by Ms Hartwell and Dr Weber.
- (b) As explained by Dr Weber water will continue to be adaptively managed post closure of the site, until a steady state has been reached in which no further monitoring or intervention would be required onsite.
- (c) Post mining and closure of the site downstream aquatic ecology habitat is expected to improve, or at the very least, there will be no detrimental change from existing consented conditions.
- (d) Mining activities have impacted on areas of seepage wetlands. I have set out above that because the impacted wetlands did not exist when the NES and NPS came into force there is considerable difficulty in being able to demonstrate whether these wetlands would have been considered as a “natural inland wetland” one way or the other, but it is very likely that there were heavily degraded by the dominance of exotic vegetation and previous land use activities.
- (e) Notwithstanding this uncertainty, in order to address the effects of the proposal on wetlands, BCL will implement a wetland offset and enhancement package at two existing wetland sites within close proximity, one of which will be able to be protected through covenanting or a similar legal mechanism and the which will be subject to comprehensive consent conditions. Dr Bramley explains this in his evidence. Overall, it is expected that this plan will result in an improvement in the protection and quality of wetlands areas within the broader site.

National Environmental Standard for Assessing and Managing Contaminants in Soil

- 217. The NES Soil seeks to ensure that affected by contaminants in soil is appropriately identified and assessed before it is developed.
- 218. BCL and SDC have had various discussions regarding whether or not the NESCS applies to this proposal. To move the matter forward, BCL has agreed to apply for consent under the NES Soil. A Preliminary Site

Investigation (“**PSI**”) was prepared by GHD and submitted by BCL in support of this. The GHD PSI further states that workers undertaking mining activities are protected under other work safe legislation and as such it is likely that applicable site management plans currently exist to appropriately manage exposure risk to site workers. Similar conclusions can be made with regard to the closure and rehabilitation phases of the CCM.

219. Post closure the land will be rehabilitated to a state where it is safe for forestry and farm workers to undertake activities on the site.
220. Mr Henderson has formed a view that the NES Soil is no longer relevant to this proposal given the nature of the closure and rehabilitation activities. I am inclined to agree with this. If the Panel consider a consent is still necessary for retrospective activities, it is my view that the NES Soil is not an impediment to granting a land use consent for disturbance of a site that been subject to HAIL activities.

Canterbury Regional Policy Statement

221. The RPS provides an overview of the resource management issues in the Canterbury Region and the objectives, policies and methods to achieve integrated management of natural and physical resources. These methods include directions for provisions in district and regional plans. Ms Dawson has identified the relevant objectives and policies in her evidence. I agree with Ms Dawson that the most applicable objectives and policies are set out in Chapters 7 and 9.
222. Commencing at paragraph 567 of her report Ms Dawson lists the relevant provisions from these chapters. Ms Dawson concludes the activities are not consistent with these provisions, in particular Objective 7.2.3 and Policies 7.3.4 and 7.3.6. She states that this is because the catchment is over-allocated and the water quality outcomes may not always be achieved, and further abstraction and discharge of contaminants would not allow for any reduction in over-allocation.
223. Ms Dawson also states that the taking, use and diversion of water and ultimately discharge of water will affect the life supporting capacity, ecosystem processes and indigenous species in Tara Stream.

224. For the reasons I have stated in paragraphs 139 to 157, I do not agree that the water quantity allocation provisions of the Regional Planning documents are at all relevant to this proposal.

225. In my opinion, it is more appropriate to assess the diversion activity in accordance with Policy 7.3.5 of the Canterbury RPS. It seeks:

To avoid, remedy or mitigate adverse effects of land uses on the flow of water in surface water bodies or the recharge of groundwater by:

1. *controlling the diversion of rainfall run-off over land, and changes in land uses, site coverage or land drainage patterns that will, either singularly or cumulatively, adversely affect the quantity or rate of water flowing into surface water bodies or the rate of groundwater recharge; and*
2. *managing the planting or spread of exotic vegetation species in catchments where, either singularly or cumulatively, those species are or are likely to have significant adverse effects on flows in surface water bodies.*

226. The effects of the diversion of surface (rain / stormwater) and shallow groundwater to the water management system have been assessed as being minor. The hydrological catchment changes and flows into Tara and Bush Gully Streams are assessed as being minor by Dr Griffiths.

227. The capture and treatment of mine influenced water is also a necessary component of BCL's water management system to ensure potential downstream effects on water quality and aquatic ecology can be appropriately managed.

228. As explained in paragraphs 145 and 146 the temporary take from the pond (and for dust purposes has now largely ceased) has had minor or less effects on the overall catchment hydrology and downstream users.

229. Ms Dawson also refers to Objectives 9.2.1 and 9.2.3 and Policies 9.3.1 and 9.3.5 with respect to wetlands. Ms Dawson states in her report that the removal of wīwī rush wetland is inconsistent with these provisions.

230. Objective 9.2.3 requires:

Areas of significant indigenous vegetation and significant habitats of indigenous fauna are identified and their values and ecosystem functions protected.

231. Policy 9.3.1 sets out that such areas or habitats are considered to be significant if they meet one or more of the criteria in Appendix 3 of the RPS, and that they will be protected to ensure no net loss of indigenous biodiversity or indigenous biodiversity values as a result of land use activities.

232. Policy 9.3.5 is specific to wetlands:

In relation to wetlands:

1. *To assess an ecologically significant wetland against the matters set out in Policy 9.3.1 and the national priorities listed in Policy 9.3.2*

For the purposes of this policy, ecologically significant wetlands do not include areas that are predominantly pasture and dominated by exotic plant species and where they are not significant habits of indigenous fauna.

2. *To ensure that the natural, physical, cultural, amenity, recreational and historic heritage values of Canterbury's ecologically significant wetlands are protected.*
3. *To generally promote the protection, enhancement and restoration of all of Canterbury's remaining wetlands.*
4. *To encourage the formation of created wetlands that contribute to the restoration of indigenous biodiversity.*
5. *To protect adjoining areas of indigenous and other vegetation which extend outside an ecologically significant wetland and are necessary for the ecological functioning of the wetland.*

233. Dr Bramley has provided an assessment of the likely value of the wetlands affected by mining activities within the site. I have summarised these matters earlier in my evidence at paragraphs 105 and 106. Overall, he assesses the wetland value within the site to be low.

234. Despite this, I acknowledge that the seepage wetlands meet aspects of the 'significance' criteria set out in the Canterbury RPS due to their overall conservation status. For this reason, BCL is offering a wetland offset and enhancement package to balance the loss of the wetlands within the MOA. This is described in the evidence of Dr Bramley.

235. I understand that this plan is intended to improve wetland habitat quality and habitat connectivity in parts of Bush Gully Stream. Dr Bramley considers this to be of greater merit than re-creating or restoring restoring wīwī rushland or other seepage vegetation because:
- (a) The habitats are (or will be) well connected to Bush Gully Stream and can be expected to contribute to improvements in water quality there. Bush Gully Stream is a priority habitat for a nationally critical species - this is consistent with achieving 1) above;
 - (b) The wetland areas are relatively large and their restoration will contribute to improvements in ecological connectivity at the local scale – this is consistent with achieving 2) and 3) above;
 - (c) The wetlands collectively and individually include a diversity of habitats and ecotones;
 - (d) Although they meet the criteria for ecological significance set out in the Canterbury RPS, both wetlands are modified/degraded and have good potential for restoration;
 - (e) The North Property wetland can be protected by a covenant or other similar instrument and the Bush Gully wetland has already been excluded from afforestation with pine trees – this is consistent with achieving 5) above and will be subject to comprehensive consent requirements;
 - (f) The potential restored value of the wetlands is higher than the potential restored value of the small, widely spaced seepage wetlands.
 - (g) Ongoing management of the restored wetlands is likely to be less than the ongoing management required to sustain any restored small, widely spaced seepage wetlands with a high degree of edge similar to those which were removed by mining;
 - (h) The proposed restoration management is additional, no management of these areas is proposed in the absence of this proposal. This is consistent with achieving 3) above.
236. What is being proposed in my view also directly aligns with Policy 9.3.6 which sets out the criteria for establishing biodiversity offsetting proposals. It is

directly applicable to this proposal as it applies in circumstances where offsets will only compensate for residual adverse effects that cannot otherwise be avoided, remedied or mitigated.

237. Ms Dawson opines that the proposal does not align with this policy because on the basis of Dr Grove's reporting, the environmental gains of the compensation proposal are not equivalent to the loss that has occurred.
238. It is important to note in my view that Policy 9.3.6 does not limit the offsetting or compensation that can be offered as inferred by Ms Dawson, and instead requires that a no net loss in biodiversity is achieved. It does not in any way preclude offsetting or compensation proposals where such a proposal might involve a separate site or an alternative ecosystem or habitat. It appropriately focuses on achieving biodiversity gains and positive outcomes.
239. Overall, it is my opinion that the wetland values within the Whitecliffs ecological district are likely to be improved by the implementation of the proposed enhancement measures. In my view this proposal generally aligns with the outcomes sought in Policies 9.3.5 and 9.3.6 of the Canterbury RPS.
240. I do not agree that the proposed activity (being closure and rehabilitation) is therefore contrary to, or inconsistent with these provisions when they are fully considered in this way.

Canterbury Land and Water Regional Plan

241. I have attached as **Appendix B** a summary of the relevant objectives and policies within the CLWRP and my assessment of these is provided there. I have also addressed key provisions earlier in my evidence.

Canterbury Air Regional Plan

242. I agree with Ms Dawson's section 42A report with the provisions she has identified as being relevant to this proposal within the Air Plan. Ms Dawson concludes that the proposal is consistent with the objectives and policies of this plan. I agree with this assessment. I also note that in order to achieve the outcomes sought by this plan, access to a suitable water supply was necessary for dust suppressant purposes.

Selwyn District Plan and Proposed Selwyn District Plan

243. I agree with Mr Henderson's section 42A report with the provisions that he has identified as being relevant to this proposal within both the Operative and Proposed Selwyn District Plan. With the exception of the matters, I have listed in paragraph 173 Mr Henderson concludes that the proposed closure and rehabilitation activities generally align with the outcomes sought from the relevant provisions. I refer to my analysis in paragraphs 174 to 181.

Other Planning Documents / Relevant Matters

244. In my opinion the planning documents I address above contain the most relevant provisions when considering the proposal.

PART 2 ASSESSMENT

245. The various elements of Part 2 will be well known to the Panel. Many of the relevant Part 2 issues are directly addressed by the various planning instruments that I have referred to earlier, and I do not repeat that analysis here. That analysis is directly applicable to your ultimate evaluation of Part 2 matters, insofar as you need to that, in light of the most recent determination on *Davidson*. By way of summary, the key matters relevant to this proposal, which stand out to me are:

- (a) The natural character of the wetlands and streams affected by the past and present mining activities have already been modified and in some respects degraded by historic mining activities, and present-day forestry and farming activities. Upon rehabilitation of the site these areas are expected to return to natural (or pre mining) like state. The wetland enhancement work is also likely to further improve these areas.²²
- (b) While the site is not identified as being within any outstanding natural landscape or feature, the landscape effects arising from the final closure and rehabilitation of landforms are considered to be acceptable.²³

²²Section 6(a).

²³ Section 6(a).

- (c) Discharges to water can be managed to achieve existing discharge compliance limits which are considered appropriate, such that there will be no change to the water quality or life supporting capacity of downstream receiving environments.²⁴ Further monitoring is also proposed to confirm this, and if necessary adaptive management measures can be applied to further treat or mitigate any adverse effects being detected. Further refinement of the TARPs can be worked through in my view between the various technical experts.
- (d) BCL is proposing to enhance areas of wetland and associated habitat as set out in Dr Bramley's evidence. What is being proposed will result in an overall beneficial outcome for significant wetlands and indigenous biodiversity within the broader site. What is being advanced is an improvement, not a reduction in wetland values. This amounts to the protection of significant values for the purposes of section 6.²⁵
- (e) BCL has undertaken further consultation with Mana Whenua, and as recommendations into the closure plan has been received on behalf of Te Taumutu Rūnanga. These measures are being incorporated into the onsite management and enhancement plans and proposed conditions of consent.²⁶
- (f) Any effects on heritage values have been managed in accordance with the Archaeological Authority that has already been obtained for the site and adherence to an accidental discovery protocol.²⁷
- (g) The proposal will be managed to ensure any natural hazard risk will not be exacerbated. This is primarily through the incorporation of appropriate factors of safety in the design and rehabilitation of the site.²⁸
- (h) The site closure and rehabilitation that is proposed that will ensure that the intrinsic values of key ecosystems present within the site currently

²⁴ Section 6(a).

²⁵ Section 6(b).

²⁶ Section 7(a) & 7(aa).

²⁷ Section 6(f).

²⁸ Section 6(h).

are suitably recognised, and existing activities (i.e. forestry and farming) are able to continue post mining closure.²⁹

246. Overall, it is considered that based on the technical evidence and conditions being offered by BCL to secure appropriate and long-term environmental outcomes, the proposed closure and rehabilitation plans will ensure that the sustainable management purpose and principles of the Act are suitably achieved.

SUBMISSIONS

247. A summary of the issues raised by submitters is provided in the section 42A reports of Ms Dawson and Mr Henderson.
248. I agree with that summary.
249. The opposing submissions raise various concerns with the effects of the project, however I note that these submissions were made on the basis that BCL was seeking to continue to operate and expand the mine. The submissions which have raised matters relating to the retrospective nature of the activities and the residual effects of activities post closure and rehabilitation, such as Forest and Bird, have been considered in the above sections of my evidence.
250. Evidence that may be provided by submitters will likely be more focussed on the effects of closure and rehabilitation and this will need to be further reviewed and considered.

CONSENT DURATION

251. At paragraph 657 Ms Dawson recommends consent terms for the various ECan consents being sought. I find these terms to be acceptable.
252. The terms that Ms Dawson recommends will enable BCL to fulfil its ongoing rehabilitation and monitoring requirements which will endure for some time post the immediate closure of the site.
253. As it is evident from this monitoring that such obligations can reduce or cease in its entirety (e.g. water quality and wetland enhancement monitoring), BCL

²⁹ Section 7(c).

will likely seek variations to resource consents to amend these obligations, or seek to relinquish these consents, provided there is a legal mechanism to do so.

254. Ms Dawson appears to be supportive of this proposed approach³⁰.

CONDITIONS OF CONSENT

255. Proposed conditions were attached to the Addendum AEE as Appendices 9 and 10. Ms Dawson and Mr Henderson have also provided conditions within the section 42A reports.

256. Having reviewed Mr Henderson's proposed conditions, it is my view that there is a good deal of alignment between us as to what these conditions should contain. The only areas of that need further discussion appear to relate to:

- (a) Minor amendments to clarify when (and what) monitoring should occur within the active and passive closure phases. Definitions describing these phases would be a useful addition to the conditions to provide clarity.
- (b) Clarification regarding some of the terminology to ensure the conditions reflect what can be practically achieved in terms of landform creation.
- (c) The wetland management plan.
- (d) Bonds.

257. With regard to wetlands, Mr Henderson has recommended amendments in the conditions to directly address the matters raised by Mr Harding in this regard. These amendments seek to increase the area to include legal road reserve within the North Property wetland and to provide for legal protection of the Bush Gully wetland areas, accompanied by a new plan that shows the removal of pine trees to provide a suitable setback.

258. There are practical difficulties with achieving these obligations, particularly with respect to the Bush Gully wetland proposal. This area is not owned by

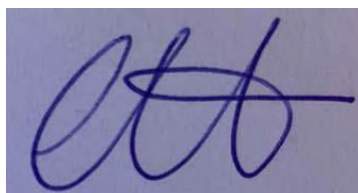
³⁰ Paragraph 439

BCL and while it has reached an agreement with the landowner to complete the restoration and enhancement work in this area, applying a legal instrument over third party land presents a challenge. I agree however that it will be important to ensure the restoration work is not altered or removed in the future. The consent conditions will ensure the work is completed and maintained. Once the wetland is fully established in accordance with these conditions, it is expected that there will be certainty regarding its status as wetland, and it will therefore be “protected” via the NPS and NES for Freshwater, as well as the regional and district planning rules. These provisions all seek to prevent the removal or significant modification of such stream and wetland habitat.

259. BCL has no concerns with including the legal road area as part of the North Property wetland area. However, the condition that has been proposed by Mr Henderson requires BCL to obtain a licence to occupy and there is no certainty that this would be provided to BCL as it would require essentially third party approval (from SDC in their capacity as road controlling authority). This defers approval of the ability to implement this part of the consent to a third party process.
260. Mr Henderson has provided an amended bond condition. This appears to be generally acceptable, however some important aspects that still need to be incorporated relate to:
 - (a) Ensuring the bond can be in the form of a cash bond.
 - (b) A mechanism within the condition for the bond quantum to be reviewed and released incrementally and relative to the extent of rehabilitation that has occurred within the site.
261. There are also a number of drafting issues that I consider need to be worked through. However, as noted below in terms of the ECan consents, given that there are still some outstanding issues to be worked through with the technical experts, the better option is to await the outcomes of these sessions prior to offering drafting refinements to these conditions.
224. Ms Dawson has provided a suite of conditions in Appendix 1 of her report. She states that this suite is not complete as further information is required to complete all the conditions considered necessary. Ms Dawson has provided

comments to aid in describing the type of conditions that might be necessary to address the issues that have raised within the section 42A report.

225. BCL has as part of its evidence sought to provide the further information that has been identified by Ms Dawson. I am of the view that this will assist in further shaping these conditions. However, it is apparent from my review of the various evidence that there may be remaining areas of disagreement or further details that need to be worked through between the technical experts on certain matters. In my view this is predominately around wetland offsetting and compensation extent, water quality, aquatic ecology and water quantity monitoring, triggers and limits. I understand that expert witness caucusing is scheduled to occur within the coming weeks, and I think that the outcomes of these sessions will significantly assist to refine these conditions.
226. I also note that Ms Dawson's conditions relating to wetlands and bonding obligations differ from those set out in Mr Henderson's report. In my opinion it makes sense that these conditions are aligned.
227. For these reasons I intend to revisit the conditions that were attached to the Addendum AEE and provide a revised set of conditions as part of legal submissions (or earlier), after my review of submitters' evidence and receipt of any agreed witness conferencing statements.



Claire Elizabeth Hunter

1 October 2021

APPENDIX A

Appendix A

List of Project Experience for Claire Hunter

- OceanaGold (New Zealand) Limited – Peer review role in various project and activities at the Macraes Gold Project, in Otago. This includes reviewing of the Deepdell North Stage III Project resource consent applications, and the Golden Point Underground resource consent applications, and preparing and presenting planning evidence at the Deepdell North Stage III hearing.
- OceanaGold (New Zealand) Limited – Preparation of a submission on the Proposed Otago Regional Policy Statement 2021.
- Contact Energy – Preparation of a submission on the Proposed Otago Regional Policy Statement 2021.
- Federation Mining Limited – Project lead and planning advisor on a proposal by Federation Mining Limited to further develop the Snowy Gold Mine situated near Reefton on the West Coast, South Island.
- Blue Sky Pastures – Planning advice relating to the preparation of applications to renew its key water and discharge consents for its plant in Southland.
- Silver Fern Farms – Preparation of the resource consent applications to renew its key discharge and water related permits associated with the ongoing operation of its Finegand Plant, near Balclutha. This includes an application to continue to maintain a closed land fill within the property.
- Wellington International Airport Limited –
 - Ongoing day to day planning advice,
 - Most recently prepared an application for a new retail development within commercial land owned by the Airport; and
 - I prepared the notice of requirements for two new designations to enable the protection and ongoing use of the main site at Wellington Airport via a designation, and to enable growth of WIAL facilities and infrastructure to an adjacent site, currently occupied by the Miramar Golf Course.
- Alliance Group Limited – Planning advice and preparation of applications with regard to the renewal of key discharge consents (water, land and air) for its Lorneville Plant.
- Alliance Group Limited – Review of Canterbury Proposed Regional Air Plan, preparation of submission and evidence.
- Alliance Group Limited – Review of various Southland Regional and District Plan changes and preparation of submissions. Participation in Environment Court mediation to resolve Alliance Group Limited's appeal on the Southland Proposed District Plan.
- Alliance Group Limited – Preparation of resource consent application for the renewal of its Mataura Plant's hydroelectric power scheme.

- Alliance Group Limited – Preparation of statutory assessment to accompany resource consent application to renew its Pukeuri Plant biosolids discharge consent.
- Aurora Energy Limited – Successfully obtained a resource consent and subdivision for a new large scale substation in Camp Hill, Hawea, Queenstown Lakes District.
- Wellington International Airport Limited – management of technical inputs and reports for the proposed runway extension, preparation of regional and district council resource consent applications.
- Wellington International Airport Limited – preparation of advice and submissions on the Greater Wellington Proposed Natural Resources Plan. Active involvement in preparing evidence for the various hearing streams on behalf of WIAL.
- Liquigas Limited – Preparation of submissions and planning evidence on the Second-Generation Dunedin City Plan in order to protect the existing and proposed operational capacity of its LPG Terminal in Dunedin.
- Liquigas Limited – Reconsenting of its significant South Island LPG Terminal located at Port Otago, Dunedin. The application sought to increase the storage of LPG significantly at the site.
- Environmental Protection Authority – NZTA Expressway between MacKays Crossing to Peka, Kapiti Coast project; Transmission Gully project plan change and Notices of Requirements and resource consents – Assisting in the review and section 42A report writing for the notice of requirement and various consents required.
- Ravensdown Fertiliser Limited – Preparation of regional council resource consents (air and coastal discharges) to enable the ongoing operation of the Plant in Ravensbourne in Dunedin City.
- Queenstown Airport Corporation – Provision of resource management advice for the airport and its surrounds in particular the runway end safety area extension and preparation of the notice of requirement, gravel extraction applications to both regional and district councils and other alterations required to the aerodrome designation.
- LPG Association of New Zealand Limited – Preparation of evidence and hearing attendance representing the LPGA with respect to Dunedin City Council's Plan Change 13 – Hazardous Substances and participation in mediation to resolve LPGA appeal.
- LPG Association of New Zealand Limited – Preparation of planning evidence on the Second-Generation Dunedin City Plan.
- Invercargill Airport Limited – Preparation of plan change provisions and section 32 analysis to provide for the future growth and expansion of Invercargill Airport in the Invercargill District Plan.
- Invercargill Airport Limited – Preparation of notices of requirement to amend a number of existing designations in the Invercargill District Plan including obstacle limitation surfaces and the aerodrome.
- Southdown Holdings Ltd – Preparation of proposed conditions of consent for large scale irrigation in the Upper Waitaki catchment, Canterbury.

- Trustpower Limited – Review of Otago Regional Council Plan Change 6A and preparation of submissions and evidence at the hearing on behalf of Trustpower Limited. Participation in Environment Court mediation to resolve issues.
- Trustpower Limited – Review of Clutha District Plan Energy Generation Plan Change and preparation of submissions and evidence at the hearing on behalf of Trustpower Limited.
- Trustpower Limited – preparation of proposed conditions of consent for the Wairau Hydroelectric Power Scheme.
- Trustpower Limited – management of the necessary technical inputs, consultation and preparation of resource consents necessary to enable the ongoing operation of the Wahapo Hydroelectric Scheme on the West Coast, South Island.
- Meridian Energy Limited – preparation of the regional and district council consents for the Proposed Project Hayes Wind Farm in Central Otago.
- Meridian Energy Limited – preparation of the regional and district council consents for the Proposed Mokihinui Hydro Scheme on the West Coast, South Island.
- SouthPort Limited – Prepared and presented evidence on behalf of SouthPort in regards to proposed plan changes to the Invercargill District Plan.

APPENDIX B

APPENDIX B

Assessment of CLWRP Objectives and Policies	
Provision	Assessment
Section 2A National Direction	
<p><i>Policy 2A.1:</i></p> <p><i>(1) When considering any application for a discharge the consent authority must have regard to the following matters:</i></p> <p><i>(a) the extent to which the discharge would avoid contamination that will have an adverse effect on the life-supporting capacity of fresh water including on any ecosystem associated with fresh water; and</i></p> <p><i>(b) the extent to which it is feasible and dependable that any more than minor adverse effect on fresh water, and on any ecosystem associated with fresh water, resulting from the discharge would be avoided.</i></p> <p><i>(2) When considering any application for a discharge the consent authority must have regard to the following matters:</i></p> <p><i>(a) the extent to which the discharge would avoid contamination that will have an adverse effect on the health of people and communities as affected by their contact with fresh water; and</i></p> <p><i>(b) the extent to which it is feasible and dependable that any more than minor adverse effect on the health of people and communities as affected by their contact with fresh water resulting from the discharge would be avoided.</i></p> <p><i>(3) This policy applies to the following discharges (including a diffuse discharge by any person or animal):</i></p> <p><i>(a) a new discharge or</i></p> <p><i>(b) a change or increase in any discharge – of any contaminant into fresh water, or onto or into land in circumstances that may result in that contaminant (or, as a result of any natural process from the discharge of that contaminant, any other contaminant) entering fresh water.</i></p> <p><i>(4) Paragraph 1 of this policy does not apply to any application for consent first lodged before the National Policy Statement for Freshwater Management 2011 took effect on 1 July 2011.</i></p> <p><i>(5) Paragraph 2 of this policy does not apply to any application for consent first lodged before the National Policy Statement for Freshwater Management 2014 takes effect.</i></p>	<p>The intent and management approach proposed for the water management and treatment strategy that will be in place post closure and rehabilitation of the site will be to manage discharges from the site so that compliance with existing consented water quality parameters can be achieved. Water quality will be monitored to confirm predictions in this required, and if this monitoring detects any issues or non compliances, adaptive management actions can be undertaken. This is the intent of the TARPS as explained in the evidence of Dr Weber.</p> <p>On the basis that water quality will remain within existing consented limits, this will continue to protect the life supporting capacity for any aquatic species living within the waterways.</p> <p>Importantly contamination levels will not be increased as result of this proposal to close and rehabilitate the site. Moreover, downstream water quality is expected to improve overtime as a result of this proposal compared to the existing environment.</p>
<p><i>Policy 2A.2:</i></p> <p><i>(1) When considering any application the consent authority must have regard to the following matters:</i></p> <p><i>(a) the extent to which the change would adversely affect safeguarding the life supporting</i></p>	<p>Dr Hogsden evidence confirms that water quality within Tara Stream at downstream sites appears to be improving, with declining trends in sulfate and other contaminant concentrations from 2015 – 2021.</p>

<p><i>capacity of fresh water and of any associated ecosystem; and</i></p> <p><i>(b) the extent to which it is feasible and dependable that any adverse effect on the life supporting capacity of fresh water and of any associated ecosystem resulting from the change would be avoided.</i></p> <p><i>(2) This policy applies to:</i></p> <p><i>(a) any new activity and</i></p> <p><i>(b) any change in the character, intensity or scale of any established activity – that involves any taking, using, damming or diverting of fresh water or draining of any wetland which is likely to result in any more than minor adverse change in the natural variability of flows or level of any fresh water, compared to that which immediately preceded the commencement of the new activity or the change in the established activity (or in the case of a change in an intermittent or seasonal activity, compared to that on the last occasion on which the activity was carried out).</i></p> <p><i>(3) This policy does not apply to any application for consent first lodged before the National Policy Statement for Freshwater Management 2011 took effect on 1 July 2011.</i></p>	<p>Macroinvertebrate communities have been similar in Bush Gully Stream and Tara Stream in recent years, numerically-dominated by a core group of taxa (snails, oligochaete worms, dipterans) and often sparsely populated with other taxa, suggesting minimal adverse effects of recent water quality. In particular, Dr Hogsden notes that the dominance of snails at most sites indicates AMD is unlikely to be currently impacting the streams as snails are sensitive to acidic waters.</p> <p>Dr Hogsden also considers that occasional, short term exceedances in compliance for certain contaminants discharging into Tara Stream appear to have not adversely affected the macroinvertebrates over time.</p> <p>Dr Hogsden evidence also indicates that aquatic fish species such as Kōwaro, Canterbury galaxias, and upland bullies have been found within Bush Gully Stream, and Kōwaro and Canterbury galaxias have been found within Tara Stream. Kōwaro was first recorded in Tara Stream upstream of the farm ponds (CC03) in November 2021.</p> <p>This evidence indicates that compliance with the consented water quality limits will continue to protect the life supporting capacity of the water bodies downstream of the site.</p> <p>I also note that discharges to the Tara Stream already form part of the existing environment via CRC170541. This was considered and granted by ECan in 2017. At that time Ms Dawson (on behalf of ECan) considered that with the compliance trigger levels being proposed, and the monitoring requirements, any potential effects on the wetland immediately downstream, surface water quality and ecosystems will be no more than minor¹. She also concluded there that the new water management methods being proposed onsite and revised consent framework will result in a better environmental outcome than the existing situation.</p> <p>These conclusions in my view remain valid, and with the closure and rehabilitation plans now being brought forward water quality outcomes are only likely to further improve.</p>
<p><i>Policy 2A.3: The loss of extent of natural inland wetlands is avoided, their values are protected, and their restoration is promoted, except where:</i></p> <p><i>(a) the loss of extent or values arises from any of the following:</i></p>	<p>Refer to paragraphs 166 to 171 of my evidence.</p>

¹ Section 42A Report Consent Number: CRC170540 and CRC170541, paragraph 117, page 21

<p>(i) the customary harvest of food or resources undertaken in accordance with tikanga Māori (ii) restoration activities (iii) scientific research (iv) the sustainable harvest of sphagnum moss (v) the construction or maintenance of wetland utility structures (as defined in the Resource Management (National Environmental Standards for Freshwater) Regulations 2020) (vi) the maintenance or operation of specified infrastructure, or other infrastructure (as defined in the Resource Management (National Environmental Standards for Freshwater) Regulations 2020) (vii) natural hazard works (as defined in the Resource Management (National Environmental Standards for Freshwater) Regulations 2020); or</p> <p>(b) the regional council is satisfied that: (i) the activity is necessary for the construction or upgrade of specified infrastructure; and (ii) the specified infrastructure will provide significant national or regional benefits; and (iii) there is a functional need for the specified infrastructure in that location; and (iv) the effects of the activity are managed through applying the effects management hierarchy.</p>	
<p><i>Policy 2A.4: The loss of river extent and values is avoided, unless the council is satisfied:</i> (a) that there is a functional need for the activity in that location; and (b) the effects of the activity are managed by applying the effects management hierarchy.</p>	<p>I agree with Ms Dawson's assessment where she recognises that there is functional need for the activity to be located in this environment as this is the location of the coal source.</p> <p>The activities which are subject of these applications do not result in the physical loss of river extent. I also do not consider there to be a direct loss of values associated with BCL's proposed closure and rehabilitation activities.</p> <p>The water treatment system that is proposed is to seek to ensure that water quality as noted above will be managed so as to maintain compliance with consented limits. This will also ensure there are no notable effects on aquatic ecology. Cultural values have been recognised by BCL, and the recommendations that have been put forward by mana whenua will be incorporated into consent conditions.</p>
<p>Section 3 Objectives</p>	
<p><i>Objective 3.1: Land and water are managed as integrated natural resources to recognise and enable Ngāi Tahu culture, traditions, customary uses and relationships with land and water.</i></p> <p><i>Objective 3.2: Water management applies the ethic of ki uta ki tai - recognising the connectivity between waters, land and the coast.</i></p>	<p>An integrated approach has been adopted by BCL particularly in relation to water management, treatment, water quality and hydrology. The recommendations provided by mana whenua will be incorporated into the conditions of consent.</p>
<p><i>Objective 3.8: The quality and quantity of water in fresh water bodies and their catchments is managed to safeguard the life-supporting</i></p>	<p>Refer to paragraphs 122 to 139 of my evidence.</p>

<i>capacity of ecosystems and ecosystem processes, including ensuring sufficient flow and quality of water to support the habitat and feeding, breeding, migratory and other behavioural requirements of indigenous species, nesting birds and where appropriate, trout and salmon,</i>	
<i>Objective 3.16: Freshwater bodies and their catchments are maintained in a healthy state, including through hydrological and geomorphic processes such as flushing and opening hāpua and river mouths, flushing algal and weed growth, and transporting sediment.</i>	<p>The final landforms will result in a slight change to the area of the catchments and sub-catchments draining into the Waianiwi and Selwyn Rivers. These changes are assessed as being negligible at a catchment scale. The water management system also incorporates the N02 pond, spillway and drainage channel which will remain long term to buffer flood flows.</p> <p>It is also envisaged that flows to the Tara Stream can be maintained via the N02 pond or other actions adopted on site in order to ensure this.</p>
<i>Objective 3.17: The significant indigenous biodiversity values of rivers, wetlands and hāpua are protected.</i>	Refer to paragraphs 160 to 174 of my evidence.
<i>Objective 3.18: Wetlands that contribute to cultural and community values, biodiversity, water quality, mahinga kai, water cleansing and flood mitigation are maintained</i>	Refer to paragraph 160-174 of my evidence.
<i>Objective 3.23: Soils are healthy and productive, and human-induced erosion and contamination is minimised.</i>	<p>The site will be rehabilitated to a state whereby forestry and farming activities are able to establish. The land will therefore be able to be utilised for production uses.</p> <p>Contamination of the land is minimised by the disposal of CCR, AMD management, erosion and sediment controls and the rehabilitation and treatment methodology that has and will continue to be adopted by BCL. This will ensure any potential erosion and contamination risk within the site is suitably minimised.</p>
<i>Objective 3.24: All activities operate at good environmental practice or better to optimise efficient resource use and protect the region's fresh water resources from quality and quantity degradation.</i>	As outlined in the evidence of Dr Weber and Ms Hartwell the closure and rehabilitation that is being proposed, and BCLs water management system is consistent with best practice.
Section 4 Policies	
<i>Policy 4.1: Lakes, rivers, wetlands and aquifers will meet the fresh water outcomes set in Sections 6 to 15 within the specified timeframes. If outcomes have not been established for a catchment, then each type of lake, river or aquifer should meet the outcomes set out in Table 1 by 2030.</i>	<p>These limits are to be applied on a catchment scale. Minor diversions, water storage and the discharge of treated water from the site will not affect the ability to achieve these specified limits within the wider catchments.</p> <p>The onsite water treatment system as well as the enhancement to wetlands which are being proposed by BCL will overall in my view seek to improve stream health and water quality, particularly within the Bush Gully Stream area.</p>
<i>Policy 4.2: The management of lakes, rivers, wetlands and aquifers will take account of the fresh water outcomes, water quantity limits and the individual and cumulative effects of land</i>	

<p><i>uses, discharges and abstractions will meet the water quality limits set in Sections 6 to 15 or Schedule 8 and the individual and cumulative effects of abstractions will meet the water quantity limits in Sections 6 to 15.</i></p>	
<p><i>Policy 4.3: Surface water bodies are managed so that:</i></p> <ul style="list-style-type: none"> <i>a. toxin producing cyanobacteria do not render rivers or lakes unsuitable for recreation or human and animal drinking-water;</i> <i>b. fish are not rendered unsuitable for human consumption by contaminants;</i> <i>c. the natural colour of the water in a river is not altered;</i> <i>d. the natural frequency of Hapūa, coastal lakes, lagoons and river openings is not altered;</i> <i>e. the passage for migratory fish species is maintained unless restrictions are required to protect populations of native fish;</i> <i>f. reaches of rivers are not induced to run dry, thereby maintaining the natural continuity of river flow from source to sea,</i> <i>g. variability of flow, including floods and freshes, is maintained to avoid prolonged “flat-lining” of rivers; to facilitate fish passage; and to mobilise bed material; and</i> <i>h. the exercise of customary uses and values is supported.</i> 	<p>Ms Dawson assesses the proposal as being inconsistent with this provision, specifically (g) on the basis that flow variability has not been maintained in Tara Stream during operational mining.</p> <p>In terms of retrospective activities and their impact on the Tara Stream and wetland environment, I consider that this assessment needs to be undertaken in context of the existing environment. In order to provide necessary treatment of the mine affected waters, water within the site was diverted into storage ponds, treated and then discharged to the Tara Stream. This discharge has been authorised to occur via CRC170541 which is held by BCL. This has resulted in changes to the Tara Stream environment, as too have other existing and permitted land use activities such as forestry afforestation and deforestation. Given the modified state of Tara Stream, I do not agree that the changes arising from the onsite water management system would have had significant adverse effects on the Tara Stream. There is also no baseline data to determine the pre-mining state of this stream in order to be able to fully determine this, nor would there be any clear way to attribute degradation directly to the mining activities given the other activities also operating and existing in this catchment.</p> <p>Post closure the landform and catchments will continue to shed naturally, and this will assist in maintaining flow variability within the wider Tara Stream catchment.</p>
<p><i>Policy 4.7: Resource consents for new or existing activities will not be granted if the granting would cause a water quality or quantity limit set in Sections 6 to 15 to be breached or further over allocation (water quality and/or water quantity) to occur or in the absence of any water quality standards in Sections 6 to 15, the limits set in Schedule 8 to be breached.</i></p> <p><i>Replacement consents, or new consents for existing activities may be granted to:</i></p> <ul style="list-style-type: none"> <i>a. allow the continuation of existing activities at the same or lesser rate or scale, provided the consent contains conditions that contribute to the phasing out of the over allocation (water quality and/or water quantity) within a specified timeframe; or</i> <i>b. exceed the allocation limit (water quality and/or water quantity) to a minor extent and in the short-term if that exceedance is part of a</i> 	<p>As explained in paragraphs 139 to 157 of my evidence I do not agree with Ms Dawson that the abstraction of water from the onsite storage pond and utilisation of this water as a dust suppressant, culminated in adverse effects on allocation within the Selwyn-Waimakariri Combined Groundwater Allocation Zone.</p> <p>I also do not consider that these policies are directly applicable to this proposal. It is apparent that these provisions give life to the rule framework which applies to activities within Nutrient Allocation Zones (for water quality) and Rules 5.123 and 5.128 (and those that follow after). These rules apply a more straight forward consenting pathway for existing activities, and this progressively gets more stringent, particularly if the activity breaches the limits set</p>

<p><i>proposal to phase out the over-allocation within a specified timeframe included in Sections 6 to 15 of this Plan.</i></p>	<p>out in Sections 6 to 15 of the CLWRP. Such activities are either non complying or prohibited.</p> <p>Rules 5.123 and 5.128 are applicable to activities which seek to take surface water from <u>a river or lake</u> or groundwater sources.</p> <p>Both Ms Dawson and I agree that these rules do not apply to the activities that are undertaken on the site including the diversion activities and subsequent take from the dust pond.</p>
<p><i>Policy 4.11: The setting and attainment of catchment specific water quality and quantity outcomes and limits is enabled through:</i></p> <p><i>a. limiting the duration of any resource consent granted under the region-wide rules in this Plan to a period not exceeding five years past the expected notification date (as set out in the Council's Progressive Implementation Programme) of any plan change that will introduce water quality or water quantity provisions into Sections 6 – 15 of this Plan; but</i></p> <p><i>b. allowing, where appropriate, a longer resource consent duration for discharge permits granted to irrigation schemes or principal water suppliers under the region-wide nutrient management rules in this Plan, provided those permits include conditions that restrict the nitrogen loss from the land and enable a review of the consent under section 128(1) of the RMA.</i></p>	<p>I do not consider this policy to be particularly relevant to this proposal.</p> <p>Future catchment wide limits seeking to improve water quality will not be adversely affected or impacted by the water management that is being proposed by BCL. In the long term mining impacted discharges from the site are expected to significantly improve, and the catchment hydrology will largely return to normal functioning.</p>
<p><i>Policy 4.13: For other discharges of contaminants into or onto land where it may enter water or to surface water bodies or groundwater (excluding those passive discharges to which Policy 4.26 applies), the effects of any discharge are minimised by the use of measures that:</i></p> <p><i>a. first, avoid the production of the contaminant;</i></p> <p><i>b. secondly, reuse, recovers or recycles the contaminant;</i></p> <p><i>c. thirdly, minimise the volume or amount of the discharge; or</i></p> <p><i>d. finally, wherever practical utilise land-based treatment, a wetland constructed to treat contaminants or a designed treatment system prior to discharge; and</i></p> <p><i>e. in the case of surface water, results in a discharge that after reasonable mixing meets the receiving water standards in Schedule 5 or does not result in any further degradation in water quality in any receiving surface waterbody that does not meet the water quality standards in Schedule 5 or any applicable Water Conservation Order.</i></p>	<p>In my view the closure and rehabilitation methods that are employed by BCL at the site are consistent with achieving the outcomes of this policy.</p> <p>Mr Sinclair and Dr Weber explain how CCR has been placed within the ELF's at site that contain waste rock to neutralise acid and the CCR has been encapsulated by around 10 – 15m of non acid forming (NAF) materials. The construction methodology and placement of this material is assessed as having less than minor effects on drainage from the various ELF's at site as shown by water quality monitoring data.</p> <p>The water management system that is also employed at the site (including that post closure) adopts a land based treatment which is directly consistent with this policy.</p> <p>The water quality limits applied to date and on an ongoing basis are also based on Schedule 5. It is expected that the water quality treatment proposed post closure will continue to comply with these limits, or can be adaptively managed so as to achieve compliance.</p> <p>Additionally, what is being proposed with regard to closure and rehabilitation will not lead to any further degradation of water</p>

<p><i>Policy 4.14B: Have regard to Ngāi Tahu values, and in particular those expressed within an iwi management plan, when considering applications for discharge which may adversely affect statutory acknowledgement areas, nohoanga sites, surface waterbodies, silent file areas, culturally significant sites, Heritage New Zealand sites, any listed archaeological sites, and cultural landscapes, identified in this Plan, any relevant district plan, or in any iwi management plan.</i></p>	<p>The proposal has had regard to Ngai Tahu values based on the CIA provided, the iwi management plan, the consideration of the submission from Te Taumutu Runanga and the recommendations from mana whenua contained in the MCMP which have been incorporated into the conditions of consent.</p>
<p><i>Policy 4.18: The loss or discharge of sediment or sediment-laden water and other contaminants to surface water from earthworks, including roading, works in the bed of a river or lake, land development or construction, is avoided, and if this is not achievable, the best practicable option is used to minimise the loss or discharge to water.</i></p>	<p>Ms Hartwell confirms that the erosion and sediment control measures that have been employed at the site are consistent with best practice. They are effective in minimising any the loss of any sediment from the site which is expected to decrease further over time.</p>
<p><i>Policy 4.20: On erosion-prone land, any medium and large-scale earthworks, harvesting of forestry or other clearance of vegetation is undertaken in a manner which minimises the exposure of soil to erosion, controls sediment run-off and re-establishes vegetation cover as quickly as possible.</i></p>	
<p><i>Policy 4.22: Sedimentation of water bodies as a result of land clearance, earthworks and cultivation is avoided or minimised by the adoption of control methods and technologies, such as maintaining continuous vegetation cover adjacent to water bodies, or capturing surface run-off to remove sediment and other contaminants or by methods such as direct drilling crops and cultivation that follows the contours of a paddock.</i></p>	
<p><i>Policy 4.27: Landfills and other waste collection or disposal sites are designed and sited to avoid the contamination of groundwater or surface water either through the direct discharge of hazardous substances to water or the leaching of contaminants into or onto land where they may enter water.</i></p>	<p>In my view the closure and rehabilitation methods that are employed by BCL at the site are consistent with achieving the outcomes of this policy.</p> <p>Mr Sinclair and Dr Weber explain how CCR has been placed within the ELF's at site that contain waste rock to neutralise acid and the CCR has been encapsulated by around 10 – 15m of non acid forming (NAF) materials in practice. The construction methodology and placement of this material is assessed has having less than minor effects on drainage from the various ELF's at site as shown by water quality monitoring data.</p> <p>Given this construction methodology and evidence of stabilisation within the North Elf in particular at the site, it is my view that likely future land use activities such as forestry or farming activities are not at risk of exposing CCR material.</p>

	<p>The potential effects from AMD will also be minimised as part of the closure and rehabilitation plans for the site. AMD will continue to be treated and this will seek to ensure compliance with existing water quality limits, deemed acceptable by BCL experts. This discharge will continue to be monitored post closure and if necessary adaptive management responses can be applied to prevent, mitigate or remedy any potential non compliance issues that might arise.</p>
<p><i>Policy 4.42 Wetlands in the bed and margins of lakes and rivers are managed as an integral part of lakes and rivers.</i></p>	<p>With respect to this policy Ms Dawson notes that the Tara wetland is located within the Tara Stream. The wetland is considered an integral part of the stream when assessing the potential impacts.</p> <p>While I do not disagree with this statement, I do note that the existing environment in which the wetland currently exists is important context for this assessment. BCL holds consent to discharge directly to the Tara Stream as well as a consent to remove the Tara wetland.</p> <p>Furthermore, I consider the proposal to be directly consistent with this policy in that the wetland enhancement that is proposed within the Bush Gully Stream and North Property will increase biodiversity within this stream area and increase ecological connectivity. This work suitably recognises the integral nature of the wetland system in this location on Bush Gully Stream.</p> <p>This is an improvement in my view.</p>
<p><i>Policy 4.43: In hāpua, coastal lakes, lagoons and wetlands, the damming, diversion or taking of water is limited to the temporary diversion of water as part of maintaining infrastructure, pest management, or habitat restoration or enhancement work, or the artificial opening of hāpua to assist in fish migration, achieving other conservation outcomes, customary uses, or to avoid land inundation.</i></p>	<p>I agree with Ms Dawson's assessment that this policy is not relevant to this proposal as wetlands within the site have been directly impacted by the mining activity, rather than damming, diversion and taking of water.</p>
<p><i>Policy 4.48: Any dam or infrastructure for the storage of water is sited, designed, constructed and operated to minimise any risk of overspill, leakage, slips or other dam failure, provides for the diversion of floodwaters, and any associated risk of inundation or other adverse effects on people, communities or their property</i></p>	<p>I agree with Ms Dawson that the remaining ponds onsite will be constructed such that the risk of failure is small.</p>
<p><i>Policy 4.50: Where the rate of take or volume of water consented for abstraction from a catchment exceeds the environmental flow and water allocation limit for surface water or stream depleting groundwater, or the groundwater allocation limit for that catchment, any further allocation of water is limited to:</i> <i>a. any abstraction necessary to meet community water supply and stockwater requirements; and</i></p>	<p>Refer to my comments above with respect to Policy 4.7. These apply equally here.</p>

<p><i>b. the replacement of existing resource consents provided that:</i></p> <p><i>i. a reduction in over-allocation is enabled through the replacement resource consent being for no more than 90% of the previously consented rate of take and annual or seasonal volume unless there is a method and defined timeframe to phase out over-allocation set out in the relevant sub-region Section of this Plan; and</i></p> <p><i>ii. there are significant and enduring improvements in the efficiency of water use and reductions in any adverse effects; or</i></p> <p><i>iii. it is demonstrated that the existing use of water is efficient and that the efficiency is enduring.</i></p>	
<p><i>Policy 4.81: Any take, use, damming or diversion of water, any discharge of contaminants onto land or into water, or any earthworks, structures, planting, vegetation removal or other land uses within a wetland boundary, do not adversely affect the significant values of wetlands, hāpua, coastal lakes and lagoons, except for:</i></p> <p><i>a. a temporary and or minor adverse effect where that activity is part of installing, maintaining, operating or upgrading infrastructure, pest management, or habitat restoration or enhancement work; or</i></p> <p><i>b. the artificial opening of hāpua, coastal lakes or lagoons to assist in fish migration or achieving other conservation outcomes, customary uses, or to avoid land inundation.</i></p>	<p>Refer to paragraphs 161 to 165 of my evidence.</p>
<p><i>Policy 4.82: Modification of wetlands, hāpua, coastal lakes and lagoons may occur if the modification is necessary, and necessarily has to be in that location to provide for the installation, upgrading or maintenance of infrastructure and any significant effects are offset by other improvements to or expansion of the same or another wetland, hāpua, coastal lake or lagoon.</i></p>	<p>This does not apply to this proposal as it relates to the modification of wetlands associated with the installation, upgrading or maintenance of infrastructure.</p>
<p>Section 11 – Selwyn Te Waihora</p>	
<p><i>Policy 11.4.1: Manage water abstraction and discharges of contaminants within the entire Selwyn Te Waihora sub-region to avoid, remedy or mitigate adverse cumulative effects on the water quality of Te Waihora/Lake Ellesmere, rivers and shallow groundwater; and the flow of water in springs and tributaries flowing into Te Waihora/Lake Ellesmere and achieve, in combination with non-regulatory actions, the freshwater objectives and outcomes for the sub-region.</i></p>	<p>This policy seeks to manage water abstraction and discharges within the Selwyn Te Waihora sub region to avoid, remedy or mitigate adverse cumulative effects on water quality of Te Waihora/Lake Ellesmere, rivers and shallow groundwater – in order to achieve the freshwater objectives and outcomes for the sub region.</p> <p>I consider that this policy is relevant to this proposal and I find the activities are directly consistent with it.</p> <p>Water abstraction for dust suppression purposes had minor impacts on the overall catchment hydrology, and as a minor and temporary take it had no apparent adverse</p>

	<p>effects on water resources and users downstream of the site.</p> <p>Water quality will be managed so as to remain compliant with water quality limits. The ongoing discharges that can be attributable to the closure and rehabilitation of the site, will therefore not undermine any ability to ultimately achieve improvements in the catchment as required by the freshwater objectives and outcomes set for this Selwyn Te Waihora sub region.</p>
<i>Policy 11.4.23: Manage groundwater and surface water together as a single resource, to ensure, in combination with the introduction of alpine water into the catchment, flows in the Selwyn River/Waikirikiriri and lowland streams are improved and the allocation limits and targets in Table 11(e) are met.</i>	Refer to paragraphs 140 to 159 of my evidence.
<i>Policy 11.4.24: Prohibit the allocation of surface or groundwater which may either singularly or cumulatively result in the allocation limits within Tables 11(e), 11(f) or 11(g) being exceeded.</i>	Refer to paragraphs 156 to 158 of my evidence.
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<i>Policy 4.103 Any resource consent granted with a consent condition requiring the collection of water quality samples, shall also include a condition requiring all water quality sample data to be submitted to the Canterbury Regional Council in a format suitable for automated upload to the Council's water quality database software.</i>	I agree with Ms Dawson that this policy can be achieved via conditions of the consent.