File ref: *PAM-11-07-41289*

MP 41289 ACCESS ARRANGEMENT APPLICATION – PUBLIC NOTIFICATION REPORT FOR s61C(2)(db) OF THE CMA 1991

CONTENTS

1.0 Purpose of this report

1. Rangitira Development Ltd (RDL) have applied for an Access Arrangement (AA) to access 12 hectares (ha) of public conservation land (PCL) within Mining Permit (MP) 41289 in order to undertake open cast coal mining operations. The application was considered to be significant by the Minister of Conservation (the Minister) by virtue of section 61C(2) of the Crown Minerals Act (the Act). The application was therefore publicly notified by the Department in accordance with s49 of the Conservation Act 1987 (Conservation Act) seeking written submissions. A public hearing was also held to provide submitters an opportunity to speak to their submission.

2. In making a final decision on the AA, the Minister is obliged to consider the matters set out in s61(2) of the Act:

> *"In considering whether to agree to an access arrangement in respect of Crown land, the appropriate Minister shall have regard to:*
>
> *(a) the objectives of any Act under which the land is administered; and*
> *(b) any purpose for which the land is held by the Crown; and*
> *(c) any policy statement or management plan of the Crown in relation to the land;*
> *(d) the safeguards against any potential adverse effects of carrying out the proposed programme of work; and*
> *(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought; and*
> *(db) if section 61C(3) applies, the recommendation of the Director-General of Conservation and summary referred to in that subsection; and*
> *(e) such other matters as the appropriate Minister considers relevant."*

3. This report has been drafted to provide the summary referred to in s61(2)(db). The purpose of the report is threefold:

1. To summarise public submissions received during the notification process;
2. To summarise key points and issues discussed at the public hearing; and
3. To provide recommendations on which matters raised in the public notification process may be relevant for decision making under section 61(2) of the Act, and whether any further information may be required to assess them.

4. Given that this report will constitute one of several matters to be considered by the Minister in in making a decision under s61(2) of the Act, it was not considered appropriate for the Panel to assess the AA application for this purpose and provide a recommendation as to whether it should be approved or declined. A full analysis of s61(2) matters will be provided by Department staff in a separate decision report that will address the content and recommendations made this report.

2.0 Public notification and hearing process

5. As noted above, the application was considered to be significant by the Minister of Conservation. The matters to be considered for the decision on significance are set out in s61C(2) of the Act:

> *"The Minister of Conservation must determine whether or not the proposed activities are significant mining activities and, in doing so, must have regard to—*
>
> *(a) the effects the activities are likely to have on conservation values for the land concerned; and*
> *(b) the effects the activities are likely to have on other activities on the land; and*
> *(c) the activities' net impact on the land, either while the activities are taking place or after their completion; and*
> *(d) any other matters that the appropriate Minister considers relevant to achieving the purpose of this Act"*

6. To aide this decision a Significance Assessment Report was drafted by Department staff. This report is attached to this report as Appendix 1. Having considered the Significance Assessment Report, and the matters in s61C(2), the decision maker considered that the application was significant. This decision triggered public notification of the application under s61C(3) of the Act which requires that the application be notified "in accordance with section 49 of the Conservation Act as if the application were required to be publicly notified under that Act".

7. Following the process set out in s49 of the Conservation Act 1987, the Department notified RDL's AA application in local West Coast newspapers and provided submitters 40 working days to make a submission. To help inform submitters the notification provided access to the application and the Significance Assessment Report.

8. At the completion of the 40 day notification period, a total of 76 submissions were received. 64 were in favour of the application (53 of these were a duplicated letter submitted separately by 53 individuals) and 12 were opposed to the application.

9. Six of the submitters opposed to the application advised that they wished to be heard: Jane Young, Coal Action Network Aotearoa (CANA), Royal Society for the Protection of Forest and Birds (Forest and Bird), Environment and Conservation Organisations of NZ Inc (ECO), West Coast Environment Network (West Coast ENT), and one submitter who wished, for personal reasons, to remain anonymous. A public hearing was held in Westport on the 13th and 14th of April 2016.

10. A hearing panel (the Panel) was appointed by the Department. The Panel consisted of:

    Barry Hanson (Chair) – Director, Partnerships
    Judi Brennan – Permissions and Land Manager, Hokitika Shared Service Centre
    Toby Wilkes – Consultant Permissions Advisor
    Dan Maloney – West Coast *Tai Poutini* Conservation Board

11. The anonymous submitter was heard privately by the Panel, with two representatives from RDL also present. Jane Young, CANA, ECO and West Coast ENT were heard at the public hearing venue via telephone/ video conference. Forest and Bird were unable to make the hearing and therefore were not able to present on their written submission.

12. As per the process set out in s49 of the Conservation Act 1987, RDL were also provided a "right of reply" at the hearing, after all public submitters were heard. The right of reply offers the Applicant an opportunity to address and/or provide further information on issues raised in submissions.

3.0 Summary of Submissions

13. A detailed summary of public submissions is attached as Appendix 2 of this report. The tables in Appendix 2 also note which relevant matter in s61(2) of the Act each issue relates to (if any). The below discussion captures the key issues raised and where possible, consolidates the various views of submitters into distinct matters. It is recommended that Appendix 2 is read in full for more detail on individual submissions.

4.0 Submissions in support

14. The Department received 64 submissions in favour of the application. There were 58 submissions from individuals, four from companies and one from the Minerals West Coast industry group. Fifty-three of the supporting submissions were a duplicated letter, signed and submitted by 53 separate submitters. None of the submitters in favour of the application wished to be heard.

15. Several of the submissions expressed general support for the application without providing specific reasons. A majority, however, provided explanation for their support. These are summarised below:

Economic benefits for Westport and the Buller District

16. A majority of submissions in favour of the application felt that the Te Kuha project would have significant benefits for the community of Westport and the Buller District. Quotes to this end included:

"The mine will have a significant and positive effect on Westport's economy" (Bathurst Resources Limited)

"The project will bring much needed jobs and income into the [West Coast] region" (Stu Henley)

"I encourages *(sic)* the Minister to allow this Access Arrangement and support the people who live here on the West Coast" (DJ Wearing)

17. The 53 duplicated submissions quoted the potential economic benefits described in the Significance Assessment Report:

> "Over the 16 year operating life of mine, and based on the coking coal price forecasts, the proposal as a whole would likely generate the following economic and social benefits:
>
> - For the Buller District, annual direct impacts would be $20 million, 64 full-time equivalent employees (FTE) and $4.4 million of wages. Indirect impacts would increase these figures by $12.3 million, to 82 FTE and $6.5 million respectively
> - For the West Coast Region the annual impacts would be $18.9 million, 90 FTE and $6.7 million in wages.
> - During the construction and rehabilitation phases there would be economic impacts corresponding to the activities taking place. A 12 month construction period employing 64 FTE on a $4.2 million payroll. Construction costs of $40 million. At the conclusion of the operation there would be a land rehabilitation lasting 1 to 2 years employing 6 FTE.

- Additionally, the Buller District Council and the Crown would receive access/compensation payments for those parts of the mine within the WWCR and Mt Rochfort Conservation Area.
- The project would pay appropriately $8 million of royalties to the Crown"

18. Several submitters expressed concern for the welfare of the Westport community in light of the current economic climate:

"We in the Buller have and are still losing so much job wise recently that I fear for the survival of our town. Many young families are leaving, or have left. Family's that will probably not return. Tourism and preservation of DOC land will not create jobs, put food on our table and keep our community strong." (Jan Wanoa)

"The economic benefits [of the Te Kuha project] are critical to the [Buller] region and people that reside there" (Brent Oldham, IT@Work)

Mitigation and rehabilitation

19. Many submitters commented favourably on the mitigation measures being proposed by RDL. The 53 duplicated submissions quoted the proposed mitigation described in the Significance Assessment Report, i.e:

- The footprint of the mine has been minimized, limiting any unnecessary disturbance.
- The applicant will directly transfer high value ecosystems, wherever possible.
- The applicant will establish stable and erosion resistant surfaces as quickly as possible.
- The applicant will actively manage surrounding habitat to ensure genetic resources for re-colonization.
- The applicant will recreate conditions on the engineered landforms that, post-mining and into the future, would promote the re-establishment of vegetation and habitat as close to that existing pre-disturbance.
- The applicant will control invasive weeds, where possible.

20. Stu Henley noted that:

"The mining and rehabilitation methods proposed are "best practice". The rehabilitation techniques developed and successfully implemented on the Brunner Coal Measures at Stockton Mine by Solid Energy can be employed at Te Kuha."

21. Bathurst Resources Ltd expressed support for the application "because Bathurst supports environmentally sustainable mining on the West Coast.". The Panel took this to mean that Bathurst believe that the Te Kuha application is an example of environmentally sustainable mining.

Overall assessment of potential effects

22. Several submitters viewed the Application favourably in light of an overall assessment of potential effects:

"Any environmental impacts will be outweighed by the economic benefit [of the project] to Westport and the greater West Coast (Marilyn Wearing)"

"The impacts [of the proposal] can be managed. The economic benefits are critical to the [Buller] region and people that reside there." (Brent Oldham, IT@work).

Discussion and relevance

23. There was consensus among those in favour of the application, that the Te Kuha project would benefit the community of Westport, particularly in light of the recent downturn in economic activity and the job market. There was also a consistent theme that the economic benefits, alongside the proposed mitigation, make the Application acceptable from an overall perspective.

24. The references to economic and community benefits would be relevant to s61(2)(da) "*the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;"*. These would be captured through the economic benefit analysis of the Application by Department reviewers and the final assessment of s61(2)(da). Given the weight to be placed on the economic benefits it will be important that an up to date and robust assessment of these effects is undertaken prior to the final analysis and decision (see further discussion on economic assessments later in this report).

25. Some of the more subtle social and community concerns expressed by submitters may not be directly addressed by the economic benefit analysis. However, the Panel feel that these comments were part of a wider concern for the socio-economic future of Westport, that would likely be alieved by the economic stimulus and perceived positive outcome, should the Te Kuha project go ahead. The final assessment of s61(2)(da) should therefore cover this area of concern.

26. The comments regarding the proposed mitigation and rehabilitation would be relevant under s61(2)(a)-(d), which will weigh the proposed activities and potential effects against the proposed mitigation and safeguards that are able to be put in place. None of the submissions in favour of the Application commented on the permanent nature of some of the effects.

5.0 Submissions in opposition

27. The Department received 12 submissions in opposition to the application. Eight were from individuals and four were from conservation and environmental groups/organisations. Six of the submitters wished to be heard.

28. On the whole, submissions in opposition to the application were more extensive than those in favour. Several submissions covered a range of topics and drew on published research and literature. It was not practical to cover all the detail here. Therefore the following summary attempts to consolidate and summarise the information into succinct issues/matters and focus on the key issues and themes. Comments from

submitters heard at the public hearing are included within the discussion of each issue/matter where appropriate. It is recommended that Appendix 2 is read in full should more detail be sort on individual submissions and issues.

29. The key matters/issues raised by submitters opposed to the application included; the high conservation values of the site, and the potential adverse effects of the activities on those values; the effectiveness of proposed rehabilitation; the wider protection of Brunner coal measures; the Maori tradition Te Taiao (see discussion and explanation later in this report); inconsistency with the Conservation Act and the West Coast CMS; the economics of the proposal and viability of the coal mining industry; effects on community health and wellbeing; and Climate Change. These are discussed below:

<u>High conservation values of the site</u>

30. A majority of the submitters opposed to the application made particular reference to the high conservation values at the Te Kuha site. Submitters either referred to, or quoted, the values described in the Significance Assessment Report. No new ecological information for the site was presented.

31. Key values noted by submitters included:

- Unique and distinctive coal measure ecosystems
- Assemblages of invertebrates that thrive only in rare [coal measure] ecosystems, on very three dimensional topography (bluffs, scarps, tors, sandstone pavement)
- Very high and pristine landscape values
- The intact nature of the habitat
- The presence of At Risk/Threatened flora, particularly the suite of non-vascular bryophytes
- The presence of At Risk/Threatened fauna, such as lizards and Roroa (great spotted kiwi)
- The presence of four naturally uncommon ecosystems

32. The highly intact nature of the site was noted as important by several submitters. Likewise the presence of Brunner coal measures ecosystems and pristine landscape values carried a lot of weight with submitters. Representative quotes relating to the high conservation values included:

> "As with *[the Escarpment Coal Mine application at]* Denniston, biodiversity is important in this application because of the presence of unique local species and varieties and of distinctive ecosystems in the Buller coal seam lands."
> (Rose Lovell-Smith)

> "The site has very high to pristine natural values and very high visual amenity values. The mine site includes plant species that are threatened with extinction and home to threatened or at risk animals."
> (Bill Burton)

> "Elevated Brunner coal measure ecosystems are internationally unique and extremely limited in extent. The Te Kuha site is described as being "one of two of the most intact remaining examples of this habitat type"
> (West Coast ENT)

33. It was clear that submitters opposed to the application felt the conservation values were such that the Department should not consider allowing an open cast coal mine development at the site. This sentiment was reinforced by Karen Mayhew (West Coast ENT) and Jane Young at the public hearing who both made emphasised the unique ecology and intact nature of the site. Karen Mayhew quoted from her submission that [should the mine proceed] "the public of New Zealand would permanently lose an exquisitely important area, and witness the destruction of yet another area of PCL with a suite of outlandish species, some unknown to science."

34. In terms of relevance for s61(2) of the Act, the assessment of conservation values would be an integral part of the analysis of s61(2) (a) – (c). While submitters presented no new information on the values themselves, the weight given to the conservation values is something that the decision maker may wish to consider in their interpretation of s61(2) (a) – (c).

Mitigation and residual effects

35. Common themes in submissions opposed to the application with regard to proposed mitigation and potential effects included: that mitigation and rehabilitation would not address all adverse effects; rehabilitation of other mine sites has proved ineffective; and that there would be unavoidable and permanent adverse effects. These views were primarily based on the information and summary provided in the Significance Assessment Report and in RDL's application. No new technical information was presented.

36. Submitters suggested that effects on the specialised ecology of the site, particularly coal measures vegetation and invertebrates, could not be mitigated and that rehabilitation would be largely ineffective. Karen Mayhew (West Coast ENT) argued that "For the majority of highly specialised species, this mining operation would signal the end of the road. Again, the wonderful sounding "maintenance of genetic diversity" by the mining company offers only the illusion of 'mitigation' or 'rehabilitation'." And that "Once the underlying geo-morphology is messed with, there is no going back. Upland Brunner coal measure ecosystems cannot be recreated once a mining operation has altered the site."

37. Bill Burton noted that landscape and visual effects would not be mitigated: "RDL has stated that the ridgeline would alter in stages with each stage rehabilitated. I contend that no amount of rehabilitation will ever restore the ridgeline to its former glory whatever RDL may say to the contrary. Stockton *[Coal Mine]* is a case in point." With regard to landscape issues Forest and Bird noted that "The loss of landscape values, particularly as viewed form the lower Buller Gorge, will be significant and unable to be mitigated."

38. Rose Lovell-Smith argued that "Coal mining degrades the surrounding landscape and waterways and always has done despite efforts to protect these, or to restore the pre-existing landscape." And that "Inevitably efforts to restore pre-existing landscapes are always hopelessly inadequate".

39. The loss of intactness and naturalness was raised as a significant issue. Forest and Bird noted that "There will be significant (negative) impacts on the high natural values resulting in the permanent loss of the sites naturalness and intactness. It will be decades before native plant cover could recover and reconnect the site to adjacent PCL regardless of the mitigation proposed and centuries before a similar age profile is reinstated." And that "it is not possible to mitigate the loss of the significant flora and faunal natural values."

40. It was clear that submitters opposed to the application felt that the proposed mitigation would be ineffective and/or inadequate. The permanency of some of the effects was a key concern, particularly given the [currently] intact nature of the site. These issues would form part of the Department's overall assessments and analysis of s61(2)(a)-(c) matters. The submitters' views on the scale and significance of the adverse effects is something that the decision maker may wish to consider in their interpretation of s61(2) (a) – (c), particularly where it relates to the permanency of effects.

Wider protection of Brunner coal measures

41. In her written submission, Inger Perkins argued that the habitat and fauna at the Te Kuha site "warrants immediate protection by the Department or at least inclusion in those areas of Stewardship land that need to be prioritised for review so that levels of protection and conservation status can be increased" and that "the proposed mine footprint is located in an area listed as one of seven Recommended Areas for Protection (RAP) within the Ngakawau Ecological District (Overmars et al 1998). If this mine were to proceed, the public of New Zealand would permanently lose an important area." Rose Lovell-Smith commented that [the] "distinctive vegetation, invertebrates and bird life, and sandstone pavements have not yet been protected at Stockton or on the Denniston Plateau"

42. In their written submission West Coast ENT commented that "the proposed mine footprint is located in an area that is one of seven Recommended Areas for Protection (RAP) within the Ngakawau Ecological District (Overmars et al 1998)" And, "Let us contemplate the fact that "Mt William and Mt Te Kuha are the last two opportunities to preserve discrete examples of elevated Brunner Coal measure ecosystems, intact across all ecological gradients." (Marshall 2015). If this description does not carry urgency for immediate proper protection by the Department, then I am not sure any ecosystem in NZ is worthy. Let's not wait until the above sobering statement is in the past tense.". Karen Mayhew reiterated these points at the public hearing, making it clear that West Coast ENT feel the Te Kuha site is of particular significance because of its intact nature and that there is a lack of protection of Brunner coal measures elsewhere.

43. The wider context for the protection of Brunner coal measure ecosystems does seem relevant to RDL's application given that the ecosystems are unique, of limited extent and lack permanent protection under Schedule 4 of the Act, or other statutory provision. Further loss of the ecosystems would therefore take on particular relevance for their ongoing viability. The Panel therefore suggests that this issue is included in the final analysis of s61(2), as part of s61(2)(a)-(c), and/or as "an other matter" in s61(2)(e).

44. The fact that the Te Kuha site is within RAP 7 (one of the Recommended Areas for Protection (RAP) within the Ngakawau Ecological District (Overmars et al 1998)) is an indicator of the high conservation values at the site. While useful for the purpose of identifying the site's value the Panel is not convinced that it is otherwise of direct relevance to RDL's application under s 61(2) of the Act, except potentially with reference to the Department's systematic conservation planning analysis of the Brunner coal measures.

<u>Inconsistency with the Conservation Act and the West Coast CMS</u>

45. Forest and Bird, Inger Perkins, West Coast ENT, and ECO made the specific point that the application was inconsistent with s61(2)(a) *"the objectives of any Act under*

which the land is administered" and s61(2)(b) *"any purpose for which the land is held by the Crown"*. The common theme was that the residual and permanent nature of some of the adverse effects would mean it is impossible to protect the conservation values present. West Coast ENT referenced the definition of 'protection' in the Conservation Act and its relevance to RDL's application:

> "Protection is defined in the Conservation Act as "its maintenance, so far as is practicable, in its current state; but includes (a) its restoration to some former state; and (b) its augmentation, enhancement, or expansion". Digging up an ecologically pristine patch of PCL is not only the antithesis of protection, it is appalling. It is not only 'praticable' for DOC to decline an application to destroy this site, it is imperative under the Conservation Act"
> (West Coast ENT)

46. When speaking to their submission at the public hearing, Karen Mayhew reiterated that West Coast ENT cannot see how the conservation values could be protected given the nature of the activities proposed. When speaking to the ECO submission, Cath Wallace noted the permanent nature of the adverse effects on landform, landscape values and Brunner coal measures, and that the conservation values could not be protected.

47. Inger Perkins, West Coast ENT and ECO were of the opinion that the application was inconsistent with the West Coast CMS. Inger Perkins noted Section 3.7.5, Policy 2, that the decision maker [for Crown Minerals related AAs] should consider "*(a) the significance of the conservation values present and the effect the proposal will have on those values"* and *"(b) the adequacy and achievability of the proposed site rehabilitation work*". She suggested that the values are very high and that the remedial effects of active restoration and site rehabilitation will be limited.

48. West Coast ENT provided the following on 3.7.5, Policy 2 (c) *"the adequacy or appropriateness of any compensation offered for access to the area":*

> "It is depressing thought.... but we predict that the Department, in working to get this mine through, will first aggressively push the fallacious economic benefit argument, and then come up with a compensation 'package' that the Minister will use her discretion to accept and subsequently celebrate. While the ecosystems fall.
>
> There is NO LEVEL OF COMPENSATION that can justify giving this land over to mining. This is not only what we think, this is the conclusion that any reasonable person would reach upon considering the evidence of the ecological importance and landscape integrity of Mt Te Kuha and the surrounding area (WWCR), permanence of the impacts, unachievability of rehabilitation, and the lack of economic viability of coal mining."

49. The first half of this statement implies some form of predetermination in the Department's assessment of the application. The comments were considered by the Panel to be inaccurate, unhelpful and inappropriate.

50. The second half of the statement, particularly regarding the permanence of impacts, has more relevance to the application, and was considered by the Panel to be a valid opinion with regard to the CMS policy in question.

51. West Coast ENT also commented that the proposal would be inconsistent with Section 4.2.2.2 because "it would not maintain the overall character for the Kawatiri Place in 2020, specifically the impacts on landscape values" and, "the success of the proposed site rehabilitation work would be limited and would not prevent the permanent loss of 80ha of natural habitat and values being permanently affected the proposal would result in the introduction of weeds into an existing weed free area".

52. ECO submitted that the application was inconsistent with the West Coast CMs but did not provide any specifics. When asked about the inconsistency at the public hearing Cath Wallace suggested that it was due to the overarching industrial nature of the activity and inability of the remedial efforts to address adverse effects and protect conservation values.

53. As part s61(2)(c), the final decision report will include an analysis of the application against the West Coast CMS. It is recommended that the points raised here be checked and included in that assessment where appropriate.

Adequacy of safeguards

54. Several submitters made comments in regard to s61(2)(d), *"the safeguards against any potential adverse effects of carrying out the proposed programme of work"*. Inger Perkins suggested that "it is not possible in this instance to provide safeguards against the permanent loss of historically rare ecosystems/naturally uncommon ecosystems, which would be the most significant adverse effect of this proposed work programme (excepting the contribution this mine would have on contributing to climate change)." West Coast ENT reiterated this statement verbatim. ECO also commented that "It is impossible to sufficiently protect land, biodiversity, vegetation and air and water values from the impacts of open cast mining, the extraction and deposition of overburden and interburden, the clearance of vegetation and the pollution of water to comply with the purposes of the land, the Act and biodiversity and public enjoyment." Both Karen Mayhew (West Coast ENT) and Cath Wallace (ECO) reiterated these points at the public hearing.

55. The Panel notes that "safeguard" is interpreted by the Department as a stronger test than avoid, remedy and mitigate. Where potential adverse effects are irreversible, they have not been safeguarded against. Similarly, where potential adverse effects are likely to be long term, it is not considered that they are safeguarded against in the short or medium term. The assessment of safeguards therefore takes into account all attempts to protect and prevent harm to, or loss of, the values present. This would therefore also capture most of the comments made by submitters regarding the ineffectiveness of the proposed rehabilitation (see earlier discussion). The safeguards proposed by RDL will be assessed in full by the complete analysis of s61(2)(d) in the decision report for the application. It is recommended that the points raised here be checked and included in that assessment where appropriate.

Mining compensation guidelines

56. In her written submission, Inger Perkins quoted sections from a draft version of the Department's "Mining Compensation Guidelines". The version of the guidelines being quoted is now out of date. The document is still under devlopment and cannot be considered Department policy. As such, the comments made regarding the document are not relevant for the purposes of assessing the application and decision under s61(2) of the Act.

Economics of the proposal

57. Submissions in opposition to the application provided a lot of information and commentary on the economics of the Te Kuha project. Likewise, there was a lot of commentary on the economics of the wider coal mining industry and the need to include externalities in the assessment of economic effects. It is not practical to cover all of the detail provided in submissions here. The key points made by submitters opposed to the application were:

- The economic assessment(s) for the project (and information used in them) were out of date and needed to be updated;
- There is uncertainty and risk in a new coal mining venture given the current [poor] state of global coal markets. The local coal mining industry also struggling so it is not sensible to build more coal mines;
- There is a risk that the mine would start, create adverse effects, but then fail to deliver the economic benefits;
- Coal mining is a 'sunset' industry and New Zealand should not be encouraging and consenting new coal mines;
- New coal mines, including the Te Kuha project, would have negative impacts for New Zealand's image/brand and the tourism industry. These negative effects should be included in the assessment of net benefit required in s61(2)(da); and
- Other externalities should be considered in the assessment of economic effects, such as the value and impacts on ecosystem services, impacts on

community health and wellbeing (and associated economic costs) and the economic cost of climate change.

Out of date information

58. Several submitters noted that the RDL's economic assessment, and the Department's review of it, were out of date and needed to be revised. This was acknowledged in the Significance Assessment Report and the Department intends to request a revised assessment prior to the final decision report and decision.

Uncertainty and risks in the current coal market

59. CANA, ECO, Jane Young and West Coast ENT argued strongly that the Te Kuha project is not a sensible or viable enterprise due to the poor state of the international and domestic coal market. They highlighted the closure and struggles of other coal mines in New Zealand and questioned why anyone would want to start a new mine in the current market.

60. CANA provided detailed international coal market figures and suggested there was a high degree of uncertainty in the future of the coal industry. They noted the bankruptcy of large international coal companies. CANA spokesperson, Cindy Baxter, expanded on this point at the public hearing noting that two more large international companies had gone into bankruptcy, the Australian market is falling steadily and the structure of the Chinese coal market is changing, i.e. China is importing much less coal. Jane Young also reiterated points in her written submission explaining that a downturn in export prices and contracting markets like China make it unlikely that thermal coal exports from Te Kuha would even cover the cost of production.

61. At the public hearing, Jane Young and Cindy Baxter also commented on the struggles of domestic coal mines such as Solid Energy's Stockton and Spring Creek mines, Francis Mining's Roa Mine and Bathurst Resources' Escarpment Mine. They argued that there just isn't a market for thermal coal and consenting a new mine in these circumstances just isn't sensible, particularly in light of the high adverse effects. This view was also echoed in the submissions of West Coast ENT, ECO and Rose Lovell-

Smith. Jane Young also added that there was an over-supply of coal in the domestic market that was contributing to the challenges faced by local producers.

62. The risk and uncertainty around the economics of the project and the health of the coal markets also led ECO, Jane Young and West Coast ENT to raise concern about the timing of adverse effects and the delivery of economic benefits. At the public hearing Cath Wallace (ECO) and Jane Young encouraged the Department to look very closely at the projected costs and revenues of the project to ensure that the figures are robust and up to date. In their opinion there is a risk that the project could commence, create a large initial disturbance and then be "mothballed". In which case there would be significant adverse without the realisation of economic benefit. To aid a robust assessment Cath Wallace suggested that the Department needs up to date project costings and revenue figures, and to run a sensitivity analysis to ensure that the project is viable.

63. There was a general theme in submissions opposed to the application that coal mining has become a "sunset industry" and that it is no longer a sensible nor viable choice for New Zealand. Most referred to lack of demand and moves to restrict carbon emissions globally. Rose Lovell-Smith also suggested that there will be growing public opposition to coal mining in New Zealand going forward which may impact the industry.

64. In terms of relevance for s61(2) matters, the Panel readily accepts the need to review the economic information for the project and, in particular, recommends that the project is subject to a sensitivity analysis based on updated information. Likewise, the overall market demand for the Te Kuha coal will need to be clarified and form part of the assessments made in s61(2)(da). In the Panels' opinion, the wider arguments that coal mining is no longer sensible or appropriate for New Zealand is more of a wider public policy question, and it would be difficult for the decision maker to come to such substantial determinations on an individual application basis. This is not to say that the state of the coal industry and struggles of West Coal mines is not something the decision maker could take into account when forming their overall views on the assessments for s61(2)(da) and/or potentially as an other matter in s61(2)(e).

Accounting for externalities

65. Several submitters opposed to the application felt that the scope of the economics assessments used for the initial review of the application was too narrow. It was suggested that "externalities" (commonly defined as the side effects of the production or use of a good or service, which affects third parties, other than just the buyer and seller) should be included in order to best assess the true net economic effects of the project. Externalities noted by submitters included:

- The value of the environment in terms of ecosystem services and public enjoyment, and the effects of the project on that value;
- the effects of the project on tourism and New Zealand's wider brand and image;
- the effects of Climate Change and the cost of Climate Change to New Zealand;
- the negative impacts of a "boom – bust" industry for the job situation and community of Westport; and
- the wider adverse effects of coal mining on community health and the cost for healthcare services.

66. These issues are discussed in turn below. Excepting the effects for Climate Change, which are discussed as a separate topic later in this report.

The value of the environment

67. At the public hearing Cath Wallace (ECO) commented that the inclusion of net economic benefit in s61(2)(da) invites a wide assessment. She explained that traditional economic assessments do not allocate a 'cost' or 'price' to the value of the environment. However, she felt that this application was an opportunity to acknowledge that the environment has value for things like public enjoyment, ecosystem services (that underpin other economic activity) and recreation.

68. The Panel agreed in principle that the environment and in particular the conservation estate has such intangible value. Another question, however, is what value the 12 ha AA area may have and whether it would be of a scale to warrant consideration in s61(2) matters. In light of this it is recommended that the Department explore the issue and whether any value can be adequately assessed and included in the net economic benefit analysis. The Panel also notes that the West Coast CMS acknowledges the potential economic value of ecosystem services and the health and functioning of ecosystems generally. The analysis of the CMS in s61(2)(c) would therefore include this issue.

Effects on tourism and New Zealand's image/brand

69. A common view in submissions opposed to the application was that allowing the development of a coal mine at the Te Kuha site would have an adverse effect on tourism on the West Coast and adversely affect New Zealand's "clean green" tourism brand. The arguments were grounded on the fact that the mine would be clearly visible to tourists and detract from their visitor experience. Cath Wallace (ECO) summed up this point at the public hearing saying that via marketing and New Zealand's global brand visitors will arrive expecting pristine landscapes and environments. Visible coal mines would be at odds with this expectation and detract from their experience. They will report this to friends and family and on social media and this will have a long term effect on tourism. Several submitters felt that this should be considered an adverse economic effect and accounted for in the net effect assessment for s61(2)(da).

70. The Panel feels that there is some merit in the argument and recommends that the Department explore the issue and whether it could and should be included in the net effect assessment for s61(2)(da).

Negative effects of a 'boom-bust' economy

71. Both CANA and Jane Young raised the issue of 'boom-bust' industries being harmful to communities. CANA commented that "Regarding jobs, the West Coast has suffered badly from the boom and bust commodity coal market that is not likely to change any time soon". Jane Young also discussed the issue at the public hearing. In her opinion the 'boom-bust' cycle experienced by Westport has been detrimental to

the community and the recent job losses have resulted in an adverse economic effect. She was surprised the proposal was assessed as having the potential for significant benefits for the Buller District and Westport because it is a short term investment that would not generate long term benefits for the community. For long term benefits, she felt that the West Coast cannot rely on coal mining.

72. The Panel struggled to see that jobs created through mining, and then subsequently lost, could be a negative net economic effect, and was not convinced that this point would be relevant to the application. However, the Panel feels that the wider 'boom-bust' scenario and longevity of positive effects is something that the decision maker may consider in their overall assessment of s61(2)(da).

Effects on community health and the cost for healthcare services

73. The anonymous submitter provided an extensive submission on the effects of coal mining on community health and wellbeing. The submitter quoted studies from coal mining areas in North America and Australia that demonstrated adverse health effects from coal mining. The submitter raised concerns about the effects that a new coal mine would have for the staff working at the mine and the people of Westport.

74. Of particular concern was the potential for air borne pollutants and particulates to cause adverse health effects within a radius of up to 26 miles (41 km). Likewise for sediment and air borne particulates contaminating water supply catchments. The submitter also presented data regarding the lower than average life expectancy for the residents of Westport vs other New Zealand districts and argued that it was most likely the long history of employment and proximity to coal mines that explains the lower life expectancy. Several other points were made with regard to the impacts of coal mining on communities and community health. The submitter's main argument is that coal mining will have adverse health effects for the Westport community, and that this will result in a negative economic effect via costs to local and central healthcare services.

75. It was not practical to detail all points made in this submission here. For further detail it is recommended that the Summary of Submissions and/or the anonymous submitters submission is read in full.

76. While not disregarding the potential for issues with community health, the Panel feels that the issue outside the scope of what the Department can appropriately consider under the Act or the Conservation Act, neither of which directly address community health. The issues are considered to be more aligned with matters covered under the Resource Management Act 1991, and any resource consent applications made for the Te Kuha project. The contribution of health related issues for economic effects is more of a 'grey' area and the Panel recommends that Department explore the issue and whether it is appropriate to be include it in the net economic benefit analysis in s61(2)(da).

Bill of Rights

77. The anonymous submitter raised the issue of the Bill of Rights. Their view was that the Bill of Rights entitles every person to the right to life and that approving coal mines that affect people's health and reduce their life expectancy would be contrary to the bill.

78. As noted above, the Panel is of the opinion that wider health matters, including the Bill of Rights and right to life, would be most appropriately considered under the RMA and associated processes and not relevant for s61(2) of the Act.

Te Taiao

79. The anonymous submitter raised concerns that the approval of the application and development of the Te Kuha Mine would have an impact on the Maori tradition Te Taiao. The submitter commented that the Te Kuha site is a prominent site for this tradition and disturbing the mountain would be unacceptable.

80. Local iwi, Ngäti Waewae, provided the following text in explanation of Te Taiao:

Te Taiao

Matiaha Tiramōrehu, a well-known Ngāi Tahu tohunga, explains the journey from Te Pō, the time before the world began, through to the birth of Raki in the following way:

Na Te Pō, ko Te Ao
Na Te Ao, ko Te Aomārama
Na Te Aomārama, ko Te Aotūroa
Na Te Ao Tūroa, ko Te Koretēwhiwhia
Na Te Koretēwhiwhia, ko Te Koretērawea
Na Te Koretērawea, ko Te Koretētāmaua
Na Te Koretētāmaua, ko Te Korematua
Na Te Korematua, ko Te Mākū
Na Te Mākū, ka noho I a Mahoranuiatea, ka puta ki waho ko Raki

This kōrero recites the lineage of decent from the vast ages of darkness – Te Pō, to the first ever glimmer of light – Te Ao, to the longstanding light – Te Aotūroa, through to the emergence of moisture – Te Mākū. A void, a parentless void with the potential for life, encompassed all. In due course Te Mākū emerged and coupled with Mahoranui-a-Tea, from which came Rakinui, who coupled with Pokoharua-Te-Pō. Their first child was Aoraki, who stands as the supreme mountain of Ngāi Tahu.

Raki had a number of wives one of whom was his beloved Papatūanuku (The Earth Mother). From his unions came the mountains, plants, animals and people and a host of atua (deities) to foster the well-being of his offspring. One of these atua was Tane, who went on to begat human kind. This whakapapa linking Raki, Aoraki, Papatūānuku, Tane – earth, plants, mountains, animals, and people – illustrates the intimate connection between Ngāi Tahu and the natural world. Ngāi Tahu belong to the land, not the land belonging to them. Hence the term tangata whenua.

Aoraki, the son of Raki, and his brothers left their home in the heavens, voyaging in a canoe, Te Waka o Aoraki, to visit their stepmother Papatūānuku.

They spent much time exploring the seas of the dark oceans until eventually they tired of this and wished to return to their father in the heavens.

Aoraki commenced the karakia which would lift the waka free of the seas and take them home to the sky. However, he faltered in his recitation of the karakia and caused a break in the flow of words which would spell disaster for the endeavour.

Only the bow of the waka had lifted into space, the rest of the vessel was still embedded in the dark oceans, and the separation faltered as the karakia failed causing the bow to crash back into the ocean and shatter. The canoe overturned causing Aoraki and his brothers to climb to the high side in order to save themselves. The cold storms from the south eventually froze them where they sat. The effect of the elements combined with the broken karakia was to turn all of the occupants and the canoe itself into stone. The bodies of Aoraki and his family became the mountains forming the chain we now call the Southern Alps. Aoraki is the highest mountain.

The heavenly realm intervened again and Tūterakiwhānoa, the son of Aoraki, came looking for his father and uncles who had never returned from their voyage. When he found them, Tūterakiwhānoa and his helpers performed energetic feats to transform the wreck of Te Waka o Aoraki (the South Island) into a place which would be fitting for people to live in.

In this way all things are considered to have a mauri and to have a relationship with each other.

The whakapapa links Ngāi Tahu to the atua and to all the descendants of Raki - the earth, waters, forests, and animals. This binds Ngāi Tahu to the natural world and all life supported by it.

Papatūānuku is the mother of all these living things, all return to her at the time of their death, therefore Te Kuha is an example of the works undertaken by the atua. They have created an extremely beautiful and bountiful place which people

can enjoy and where they can cherish the whakapapa beginnings of Ngāi Tahu and their relationship with Te Taiao - the universal

81. In making a decision under the Act, the Minister is required to have regard to the principles of the Treaty of Waitangi. If Te Taiao were impacted by the application, the impacts, and any mitigation of those impacts, would need to be considered in the final decision. The Panel therefore recommends that the implications of the application for Te Taiao be explored with local iwi, and that RDL also consult with local iwi on the issue and provide further information and feedback as appropriate.

Climate Change

82. Climate Change was a key issue raised by submitters opposed to the application. Most felt that approving new coal mines was inappropriate due to coal's contribution to Climate Change, New Zealand's global commitments toward reducing carbon emissions and the minimising the effects of Climate Change. Several submitters suggested that the Te Kuha project would result in an economic cost due to its contribution toward future Climate Change effects. There was a common view that the Minister should have regard to the costs and effects of Climate Change, take a firm stance on the issue, and decline the application.

83. There was a lot of commentary on Climate Change. Examples from the written submissions include:

> "The contribution this mine will make to the destabilisation of our climate will not only adversely affect people on Earth, it will impact on the very indigenous flora and fauna that the Department is claiming to advocate for.
>
> On the DOC website, there is a section on "The challenge of acting sustainably" in which the organisation claims that they have gotten "creative" to reduce CO2 emissions. We would be well impressed with your efforts on farming worms etc. if you did not blow all these creative actions out of the water by consenting massive coal mines. It really is a farcical and shameful scenario; the

Department's words and intentions regarding sustainability are disingenuous and hollow.

Here is our one and only suggestion to the Department (as requested by your website) on ways to become more sustainable and reduce your carbon footprint: do not continue to give consent for coal mines. There is no requirement for creativity here, as this involves facing head-on the real threat to sustainable ecosystems."
(West Coast ENT)

"The New Zealand Government has recently signed an international agreement pledging to reduce fossil fuel emissions and the consequent climate change, but any expansion of coal mining can only make them worse. Even if the government plans to meet its pledge by purchasing emissions trading scheme credits, this will still incur an economic cost. Climate change will further reduce our biodiversity, and even if this is viewed solely through the narrow lens of economics, this will still result in a cost to New Zealand."
(Jane Young)

"The contribution of coal extraction and use to climate change should rule out this application"
(ECO)

"It is ludicrous to consider applications relating to the opening of any new coal mines without considering Climate Change" and "International tourism to [the remote islands of] New Zealand is insecure due to the risks of rapidly increasing Climate Change."
(Rose Lovell-Smith)

"With global warming predicted and greater awareness of pollution coal is being seen more and more as a bad mineral to use. It doesn't make sense to open more coal mines in NZ."

(Kathryn Bayliss)

"Since [the earlier proposal was declined] the world has become even more aware of the impacts of fossil fuel consumption on the climate. Here in the Buller we see our beaches rapidly eroding because of rising sea levels. We experienced the Easter storm 2 years ago and currently are witnessing the clean-up of Fiji after Tropical Cyclone Winston, the worst in recorded history."
(Terry Sumner)

"Coal mining releases high quantities of methane which is a potent greenhouse gas:

- It's release contravenes New Zealand's commitments to the 2015 Climate Change conference in Paris (COP21)
- Greenhouse gases are linked to accelerating climate change and associated extreme weather events globally

Because of methane release it is highly irresponsible towards communities in New Zealand and around the world, in deed towards life on Earth, for New Zealand (or any other country) to develop new coal mines, and DOC would be in breach of its mandate to protect and preserve indigenous fauna and flora, if it granted the application."
(Paul Ewell-Smith)

84. Two local Westport submitters, Terry Sumner and the anonymous submitter, noted increasing local erosion and flooding, both of which they feel is being exacerbated by Climate Change. The anonymous submitter commented that residents in Westport were facing challenges getting insurance for property because of increasing flood risk. They felt that any activity contributing to Climate Change would only worsen this situation and lead to costs for the Westport community.

85. Several submitters made specific mention of New Zealand's commitment to the 2015 Climate Change conference in Paris (COP21) and felt that approving a new coal mine would be inconsistent with this commitment. ECO and Jane Young also felt that consenting new coal mines in the context of New Zealand's international

commitments would have a negative impact on New Zealand's global reputation and image, leading to adverse effects on tourism and trade.

86. Submitters also noted Climate Change's likely adverse impact on indigenous ecosystems and their ability to provide for economic activities. At the public hearing Cindy Baxter (CANA) argued that the effects of Climate Change need to include as an economic cost to New Zealand.

87. The Panel feels that there is validity in some of the arguments being made regarding Climate Change and the wider effects of carbon emissions on ecosystems. Whether the potential economic effects of Climate Change may be relevant for s61(2)(da) is less certain and more work will be needed to make that determination. If it is relevant then further assessment would be needed to establish whether that effect could be adequately quantified, or whether the contribution of the AA application, being just 12 ha, would warrant any notable effect. It is suggested that the Department clarify these points prior to the completion of the final decision report.

88. The Panel's initial view on the overarching arguments around New Zealand's international commitments and whether the Minister should be approving new coal mines or not, is that the issue falls under the Government's wider public policy umbrella. Climate Change and carbon emissions are addressed via the Climate Change Response Act 2002 and the New Zealand Emissions Trading Scheme (NZ-ETS). As a public policy tool *"the NZ-ETS is the Government's principal policy response to climate change. It supports global efforts to reduce greenhouse gas emissions while maintaining economic productivity"*. To be certain of this issue however, it is recommended that the issue be further reviewed and clarified prior to the final decision report for the application.

Previous applications

89. In their written submission, West Coast ENT commented that "We wish to include the subject of the Department's historical opposition to potential approval of the Te Kuha mine in our submission. We wish to include pending detail on the Department's

rationale for opposing both the access arrangement application to Buller District Council, and to the Department in 2002, in our submission when it reaches hearing stage". At the public hearing Karen Mayhew added that in West Coast ENT's opinion the Department's previous concerns were based on the high values of the site and high impacts on those values, and that these same issues remain in the current application.

90. In the Panel's opinion, the 2001 assessment is largely out of date and suggests that it is more sensible to rely on the latest information and assessments for the decision on the current application. The Panel does recommend, however, that the decision maker for the current application is fully briefed on the previous applications and the Department's assessments of them.

Process questions and separate statutory processes

91. Several submitters felt that assessing the AA application in isolation [of the remainder of the mine area] was, to use one submitters words, "entirely unsatisfactory". To aid the discussion around this issue the Panel clarified the statutory context during the public hearing. Further to this explanation the following discussion may help clarify the situation and the Department's role in the wider statutory processes.

92. The concerns raised by submitters are primarily a reflection of the multi-faceted statutory framework in place for natural resource management in New Zealand. The Department, as administrator of the land on behalf of the Crown, is legally obliged to consider RDL's AA application for 12 ha of public conservation land under s61 of the Act. This is a legislative requirement. The wider proposal and associated effects will also be considered by the Buller District Council under s61 the Act and also under the Resource Management Act 1991 (RMA). While the Department cannot consider the proposal "as a whole" for the purposes of s61(2) of the Act, it will have the opportunity, should it choose, to have input into the RMA process via its advocacy role and [presumably] affected party status. Likewise, the Minister of Conservation is responsible for the administering of the Reserves Act 1977, and reserves managed under that Act. Therefore the Minister has an obligation to ensure that reserves vested

in trust, such as the Westport Water Conservation Reserve, are managed appropriately.

93. The Department is aware of these parallel processes and will have appropriate regard to them, and the proposal as a whole, as they proceed. At this point in time however, RDL have not submitted an RMA application nor has the Buller District Council made a decision on the AA application for the area of Westport Water Conservation Reserve. The Panel has sympathy for the idea of a combined statutory process for applications such as Te Kuha. However, this is not the current framework and the Department can only follow its obligations as set out by current legislation.

General comments on DOC's role and wider decision making

94. Several submitters made general comments regarding the Department's decision making and appealed to the Department be firm in its role in protecting New Zealand's indigenous biodiversity. Comments included:

> "…it is our, and DOC's, responsibility, as our representative in protecting indigenous species and ecosystems on conservation land, to deny permission to activities which will compromise the wellbeing of those species and ecosystems"
> (Paul Ewell-Sutton)

> "Too often DOC allows business activities to have preference over Conservation. Public conservation land should be safeguarded from destruction or desecration." And, " We have already had DOC changing the of Status of 22 ha of the Ruahine Conservation Park which has been classified as Acutely and Chronically threatened land environments to allow the Ruataniwha Water Storage Scheme to be built. If this trend continues I fear for the native, and natural environments, flora, fauna and bio-diversity of NZ." (Kathryn Bayliss)

> "We implore the Department to act with reason, integrity and responsibility, and step up to their primary role of protecting special places like Mt Te Kuha." (West Coast ENT)

95. The sentiment in these comments aligns with the Department's role under the Conservation Act. It is worth noting here that the decision on the AA application is being made under the Act (Crown Minerals Act 1991). The decision maker is therefore obliged to give effect to the purpose of the Act, "*to promote prospecting for, exploration for, and mining of Crown owned minerals for the benefit of New Zealand*". Section 61(2) of the Act then requires the decision maker to have regard to other legislation where appropriate, in this case the Conservation Act. An important point is that "have regard to" and "give effect to" have different levels of obligation. "Give effect to" is an imperative, while "have regard to" is in effect lower in the pecking order. In effect, s61(2)(a)-(c) of the Act directs the decision maker for this application to have regard to, *but not give effect t*o, the Conservation Act and the Department's role in administrating it. The core concerns in the above comments would be addressed through the assessments of s61(2)(a)-(c). The Panel does remind submitters, however, that these are only three of seven matters required to be considered by the decision maker in the overall decision under s61(2).

6.0 Applicant's right of reply

96. RDL were offered the opportunity to speak at the public hearing at the conclusion of public submissions process. The right of reply is provided so that an applicant can respond to or clarify matters raised in submissions where it may be helpful for the Panel or aid the assessment of the application. They may also offer or discuss potential solutions, or ways forward for issues, where appropriate.

97. RDL provided an overview of the wider Te Kuha project for the benefit of the Panel and members of the public. They also described the company and its makeup. RDL is a partnership between the Stevenson Group and Wi Pere Holdings, both New Zealand companies. The partnership has been in place since 2010. Stevenson's Group are

managing the consenting process for the Te Kuha project, including all access applications, resource consent applications and development of the mine plan.

98. RDL acknowledged the submissions made by members of the public and indicated they would look into key matters raised and provide further information if/where possible. RDL requested that the Department try and refine what further information may be required as soon as possible following the hearing.

99. RDL staff and contracted experts also spoke to several key issues raised in public submissions. Written summaries from RDL were provided alongside their experts' presentations. It was agreed that these summaries would be added to, and form part of, the AA application. The key matters discussed by RDL are described below.

Economic viability and coal quality

100. RDL indicated that they would generate and provide an updated economics assessment. They also indicated that they would ask their economic expert to look at the externalities raised by submitters, and include them where they felt it appropriate.

101. Anne Brewster, Stevenson's Group Chief Operating Officer, commented that she was surprised by the weight being put on the economic viability of the mine. She pointed out that if the project was not viable and would lose money they, nor any other company, would develop it. Ms Brewster also described several factors that made the mine cost efficient and particularly attractive:

- Exploration data suggests that, due to its particular properties, the coal at Te Kuha will fetch a premium of up to 30% over and above standard coking coal prices; **The Panel suggested that it would be very useful if this information was provided formally as part of the application. RDL agreed to provide further information.*
- The Te Kuha Mine would be a relatively small 'boutique mine' that would allow operational efficiencies to be made;

- Unlike Stockton and Escarpment Mines, the Te Kuha site has not be mined before so the coal resource is intact and not subject to underground workings;
- The strip ratios at Te Kuha are very favorable. Approximately 5:1, as opposed to higher ratios of approximately 11-12:1 at Stockton and Escarpment Mines; and
- The Stevenson's Group have a very efficient company structure and currently run very efficient quarrying/mining operations, with most staff in operational roles rather than an inflated management structure. This reduces overall project costs.

102. Ms Brewster showed a graph of recent international coal process. She pointed out that while the price has dropped since its peak in 2011, it has been relatively stable since 2014, i.e. for the duration of the Te Kuha application process. When asked by the Panel, Ms Brewster confirmed that should they have all approvals they would not have to wait for the coal price to go up and would begin construction of the mine immediately.

103. Ms Brewster also responded to concerns submitters had regarding a lack of market for the Te Kuha coal. She felt that those comments were ill informed and untrue, stating that RDL does have a market for the coal and if they didn't they wouldn't start the mine. Ms Brewster also commented that RDL is conscious of Climate Change and the impacts of burning fossil fuels, but added that at present there is still no viable alternative to coal for steel and carbon fibre production and as a society we need minerals to support our livelihoods.

104. With regard to carbon fibre and a carbon fibre plant in Westport, Ms Brewster confirmed that RDL was looking at opportunities to add value to the Te Kuha product coal. RDL feel that a carbon fibre plant in Westport would be an obvious and beneficial choice. RDL has had interested parties visit the district but no development has been confirmed as yet.

Landscape issues and effects

105. RDL landscape expert, Peter Rough, presented visualisations of the AA area as the mine was constructed and developed from various viewpoints relevant to the AA area. The wider mine footprint was not included as part of the visualisations.

106. Mr Rough also summarised his views on the significance of the potential landscape effects for the AA area. Both the presentation and Mr Rough's views on the potential effects were particularly pertinent given some of the public submitters' concerns regarding the potential landscape and visual effects of the proposal. Mr Rough's written summary is attached as Appendix 3C of this report.

107. The visualisations presented by Mr Rough were consistent with the visualisations in the AA application and helpful for members of the Panel to visualise the mine site and what the mine look like during and after construction. Panel members asked several questions regarding landscape issues and effects:

1. In Mr Rough's opinion, was it reasonable to accept that the construction of the mine would affect the values of the adjacent Lower Buller Gorge Scenic Reserve? In response, Mr Rough agreed that this was reasonable, but added that it is appropriate to look at the site and effects as a whole and that the effects on the Scenic Reserve would be minimal after vegetation rehabilitation was complete.
2. Is it fair to assume that all of the 12 ha AA area would fall within the area recognised [but not yet formally classified] as an Outstanding Natural Landscape? Mr Rough confirmed that this was the case.
3. The Panel questioned whether Mr Rough was happy with the visualisations' representation of the exposed mine highwall from the lower Buller gorge. Mr Rough confirmed that he was, and that the methodology used to generate the imagery was best practice.
4. Would the vegetation at the site fully recover its natural tone and completely blend with the surrounding vegetation, and if so, how long would that take? In response, Dr Robyn Simcock (RDL's rehabilitation expert), explained that it was both colour and texture that determined how well rehabilitating vegetation blends with its surrounds. Colour is largely dependent on the species used for revegetation, but it would be reasonable to expect little colour difference after

10 years of revegetation. Texture is more subtle and was harder to gauge in terms of how long it might take. Dr Simcock indicated that she would be very keen to talk to Department ecologists to help guide species selection for rehabilitation should the mine proceed.

Rehabilitation

108. Dr Robyn Simcock summarised the rehabilitation strategy and methodology for the mine, noting particular areas where they applied to the 12 ha AA area. Dr Simcock's summary was in line with information in the AA application. Her key points were that: initially the priority would be to revegetate the site quickly to avoid water quality issues and erosion of soils; slopes will be important and that slopes would not be over 27 degrees; high priority habitat such as herb fields can be directly transferred prior to disturbance; there is adequate space allocated for rehabilitation stockpiles and storage; rehabilitation techniques for coal measure habitat have been refined over the past decade, particularly with experience at Stockton Mine; having a large proportion of the mine 'open' late in mine life is not ideal, but does have advantages for controlling species composition, colour and texture; and, diligent pest control during the initial phase of revegetation will be critical. Her written summary is attached as Appendix 3D of this report.

109. Panel members asked several questions regarding rehabilitation:

1. What would be the long term effect on the structure and composition of vegetation due to the unavoidable changes in soil structure and hydrology on engineered landform? Dr Simcock noted that there would be differences but difficult to predict exactly. Her opinion is that: the 2 ha of directly transferred vegetation would contain yellow/silver pine forest; planted areas would have yellow/silver pine but that the forest would be taller than original areas; beech would readily recolonise rehabilitated surfaces and you can manipulate the composition of vegetation in these areas through planting; areas planted with manuka would eventually become yellow/silver pine. At higher altitude areas this would likely take around a century.

2. Has RDL made adequate allowances for the costs of rehabilitation over the life of mine? In Dr Simcock's opinion yes. She pointed to the economic modelling that accounts for rehabilitation year by year.
3. The Panel pointed out that submitters opposed to the application seem to have quite a different interpretation of what rehabilitation at the site could or should be, i.e. that submitters felt that the goal would be to fully rebuild/recreate the existing ecosystem. Ms Brewster agreed that submitters had a different expectation for rehabilitation than was actually possible. Dr Gary Bramley (RDL's ecology expert), added that while it was not possible to exactly recreate the existing ecosystems, the target would be to create a community dominated by indigenous species that would form a resilient indigenous ecosystem in the long term.

Ecological mitigation and compensation

110. Dr Gary Bramley provided an overview of the ecological values and potential effects within the AA area, and also described RDL's proposed mitigation and compensation for ecological values. The description of ecological values and onsite mitigation reiterated, and on certain points expanded, the information in the AA application. Information provided by Dr Bramley on compensation was new to the application and it was agreed that it be added to, and form part of RDL's application. Dr Bramley's written summary is attached as Appendix 3E of this report.

111. Most of the discussion with Dr Bramley related to potential effects and the proposed compensation in the Orikaka forest. In summary the compensation described by Dr Bramley included 5000 ha of ecosystem management for a periods of 25 years in the Orikaka forest (part of the Department's Orikaka Management Unit). In RDL's opinion the ecosystem management would form both mitigation and compensation. 2500 ha of [off site] mitigation for effects on those species that could be mitigated, and 2500 ha of compensation for effects on those species that could not be mitigated. Dr Bramley noted that in developing the proposal he had consulted with Department's biodiversity staff in Westport to help identify priority areas and values within the ecological unit. Details of the proposed ecosystem management is included in Dr Bramley's summary, see Appendix 3E.

112. Key points raised by Dr Bramley relating to the potential effects and mitigation/compensation for ecological values included:

- The effects for bird species and forested areas can be relatively well estimated;
- The long term outcomes for lichens and bryophytes, particularly the ability to recreate their habitat, was more difficult and unclear;
- Bryophytes have not been given much consideration at other mine sites and there is little information on methods to mitigate adverse effects. Dr Bramley recommends an adaptive approach be taken for the management of effects on Bryophytes;
- Dr Bramley is confident that 2500 ha of ecosystem management would be of adequate size to address the effects on species where effects could be mitigated, for example, indigenous bird species including roroa (great spotted kiwi);
- Pest control will be vital to long term results for vegetation;

113. Panel members asked several questions regarding mitigation and compensation for ecological values:

1. Could the micro-habitats of bryophytes be recreated? And if so how long would it take for species to recolonise them? Dr Bramley felt that large sandstone blocks could be salvaged and replaced on the final landform to help provide habitat for bryophytes. However, it was the tall forest cover that generated the damp stable conditions favoured by bryophytes and it could take centuries for the forest and these conditions to reform.
2. Is the current vegetation stable or in a state of slow decline due to impacts from pests? Dr Bramley felt it was in very slow decline.
3. Is it preferable to have the ecosystem management adjoin the mine footprint? Dr Bramley's response was yes ideally, but there was a question of size and practicality. Mark Christensen, RDL's legal representative, also added that it is best practice to looks for "like for like" first and, as a second choice ask whether it is better on balance to look at non "like for like" options.

114. During the discussion with Dr Bramley, the Panel raised the issue of whether the offsite ecosystem management would constitute mitigation, or whether it would be considered compensation. RDL's view is that the ecosystem management being proposed will mitigate potential effects of the proposal. It is recommended that the Department look into this matter and clarify it prior to the final decision report.

Legal and planning matters- summaries of Miss Martina Armstrong and Mr Mark Christensen

115. RDL's planning representative, Martina Armstrong, and legal representative, Mark Christensen, provided an overview of planning and legal matters with regard to the decision on the application and s61(2) of the Act. Their written summaries are attached as Appendices X and X of this report.

116. Key points raised by Miss Armstrong and Mr Christensen at the public hearing included:

- The application is consistent with the West Coast *Tai Poutini* Conservation Management Strategy;
- Recent case law suggests that the Minister should take a global view on the conservation implications of the AA application when considering s61(2)(a). RDL consider that there will be a net benefit to conservation values and, consequently, granting this access arrangement will result in a good outcome for the Department with regard to the purpose of the Conservation Act 1987;
- Recent case law suggests that the Minister should take a global view on the conservation implications of the AA application when considering s61(2)(b) and that "the proper question is whether the resource affected (such as the extent of a particular vegetation type or the habitat for kiwi, overall is protected (including being restored, enhanced or augmented)";
- 'Safeguard' is not defined in the Crown Minerals Act, but generally means 'to protect from harm or damage with an appropriate measure'. In this case, it is appropriate to provide for an overall compensation package as well as for

specific mitigation. The compensation package is something the Minister should take into consideration as an other matter in s61(2)(e);

- gaining access to the stewardship area is integral to the entire project – i.e. the project will not happen if the access arrangement for the stewardship area is not granted. For that reason, it is legitimate for the Minister to have regard to the entire benefits which arise from the project. Such an approach is not inconsistent with only looking at the other effects arising from the 12 ha rather from the project as a whole.
- Any potential concern about work being started with consequential effects resulting, but then the mine being closed because of low coal prices, can be addressed by way of bonds.
- Where possible any AA, and conditions within, should align with any resource consents granted for the project. Ideally RDL would like the AA to only address issues not able to be covered by resource consent conditions, such as compensation and mitigation. This would be on the proviso that the Department had a mechanism to address consent conditions as/when required;
- The earlier application and reports from 2000-2002 are of limited value. The mine plan is different and more refined. Industry knowledge and experience with rehabilitation techniques have progressed significantly and adaptive management methods have also improved considerably since the initial application.

117. At the public hearing Mr Christensen commented that some public submitters had an overly simplistic view of the decision the Minister will be making in s61(2), i.e. that the economic benefits don't justify the loss of high conservation values at the site. In Mr Christensen's opinion the overall decision is a more subtle weighing of the various matters and one that needs to reflect a fair balance.

118. The Panel asked several questions of Mr Christensen during RDL's right of reply:

1. Where does RDL see the "line" for the relevance of economic externalities raised by public submitters? Mr Christensen indicated that RDL would need to look more closely and include in their revised economic assessment. Initially

however, he felt that impacts on tourism would not be relevant but that the contribution of the project to Climate Change may be.

2. Do RDL feel that the wider health issues and the Bill of Rights issue raised by public submitters are relevant for s61(2)? Mr Christensen felt they were resource consent issues and not relevant for the Act or Conservation Act.

7.0 Summary and discussion

119. Public submissions indicate that there is both strong support and opposition to RDL's AA application. A large majority of the submissions received were in favour of the application. By in large submitters who supported the application were from Westport and the West Coast region. The support was fundamentally based on the premise that the mine would provide much needed jobs for Westport and the Buller District, and be of benefit to the community as a whole.

120. While submissions opposed to the application were lesser in number, they provided a lot more information and more extensive analysis of the potential effects of the application and statutory matters at hand. Submissions opposed to the application argued that the high conservation values at the site and potential effects on those values made the proposal unacceptable and inconsistent with the purpose of the Conservation Act, purpose for which the land is held and the West Coast CMS. Submitters opposed to the application also expressed strong scepticism of the ability to rehabilitate the site.

121. While submitters were asked to comment only on the AA application, most submissions (perhaps quite understandably) made comment on the Te Kuha project as a whole. For this reason the Panel found that identifying matters that may be relevant to the decision under s61(2) of the Act, was not easy. This also reflected the Panel's view of the overall context within which the AA application sits, i.e., that in many areas it was difficult to separate the potential effects of the AA 12ha area from the mine as a whole. An important aspect of the final decision report, and the decision itself, will be to make clear the distinction between what is being considered and not being considered.

122. In reviewing the submissions the Panel noted several ‘grey areas’, or areas of confusion or misinterpretation. One was the interaction between the [Crown Minerals] Act and the Conservation Act, and the role of the Department in making decisions under s61(2) of the Act. Several submitters felt that because the application was clearly at odds with the Conservation Act, and the Department’s role in protecting the natural heritage of New Zealand, the application should be declined. This is not necessarily the test the Minister is asked to make. Section 61(2) of the Act requires a wider consideration, and one that balances the primary purpose of promoting minerals exploration and mining with conservation purposes. For future notification processes it may be beneficial if submitters are provided with a very clear briefing that describes the role of the Department in assessing applications under the Act, and how the two pieces of legislation interact with regard to access to Crown land and Crown owned minerals.

123. A second ‘grey area’ was the interpretations what can realistically be achieved by rehabilitation of an open cast mine site. Criticism of the proposed rehabilitation was focussed on the inability to recreate the existing ecosystems post-mining. This is more of a fundamental question, rather than critique of the rehabilitation itself. Unless preserved from disturbance, i.e. through avoidance or transfer out of harms way, habitat affected by open cast mining cannot, from an ecological point of view, be wholly recreated. There will always be differences, as there is with natural disturbance such as earthquakes, slips and large storm events. The more appropriate question is how different will it be? and is that appropriate or acceptable? The final decision report will need to be careful how the information in the submissions relating to this area is handled.

124. Another ‘grey area’ was around what issues would be relevant under s61(2). Submitters raised many issues that the Department will need to consider carefully to assess whether they may be relevant for s61(2). The Panel has reviewed some of these issues and made comments as to their relevance for s61(2) in the body of this report. However, there are several issues that will require further analysis prior to the final decision report. These are noted in the summary of recommendations below.

8.0 Recommendations

125. To aid the final decision process, report and decision itself, the Panel is recommending the following actions:

1. That RDL provide further information relating to:

    - Any changes or updates to the mine plan, particularly as it relates to the AA Area;
    - A revised economics assessment, including considering the externalities discussed in this report where they feel it appropriate to be included;
    - Further information/detail on the proposed compensation that RDL wish the Department to consider as part of the application; and
    - Further information on the Maori tradition Te Taiao, the separation of Raki and Papa, and how the relevance of the Te Kuha site and AA application to this tradition;

2. That the Department's review of the updated economics assessment include a sensitivity analysis and consideration of externalities where the expert reviewer feels it appropriate to do so;

3. That the following issues be reviewed with regard to their potential relevance for s61(2) and consideration in the final decision on the application:

    - Explore what value (intangible or otherwise) the 12 ha AA area may have and whether it could can be adequately assessed and included in the net economic benefit analysis in s61(2)(da);
    - Explore whether the application may impact tourism and New Zealand's brand and image and whether any impacts could and should be included in the net effect assessment for s61(2)(da);
    - That the 'boom-bust' scenario and longevity of positive effects is noted by the decision maker in their overall assessment of s61(2)(da);
    - Confirm whether wider health issues (and any adverse economic effect) should be excluded from consideration under s61(2) matters;

- That the decision maker is fully briefed on the previous applications to mine the Te Kuha site and the Department's assessments of them; and
- Clarify whether "off site" ecosystem management could constitute "mitigation" or whether it should be considered "compensation".

Report compiled by the hearing Panel; Barry Hanson, Judi Brennan, Toby Wilkes and Dan Maloney.

Report accepted/~~Not accepted~~

Barry Hanson _____

Panel Chair

13 September 2016

Date: _____

Appendix 1: Significance Assessment Report

Appendix 2: Summary of Submissions

Te Kuha Coal Mine Access Arrangement

Summary of Public Submissions

Notes:

1. Where an issue/matter is not assigned a relevant matter from s61(2), this indicates that the Panel do not feel it is a relevant matter for decision making.
2. The relevant matters listed in the table are an initial indication only based on the Hearing Panel's review of the public submissions. Further analysis will be required and the final consideration of what may or may not be relevant will be made in the final decision report generated for s 61(2) of the Act.
3. Where not directly quoted, text from submissions has been summarised for clarity and practicality. All attempts have been made to retain the key intent of the submission text.

SUBMISSIONS FOR	**Wish to be heard?**	**Key points**	***S61(2) relevant matter (see notes 1 & 2)***	**Specific policy or plan reference**
Stu Henley	No	The mine will have a significant and positive effect on Westport's economy	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;*	
		The mining and rehabilitation methods proposed are "best practice". The rehabilitation techniques developed and successfully implemented on the Brunner Coal Measures at Stockton Mine by Solid Energy can be employed at Te Kuha.	*(d) the safeguards against any potential adverse effects of carrying out the proposed programme of work; and*	
		The area of Stewardship land (12 ha) is small and there are large areas of Brunner Coal Measures elsewhere that will never be mined, because they either have no coal resources that are economically viable to mine, or are devoid of coal resources	*(e) such other matters as the appropriate Minister considers relevant.* **wider protection of coal measure ecosystems context*	
		Disagrees with statements in the Department's Significance Report regarding the extent and remaining areas of intact elevated Brunner Coal Measures habitat: ▪ Para 24, That elevated Brunner Coal Measures habitat is restricted to the Ngakawau ED – Mr Henley notes there are large areas on My Davy (southern Paparoa Range) ▪ Para 24, That the Te Kuha site is one of two of the last remaining examples of [elevated Brunner Coal Measures] habitat type – Mr Henley notes that there are other significant areas of intact elevated Brunner Coal Measures at Deep Creek (incl. the Kiwi Fault escarpment), West of Mt Rochfort and west of Conglomerate Stream and Mt Davy. ▪ Para 29, That the Mt William and Te Kuha areas are distinguished from all other parts of Brunner Coal Measure systems because they are the only discrete parts of the system that are intact with no noticeable disruption to ecological patterns and processes – Mr	*(b) any purpose for which the land is held by the Crown;*	

		Henly notes that the upper Deep Stream and Mt Davy areas are also substantial discrete and intact areas of the habitat type.		
		The lack of recent fire at the Te Kuha site is of 'particular significance' because the upper Deep Stream, Mt Davy and Mt William areas have also been unaffected by fire.	*(b) any purpose for which the land is held by the Crown;*	
		There is no historical record of the name Mt Te Kuha and suggests the name is incorrect/inappropriate.		
Bathurst Resources Limited	No	Supports the proposal because Bathurst supports environmentally sustainable mining on the West Coast.		
		It is appropriate that the natural resources of the West Coast are utilised for the benefit of the local area, the region and New Zealand.	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;*	
		The project will bring much needed jobs and income into the [West Coast] region	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;*	
Helen and Brian Walters	No	General support. No specifics included.		
Alex Phillips (Black Lion Limited)	No	General support. No specifics included.		
Helen Devine	No	General support. No specifics included.		
Ray Ashton	No	General support. No specifics included.		
Brent Oldham	No	Any environmental impacts can be mitigated	*(d) the safeguards against any potential adverse effects of carrying out the proposed programme of work; and*	
	No	The economic benefits are critical to the [Buller] region and people that reside there	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;*	
DJ Wearing	No	Any environmental impacts will be outweighed by the economic benefit [of the project] to Westport and the greater West Coast	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;*	
	No	The land swap and consent process should mitigate other concerns	*(d) the safeguards against any potential adverse effects of carrying*	

			out the proposed programme of work; and	
	No	Encourages the Minister to grant the Access Arrangement and [by doing so] support the people who live on the West Coast		
Marilyn Wearing	No	Any environmental impacts will be outweighed by the economic benefit [of the project] to Westport and the greater West Coast	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;*	
	No	The land swap and consent process should mitigate other concerns	*(d) the safeguards against any potential adverse effects of carrying out the proposed programme of work;*	
	No	Encourages the Minister to grant the Access Arrangement and [by doing so] support the people who live on the West Coast		
Jan Wanoa	No	Buller is suffering loses in jobs and families. Submitter fears for the survival of the town [of Westport]	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;*	
		Tourism and the preservation of DOC land will not create jobs, "put food on the table", and keep Westport strong	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;*	
		RDL has good ideas on rehabilitation	*(d) the safeguards against any potential adverse effects of carrying out the proposed programme of work;*	
		Most importantly RDL are willing to invest in the [West] Coast and create jobs	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;*	
Rachel Price	No	The impacts [of the proposal] can be managed	*(d) the safeguards against any potential adverse effects of carrying out the proposed programme of work;*	
		Would move back to Westport if there was work	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;*	
53 submitters submitted this identical submission. See below for list of those submitters	No	Understands that the economic and social benefits below are related to the project as a whole.	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;*	

<table>
<tr>
<td></td>
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<td>Lists that the economic/social benefits for the project are:

▪ For the Buller District, annual direct impacts would be $20 million, 64 full-time equivalent employees (FTE) and $4.4 million of wages. Indirect impacts would increase these figures by $12.3 million to 82 FTE and $6.5 million respectively.
▪ For the West Coast Region the annual impacts would be $18.9 million, 90 FTE and $6.7 million in wages.
▪ During the construction and rehabilitation phases there would be economic impacts corresponding to the activities taking place. A 12 month construction period employing 64 FTE on a $4.2 million payroll. Construction costs of $40 million. At the conclusion of the operation there would be land rehabilitation lasting 1 to 2 years employing 6 FTE.
▪ Additionally, the Buller District Council and the Crown would receive access/compensation payments for those parts of the mine within the Westport Water Conservation Reserve and Mt Rochfort Conservation Area.
▪ The project would pay approximately $8 million of royalties to the Crown.
▪ A locally based staff pool will be encouraged.
▪ A mine schedule of five days per week/daytime only is designed to sustain employment over a longer period.
▪ Since the initial economic assessment in 2014, further analysis of the coal at Te Kuha has found that the resource is of an even higher quality than previously thought. Therefore a revised economic analysis will need to be completed prior to the final assessments and decision on access.</td>
<td>(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;</td>
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<td>Lists that the mitigation measures and rehabilitation for the project are:

▪ The footprint of the mine has been minimised, limiting any unnecessary disturbance.
▪ The applicant will directly transfer high value ecosystems, wherever possible.
▪ The applicant will establish stable and erosion resistant surfaces as quickly as possible.
▪ The applicant will actively manage surrounding habitat to ensure genetic resources for re-colonisation.
▪ The applicant will recreate conditions on the engineered landforms that, post-mining and into the future, would promote the re-establishment of vegetation and habitat as close to that existing pre-disturbance.
▪ The applicant will control invasive weeds, where possible.</td>
<td>(b) any purpose for which the land is held by the Crown;

(d) the safeguards against any potential adverse effects of carrying out the proposed programme of work;</td>
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</tr>
<tr>
<td colspan="5">Those who submitted the identical submission were:

Graeme Lawry, Marge and Martin Byrne, Christopher Lawry, Katrina Whibley, R D Moore, Barry Macdonell, B Thames, Sarah Hutt and Jeremy Prentice-Brizzell , Stewart Reynolds, Peter Mark Maich, Debbie Lawry, Jan and Ian Stevenson, Valerie Carmine, Cynthia Marie Ward, Graham Moffit, Alex Trower and wife (unnamed), Brightwater Engineering, Rick Hayman, Patricia Cropp, David Baird, Shaun Du Plesis, Geoff Reid, Daniel Ash, Patrick O’Dea, Trevor Watt, Graeme Pratt, Alan Cropp, Raewyn May, Duncan Jarvie, Terry young, David Evans, Kevin Waldren, Kirt Walsh, Craig Oldham, Cameron Martin, J W Rea, David Hart, J Baker, B R Sweeney, J Richards, Graham Renwick, Illegible signature*, Illegible signature*, Illegible signature*, Illegible signature*, Illegible signature*, Illegible signature*, Illegible signature*, Illegible signature*, Illegible signature*, Illegible signature*, Illegible signature*, Illegible signature*

*Note: Those submissions above with illegible signatures did include a valid address so have been accepted as valid submissions.</td>
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SUBMISSIONS AGAINST	Wish to be heard?	Key points made	*S61(2) relevant matter*	Specific policy or plan reference
Kathryn Bayliss	No	Too often DOC allows business activities to have preference over Conservation. Public conservation land should be safeguarded from destruction or desecration.		
		DOC should not allow any mining activities or access in its land.		
		We have already had DOC changing the of Status of 22 ha of the Ruahine Conservation Park which has been classified as Acutely and Chronically threatened land environments to allow the Ruataniwha Water Storage Scheme to be built. If this trend continues I fear for the native, and natural environments, flora, fauna and bio-diversity of NZ.		
		The International Energy Agency (IEA) on 22 December 2015 dramatically revised downwards its forecasts for coal demand. It expects coal growth to be at 0.8 percent annually through to 2020, down from the 2.1 percent growth forecast a year ago.	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;*	
		There have coal mine closures in recent years in NZ and dreadful accident in mines in NZ. With global warming predicted and greater awareness of pollution coal is being seen more and more as a bad mineral to use. It doesn't make sense to open more coal mines in NZ.		
		Please start safeguarding NZ/DOC conservation land for today and future generations. All native and natural environments, flora, fauna are precious.	*(b) any purpose for which the land is held by the Crown;*	
		Remember 'Conservation means the preservation and protection of natural and historic resources'		
		As written in Department of Conservation's Statement of Intent 2014-2018: 'New Zealand's natural environment is fundamental to the future and prosperity of our country, underpinning our economy, lives and lifestyles, health and wellbeing.'		Department of Conservation's Statement of Intent 2014-2018
Bill Burton	No	Estimates of the number of employees and wages to benefit the local economy were made, apparently, in 2012 when coking coal prices were much higher – those prices continue to fall, therefore the estimates are out of date and completely inaccurate.	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;*	
		RDL has stated that the ridgeline would alter in stages with each stage rehabilitated. I contend that no amount of rehabilitation will ever restore the ridgeline to its former glory whatever RDL may say to the contrary. Stockton is a case in point.	*(b) any purpose for which the land is held by the Crown;*	
		The site has very high to pristine natural values and very high visual amenity values. The mine site includes plant species that are threatened with extinction and home to threatened or at risk animals.	*(b) any purpose for which the land is held by the Crown;*	
Rose Lovell-Smith	No	It is ludicrous to consider applications relating to the opening of any new coal mines without considering Climate Change		
		Given the current low international coal price for coking coal it must be assumed that the partner companies wanting to open the [Te Kuha] mine wish to prepare for it now, in anticipation of a recovery of the coking coal price		

		The applicant may possibly intend to destroy the high conservation values of the site and the terrain over which they must gain access to it before the growing opposition to new coal mining gains more support	*(b) any purpose for which the land is held by the Crown;*	
		It is uncertain whether the international coking coal price will recovery due to increasing costs of production to meet increasing environmental standards, dangers of runaway Climate Change, increasing alternative market competition for steel, and increasing market competition from renewable energy sources	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;*	
		Instead of economic recovery the world may be about to enter a long period of economic decline, conflict, displaced populations and social unrest as increasingly failed or damaged eco-systems become increasingly unable to sustain human populations. The risk of entering a period of economic decline adds uncertainty to the success of the proposal	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;*	
		There is little point in destroying an unspoiled ecosystem and unspoiled view for an economic benefit that may not come about	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;*	
		The landscape effects of the proposal conflicts with the environmental values and the potential they represent for increased tourist traffic into the Papamoa.	*(b) any purpose for which the land is held by the Crown;* *(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;*	
		International tourism to [the remote islands of] New Zealand is insecure due to the risks of rapidly increasing Climate Change. Conversely, the population of New Zealand is growing rapidly and internal tourism to the lovely, exciting and natural West Coast seems likely to increase. Long term, this is a less environmentally damaging and more sustainable future than coal mining, as well as being more fun.	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;*	
		Distinctive vegetation, invertebrates and bird life, and sandstone pavements have not yet been protected at Stockton or on the Denniston Plateau.	*(b) any purpose for which the land is held by the Crown;*	
		Coal mining degrades the surrounding landscape and waterways and always has done despite efforts to protect these, or to restore the pre-existing landscape.	*(b) any purpose for which the land is held by the Crown;*	
		Inevitably efforts to restore pre-existing landscapes are always hopelessly inadequate	*(b) any purpose for which the land is held by the Crown;* *(d) the safeguards against any potential adverse effects of carrying out the proposed programme of work;*	

		As with [the Escarpment Coal Mine application at] Denniston, biodiversity is important in this application because of the presence of unique local species and varieties and of distinctive ecosystems in the Buller coal seam lands.	*(b) any purpose for which the land is held by the Crown;*	
		The proposal requires the removal of pristine Manuka, beech and podocarp forest	*(b) any purpose for which the land is held by the Crown;*	
		All new developments should be tested against the "first do no harm to the climate" principle.		
		For this proposal "first do no harm to the climate" implies "first do no harm to all forests" because all forests are already threatened by rising temperatures, an forests do XX% of our breathing for us. It also implies "Mine no more coal, because coal contributes XX annually to increasing Greenhouse Gas Emissions, and that is only at the point when it is burnt. Down the line, many of the steel products (such as cars or planes) which follow from the burning of coking coal also contribute to climate change		
		The proposal will involve the inevitable loss of habitat to aquatic creatures and fish, sedimentation, and addition of contaminants to water	*(b) any purpose for which the land is held by the Crown;*	
West Coast Environment Network	Yes	Oppose the application on the grounds that it would have significant and irreversible effects on ecological and environmental values, global climate change and would permanently reduce the extent of a unique and intact mosaic of habitats and Naturally Uncommon Ecosystems.	*(b) any purpose for which the land is held by the Crown;*	
		Elevated Brunner coal measure ecosystems are internationally unique and extremely limited in extent. The Te Kuha site is described as being "one of two of the most intact remaining examples of this habitat type" and contains five "Naturally Uncommon Ecosystems" (Marshall 2015)	*(b) any purpose for which the land is held by the Crown;*	
		The proposed mine footprint is located in an area that is one of seven Recommended Areas for Protection (RAP) within the Ngakawau Ecological District (Overmars et al 1998)		
		If this mine were to proceed, the public of New Zealand would <u>permanently</u> lose an exquisitely important area, and witness the destruction of yet another area of PCL with a suite of outlandish species, some unknown to science	*(b) any purpose for which the land is held by the Crown;*	
		The proposal is inconsistent with the objectives of the Acts under which the land is administered. (Conservation Act).	*(a) the objectives of any Act under which the land is administered;*	
		The proposal is inconsistent with the purpose for which the land is held by the Crown: Protection is defined in the Conservation Act as "its maintenance, so far as is practicable, in its current state; but includes (a) its restoration to some former state; and (b) its augmentation, enhancement, or expansion". Digging up an ecologically pristine patch of PCL is not only the	*(b) any purpose for which the land is held by the Crown;*	

		antithesis of protection, it is appalling. It is not only 'praticable' for DOC to decline an application to destroy this site, it is imperative under the Conservation Act		
		The high conservation values and rare ecosystems would be irreplacably lost by allowing the proposed mine programme to proceed. Not only would we forever lose the complex ecosystems within the 12 ha footprint (and wider mine area of course), we would lose the feature of intactness, which is central to ecological health	*(a) the objectives of any Act under which the land is administered;* *(b) any purpose for which the land is held by the Crown;*	
		The application is inconsistent with the directives of the Department's Mining Compensation Guidelines Policy which recommends that proposals with irreversible effects be declined. Notes that some of the effects on significant ecological values will be irreversible.		
		The proposal is inconsistent with the West Coast Conservation Management Strategy (s4.2.2.2) because: ▪ it would not maintain the overall character for the Kawatiri Place in 2020, specifically the impacts on landscape values ▪ the success of the proposed site rehabilitation work would be limited and would not prevent the permanent loss of 80ha of natural habitat and values being permanently affected ▪ the proposal would result in the introduction of weeds into an existing weed free area	*(c) any policy statement or management plan of the Crown in relation to the land*	s4.2.2.2 of the West Coast CMS
		It is not possible in this instance to provide safeguards against the permanent loss of 'Naturally Uncommon Ecosystems, as well as permanent loss of ecological intactness, which would be the most significant adverse affect of this proposed work programme (excepting the contribution this mine would have on contributing to climate change)	*(d) the safeguards against any potential adverse effects of carrying out the proposed programme of work;*	
		Other relevant matters include considering the impact that the burning of the extracted coal will have on climate change, and that the economy of coal is a declining one.	*(e) such other matters as the appropriate Minister considers relevant.*	
		It is likely the economic benefits of the proposed mine, as outlined in the Department's Significance Assessment report, are overstated and pinned on an unrealistic forecast of this market	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;*	
		The Department's consideration of the economic benefits of the proposed mine is surprisingly simplistic and short-sighted, and based on RDL's own assessment, which would inevitably offer an overly-optimistic and limited view of the economics of coal mining. The Department has the responsibility to offer the public a much more comprehensive, objective and honest analysis of the economic gains from this mine	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;*	
		At present, Solid Energy is reviewing whether to close Stockton mine due to plunging global coal prices. There have been significant redundancies since 2014, and last year the mine's	*(da) the direct net economic and other benefits of the proposed activity*	

		output was reduced from 1.9 million to 1 million tonnes a year and losses averaged $2.1 million a month. This scenario should provide a compelling argument to the Department to decline this application. To set up another non-viable coal mine in reaction to the demise of another is short-sighted, foolish and irresponsible	*in relation to which the access arrangement is sought;*	
		Even from a purely economic standpoint it doesn't make any sense for DOC to be dabbling in a declining industry; it's tantamount to destroying precious areas for nothing (especially because the values in question cannot be off-set). Bathurst has only kept itself afloat by selling high grade coking coal for domestic use, but the NZ market is small and unlikely to increase any time soon	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;*	
		Essentially, if the Department approves the Te Kuha mine, it would be responsible for the emissions from the coal, as it is likely this coal would be burned within NZ. DOC would be responsible for driving up emissions within New Zealand. Not a pretty nor appropriate image or reputation to have for an agency that is supposed to deal in being kind to the environment.		
		The fact that this AAA is for access to land that included a ridgeline viewable from the lower Buller Gorge and from Westport indicates that there will be significant adverse affects on landscape values within PCL	*(b) any purpose for which the land is held by the Crown;*	
		Once the underlying geo-morphology is messed with, there is no going back. Upland Brunner coal measure ecosystems cannot be recreated once a mining operation has altered the site. What is the point of direct transfer of vegetation and soil when the complex set of influences and factors that create such an ecosystem, are no longer present? It may look good and project the illusion that the mining company is being environmentally responsible, but the Department has no evidence to suggest to the public that this would be an effective 'mitigation' or 'rehabilitation' technique.	*(d) the safeguards against any potential adverse effects of carrying out the proposed programme of work;*	
		Rare, endemic species and what we DON'T know is resident at Te Kuha. The unusual species and assemblages of invertebrates that thrive ONLY in these rare ecosystems, on very three dimensional topography (bluffs, scarps, tors, sandstone pavement), will also perish. Thus, particularly for the invertebrate fauna, there is little point in offering up the concept of maintaining genetic diversity in the surrounding area for the purpose of recolonisation by the very species that make it unique. For the majority of highly specialised species, this mining operation would signal the end of the road. Again, the wonderful sounding “maintenance of genetic diversity” by the mining company offers only the illusion of 'mitigation' or 'rehabilitation'.	*(b) any purpose for which the land is held by the Crown;* *(d) the safeguards against any potential adverse effects of carrying out the proposed programme of work*	

		Let us contemplate the fact that “Mt William and Mt Te Kuha are the last two opportunities to preserve discrete examples of elevated Brunner Coal measure ecosystems, intact across all ecological gradients.” (Marshall 2015) If this description does not carry urgency for immediate proper protection by the Department, then I am not sure any ecosystem in NZ is worthy. Let's not wait until the above sobering statement is in the past tense.	*(b) any purpose for which the land is held by the Crown;*	
		There is NO LEVEL OF COMPENSATION that can justify giving this land over to mining. This is not only what we think, this is the conclusion that any reasonable person would reach upon considering the evidence of the ecological importance and landscape integrity of Mt Te Kuha and the surrounding area (WWCR), permanence of the impacts, unachievability of rehabilitation, and the lack of economic viability of coal mining.	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;* *(e) such other matters as the appropriate Minister considers relevant.*	
		Westport Water Conservation Reserve It makes sense for the Department to consider the effects on conservation values across the whole application area and therefore engage in discussions regarding the potential effects on the Water Conservation Reserve area. Indeed, it is the same Minister at the helm, and this Local Purpose Reserve – Water Conservation-Orowaiti River, was gazetted in 1951 under s23 of the Reserves Act 1977. The Minister of Conservation is obliged to ensure that such reserves are maintained so that “where scenic, historic, archaeological, biological, or natural features are present on the reserve, those features shall be managed and protected to the extent compatible with the principal or primary purpose of the reserve” and “.. its value as a soil, water, and forest conservation area shall be maintained”.	*(b) any purpose for which the land is held by the Crown;*	
		Climate Change and Sustainability The contribution this mine will make to the destabilisation of our climate will not only adversely affect people on Earth, it will impact on the very indigienous flora and fauna that the Department is claiming to advocate for. On the DOC website, there is a section on “The challenge of acting sustainably” in which the organisation claims that they have gotten “creative” to reduce CO2 emmissions. We would be well impressed with your efforts on farming worms etc if you did not blow all these creative actions out of the water by consenting massive coal mines. It really is a farcical and shameful scenario; the Department's words and intentions regarding sustainabity are disengenuous and hollow.	*(e) such other matters as the appropriate Minister considers relevant.*	
		Here is our one and only suggestion to the Department (as requested by your website) on ways		

		to become more sustainable and reduce your carbon footprint: do not continue to give consent for coal mines. There is no requirement for creativity here, as this involves facing head-on the real threat to sustainable ecosytems. This suggestion is backed up by the findings of Tom Newitt (sustainability director for DOC): that the worst decision ever made by the Department with regard to sustainability is likely to have been the approval of the AAA for the Escarpment mine at Denniston.		
		We wish to include the subject of the Department's historical opposition to potential approval of the Te Kuha mine in our submission. We wish to include pending detail on the Department's rationale for opposing both the access arrangement application to Buller District Council, and to the Department in 2002, in our submission when it reaches hearing stage		
		We implore the Department to act with reason, integrity and responsibility, and step up to their primary role of protecting special places like Mt Te Kuha.		
Jane Young	Yes	Consideration of the application requires an assessment of the validity of any claim that construction of the mine [as a whole] would result in an economic benefit: ▪ Plummeting export prices and contracting markets (eg China) make it unlikely that thermal coal exports from Te Kuha would even cover the cost of production. ▪ The applicant claims that there will be markets for premium coking coal from Te Kuha, despite the fact that global prices continue to fall and in 2015 were only half of what they had been five years previously. Chinese imports slumped by 30% in 2015. In its latest half-yearly report, even the resolutely optimistic Bathurst Resources makes no mention of any possibility that coking prices will increase in the foreseeable future. CRU's Metallurgical Coal Outlook (05 Feb 2016) reports that prices are expected to be even lower in 2016. ▪ Domestic demand is decreasing, eg with the impending closure of the Holcim cement plant and Huntly Power Station, and although Fonterra plans an expansion of coal-fuelled drying plants, existing suppliers already have the capacity to provide for this. ▪ TKLP has suggested that a carbon-fibre production plant could be set up in Westport in which Te Kuha coal could be used. Carbon-fibre manufacture on the West Coast has been discussed for some years, but even if this proposal was ever to come to fruition, it is difficult to see why developing a new mine would be the most economic way of providing feedstock, given that existing coking coal mines – Spring Creek, Roa, Cascade, Escarpment and Stockton – have either been mothballed or are unable to make a profit. Site works continue at Bathurst's much-touted Escarpment mine, which is producing small amounts of coal – but only for the thermal, domestic market, as international coking coal prices are less than the cost of production. Bathurst's claims that the company would provide hundreds of jobs on the West Coast are not borne out by reality; it is indicative that the company is not currently recruiting for a single position. ▪ Unlike most other West Coast mines, Te Kuha would be readily visible from surrounding areas, including Westport and the Buller Gorge. Although coal and mineral	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;*	

		extraction are significant economic activities within the Buller District, tourism and outdoor activities are of increasing importance. The Te Kuha Coal Project will affect the natural character and visual amenity on which these activities largely depend. ▪ The development of new opencast coal mines – especially when this involves the destruction of pristine forest and unique coal-measure ecosystems – does not improve New Zealand's clean, green image. Potential tourists are unlikely to be favourably impressed by hearing that centuries-old trees are being felled during the process of systematically destroying the habitat of endangered birds, lizards and invertebrates. There is growing local and international awareness of New Zealand's problems with freshwater quality, yet a proposal is being considered that will result in the significant degradation and loss of aquatic habitat.		
		The New Zealand Government has recently signed an international agreement pledging to reduce fossil fuel emissions and the consequent climate change, but any expansion of coal mining can only make them worse. Even if the government plans to meet its pledge by purchasing emissions trading scheme credits, this will still incur an economic cost. Climate change will further reduce our biodiversity, and even if this is viewed solely through the narrow lens of economics, this will still result in a cost to New Zealand.	*(e) such other matters as the appropriate Minister considers relevant.*	
		The proposal will result in the significant degradation and loss of aquatic habitat.	*(b) any purpose for which the land is held by the Crown; and*	
ECO	**Yes**	The application is inconsistent with the purpose of the Conservation Act and as not aligning with the grounds on which the Minister can give consent to the operation of a mine and its ancilliary works on the Conservation land in question and due to its impacts on land and water		
		(a) the objectives of any Act under which the land is administered; The Activity proposed is inconsistent with the objectives of the Conservation Act.	*(a) the objectives of any Act under which the land is administered;*	
		(b) any purpose for which the land is held by the Crown; and The purpose of the land holding is not consistent with mining and its associated works.	*(b) any purpose for which the land is held by the Crown; and*	
		(c) any policy statement or management plan of the Crown in relation to the land; The proposal is not consistent with the CMS for this area of the West Coast.	*(c) any policy statement or management plan of the Crown in relation to the land;*	
		(d) the safeguards against any potential adverse effects of carrying out the proposed programme of work; and It is impossible to sufficiently protect land, biodiversty, vegetation and air and water values from the impacts of open cast mining, the extraction and deposition of overburden and	*(d) the safeguards against any potential adverse effects of carrying out the proposed programme of work; and*	

		interburden, the clearance of vegetation and the pollution of water to comply with the purposes of the land, the Act and biodiversity and public enjoyment.		
		(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought; Any economic benefits will be short lived and will damage economic benefits from the area in the long term, as well las damaging New Zealand's recreation and tourism standing and values and hence earnings. We will suffer repuatational damage too from the extraction of coal from conservation areas and this will translate into economic harm.	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;*	
		(e) such other matters as the appropriate Minister considers relevant. The contribution of coal extraction and use to climate change should rule out this application and so too should the risk to NZ's reputation.	*(e) such other matters as the appropriate Minister considers relevant.*	
CANA	**Yes**	Suggests that this application be heard together with the wider application for the rest of the mine. It makes no sense to assess a small portion of the mine footprint in isolation, from any perspective.		
		Since July 2014, the price of coking coal has continued to drop and for the full year 2016, metallurgical coal contract prices are forecast to decline by 16 per cent and average US$86 a tonne. Dickson et al state in their analysis that the minimum long---term forecast for coal is NZ $206 per tonne. In December 2015, the Australian Government released its mid---Year Economic & Fiscal Outlook for 2016/17. It forecasts spot prices for metcoal at USD$73 (NZ$107) per tonne, well below DOC's commissioned analysis.	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;*	
		The wider economic benefits of coal mining need to be examined in a global context which has become a bad situation: ▪ Since August 2015, other coal companies have joined Arch Coal in filing for bankruptcy, including Walter Energy and Alpha Natural Resources. Peabody Energy, the world's largest coal company, is on the brink of collapse, with its share price now around $3, down from hundreds a few years ago. ▪ China's steel industry is suffering heavy losses, according to the Financial Times in February this year. ▪ In February, Anglo American coal announced it was selling off its coking coal assets in Queensland, amid facing a plummetting share price. Commentators are saying that it will face difficulties in finding buyers for those mines, calling it a "buyers market"[2] ▪ Closer to home, our own state---owned coal company, Solid Energy, has been hit by the demise of this industry. After laying off hundreds of workers, on 8 March 2016, Solid Energy announced another 40 jobs will go at the Stockton mine because of the falling price of coking coal. It remains to be seen whether there are any buyers in this buyers'	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;*	

		market for Stockton. This is the company that has gone under because of the international coking coal price. ▪ Bathurst Resources has only kept its head above water by selling coking coal from the Denniston mine for domestic use. There is simply no international market for coal right now. A similar situation looks to be the situation for Te Kuha. If it cannot sell its coal on the international market, it may, like Bathurst, look to the domestic market to sell the coal. But with so many other mines doing the same, where would the market be for a new coal mine, especially one that would rip up a precious 12ha of the conservation estate (and 109 ha of prime conservation land altogether).		
		Forecasts for the price of coking coal are looking bleak, and are nowhere near what the DOC analysis shows. An IHS presentation from October 2015, entitled "STEEL: CHAOS IN THE INDUSTRY"[3] predicts that "Steel has fundamentally re-set", "Fundamentally, steel will have excess capacity for the next five years" and it's "More likely for the next decade or longer." "While global steel production effectively doubled between 1999 and 2014, almost all of this came from China, which now has too many mills and has already stopped increasing its steel production," says the IHS presentation.	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;*	
		Given that the CMA requires that economics have to be taken into account, the question must be asked: why dig up some of New Zealand's most pristine wilderness for coal that has no market? There is no adequate remediation that would restore this precious area, especially if the company has gone under, and it will fall to the taxpayer.	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;* *(d) the safeguards against any potential adverse effects of carrying out the proposed programme of work;*	
		Regarding jobs, the West Coast has suffered badly from the boom and bust commodity coal market that is not likely to change any time soon. How long would it be before this mine, too, goes the same way as Solid Energy has?	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;*	
		The other economic effects that must be taken into account is the hit on tourism, as the mine can be seen from Westport itself, and from the beautiful lower Buller gorge.	*(da) the direct net economic and other benefits of the proposed activity in*	

			relation to which the access arrangement is sought;	
		We submit that the Department of Conservation refuse this application on the grounds of net economic benefits.	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;*	
		The Paris Agreement In December 2015, the New Zealand Government signed up to the Paris Agreement on climate change. An operational clause within the agreement states that the world will need to keep global warming "well below" 2˚C, aiming to stabilise warming at 1.5˚C. The science tells us that this means we have to phase out our use of fossil fuels (coal, oil and gas) by 2050. The Te Kuha mine flies in the face of this agreement. If the company cannot sell its coal internationally, it may have to turn to the domestic market, meaning the emissions will fall under the New Zealand Government's responsibility, and be counted as part of New Zealand's emissions profile.	*(e) such other matters as the appropriate Minister considers relevant.*	
		The Department of Conservation has a duty to take all the impacts of mining into account for its protection of the Conservation Estate. One of these impacts will be the impact of climate change on biodiversity in New Zealand. Given that the coal dug up at Te Kuha will eventually be burned and end up in the atmosphere, contributing to man---made climate change, we submit that the Minister must therefore take climate change into regard when making this decision, because of its likely adverse impact on the Conservation Estate, and turn it down.	*(e) such other matters as the appropriate Minister considers relevant.*	
Forest & Bird	**Yes**	It is noted that the matters the Minister of Conservation (the Minister) must have regard to when considering the application on PCL presents difficulties given the that there is a great deal more land with high natural values within the mining permit area that will be adversely effected. This AA relates to only 11% of the application site. The remaining 89% will be considered by the BDC under (presumably) different acts - Reserves Act and the Local Government Act. It means the real ecological impact and economic benefits of the AA cannot be considered 'in the round'. It is, in Forest and Bird's view, an entirely unsatisfactory situation given the ecological significance and vulnerability of the proposed mine footprint as a whole.		

		The application site has high natural values that will not be protected under the proposal, including, but not limited to: a. A high degree of intactness and connectivity to other areas of high ecological value. The fragmentation/destruction of the site therefore will have a highly significant ecological impact. b. A number of plant species that are at risk of extinction, or threatened with extinction that will be destroyed. c. Four naturally uncommon ecosystems. d. A significant site for non vascular plants such as liverwort, a number of those are classified as nationally vulnerable or naturally uncommon. As noted in Jane Marshall's Botanical Assessment despite it being the case these species are found elsewhere (both locally and nationally) they are already under pressure (hence their threat classification). Further loss of these species is ecologically significant. e. A significant proportion of the 12ha is elevated coal measure habitat and 'recognised as nationally and internationally unique'. It is noted in the DOC significant assessment that the coal measure habitat within the 12ha AA is mostly Brunner Coal Measure ecosystems and are limited in extent-a total of around 26,000 ha with 10.311 ha located on the Stockton and Denniston Plateaux . Ms Marshall's notes that the Mt William and Mt Te Kuha 'areas are distinguished from all other parts of the Brunner Coal Measure systems because they are the only discrete parts of the systems that are intact with no notable disruption to ecological patterns and processes'. f. High Faunal values including At Risk/Threatened invertebrates, lizards and birds. Bird species include the Nationally Vulnerable Great Spotted Kiwi.		
		The application proposes a number of mitigation and rehabilitation measures. Nevertheless the proposal will result in the permanent loss of a highly natural and intact habitat of 80 ha or	*(b) any purpose for which the land is held by the Crown;*	

		more including the 12 ha of PCL.	*(d) the safeguards against any potential adverse effects of carrying out the proposed programme of work;*	
		There will be significant (negative) impacts on the high natural values resulting in the permanent loss of the sites naturalness and intactness. It will be decades before native plant cover could recover and reconnect thesite to adjacent PCL regardless of the mitigation proposed and centuries before a similar age profile is reinstated. Forest and Bird considers it is not possible to mitigate the loss of the significant flora and faunal natural values.	*(b) any purpose for which the land is held by the Crown;* *(d) the safeguards against any potential adverse effects of carrying out the proposed programme of work;*	
		The loss of landscape values, particularly as viewed form the lower Buller Gorge, will be significant and unable to be mitigated. It is not relevant for the purpose of considering this application whether the ridgeline is (or will be) identified as an Outstanding Natural Landscape (ONL) in the Buller District Plan. The landscape review commissioned by DOC identifies it as an ONL using accepted criteria. Forest and Bird concurs with this view.	*(b) any purpose for which the land is held by the Crown;*	
		Forest and Bird has significant concerns about the direct net economic benefit that would occur if the proposed open cast mine was to go ahead. It needs to be considered against the permanent loss of the significant natural values site and the declining price for coking coal.	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;*	
		The West Coast region (in particular Buller) has or is witnessing on-going losses of jobs within the mining industry as a result of the lack of demand for coal. In recent time mines such Roa and Spring Creek have been mothballed and Stockton is struggling to be economically viable. The Buller region has yet to see the many jobs and hence the economic benefit that were to accrue as a result of the Bathurst Mine at Denniston.	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;*	
Terry Sumner	**No**	It is absurd to even consider allowing a brand new road through a pristine environment to access a brand new coal mine in a Waterworks Reserve. A similar mine proposal was considered and rejected by Buller District Council in 2002.		
		Since [the earlier proposal was declined] the world has become even more aware of the impacts of fossil fuel consumption on the climate. Here in the Buller we see our beaches rapidly eroding because of rising sea levels. We experienced the Easter storm 2 years ago and currently are witnessing the clean up of Fiji after Tropical Cyclone Winston, the worst in recorded history.	*(e) such other matters as the appropriate Minister considers relevant.*	
		The assessment of economic effects in the application is now out of date. World coal price has plummeted, investors are divesting and assets being stranded as the world looks for alternative energy sources. Locally Solid Energy is collapsing and Bathurst marginally afloat. The applicant's talk of activated carbon is a desperate, last ditch attempt to maintain credibility.	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;*	
		To allow access for the destruction of the "best and most intact remaining example of Brunner Coal Measure Ecosystems" (Marshall) with its unique assemblages of flora and fauna would be	*(a) the objectives of any Act under which the land is administered;*	

		an act of utter folly.	*(b) any purpose for which the land is held by the Crown;* *(c) any policy statement or management plan of the Crown in relation to the land;*	
		The proposed mine site would have severe impacts on landscape and tourism appeal, one of Westport's few remaining sustainable economic opportunities.	*(a) the objectives of any Act under which the land is administered;* *(b) any purpose for which the land is held by the Crown;* *(c) any policy statement or management plan of the Crown in relation to the land;* *(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;*	
		There is no justification on economic, environmental or social grounds for this access to be granted		
Paul Ewell-Sutton	**No**	Coal mining release high quantities of methane which is a potent greenhouse gas: ▪ It's release contravenes New Zealand's commitments to the 2015 Climate Change conference in Paris (COP21) ▪ Greenhouse gases are linked to accelerating climate change and associated extreme weather events globally ▪ Because of methane release it is highly irresponsible towards communities in New Zealand and around the world, in deed towards life on Earth, for New Zealand (or any other country) to develop new coal mines, and DOC would be in breach of its mandate to protect and preserve indigenous fauna and flora, if it granted the application	*(e) such other matters as the appropriate Minister considers relevant.*	
		Humankind is an integral part of the web of life, which is formed of the non-hierarchical cooperation and symbiosis of living things. To consider our species to be central to that web is surely as obsolete and misguided as the once held beliefs that the sun revolved around the earth, or that the Earth was flat. Therefore, it is out, and DOC's, responsibility, as our representative in protecting indigenous species and ecosystems on conservation land, to deny permission to activities which will compromise the wellbeing of those species and ecosystems	*(a) the objectives of any Act under which the land is administered;* *(b) any purpose for which the land is held by the Crown;* *(c) any policy statement or management plan of the Crown in relation to the land;*	
Inger Perkins	**No**	I understand that the Department opposed mining at this site in 2002 and ask that the rationale for that decision be brought to bear with regard to the current application.		

		The proposal is inconsistent with the objectives of the Act under which the land is administered, (Conservation Act)	*(a) the objectives of any Act under which the land is administered;*	
		the proposal is inconsistent with the purpose for which the land is held by the Crown	*(b) any purpose for which the land is held by the Crown; and*	
		the proposal is inconsistent with the West Coast Conservation Management Strategy	*(c) any policy statement or management plan of the Crown in relation to the land;*	
		it is not possible in this instance to provide safeguards against the permanent loss of historically rare ecosystems/naturally uncommon ecosystems, which would be the most significant adverse effect of this proposed work programme (excepting the contribution this mine would have on contributing to climate change).	*(d) the safeguards against any potential adverse effects of carrying out the proposed programme of work; and*	
		Other relevant matters include considering the impact that the burning of the extracted coal will have on climate change, and that the economy of coal is a declining one. It is likely the economic benefits of the proposed mine, as outlined in the Department's Significance Assessment report, are overstated and pinned on an unrealistic and outdated forecast of this market.	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;* *(e) such other matters as the appropriate Minister considers relevant.*	
		The fact that this AA is for access to land that included a ridgeline viewable from the lower Buller Gorge and from Westport indicates that there will be significant adverse effects on landscape values including those of the application area within PCL	*(a) the objectives of any Act under which the land is administered;* *(c) any policy statement or management plan of the Crown in relation to the land;* *(b) any purpose for which the land is held by the Crown; and*	
		That, based on the information provided in the Significance Assessment Report, the Te Kuha area warrants immediate protection by the Department or at least inclusion in those areas of Stewardship land that need to be prioritised for review so that levels of protection and conservation status can be increased		

		the high conservation values and rare ecosystems would be irreplaceably lost by allowing the proposed mine programme to proceed. Not only would we forever lose the complex ecosystems within the 12 ha footprint (and wider mine area), we would lose the feature of intactness, which is a central to ecological health.	*(a) the objectives of any Act under which the land is administered;* *(c) any policy statement or management plan of the Crown in relation to the land;* *(b) any purpose for which the land is held by the Crown; and*	
		impacts to landscape values throughout the course of mining would be high. The operation would homogenise the vista, change the ridgeline and be viewable from Westport and the lower Buller Gorge. The "very high to pristine" and "very high visual amenity values" would be adversely impacted for decades after mining has finished. Upland Brunner coal measure ecosystems cannot be recreated once a mining operation has altered the site. There is little point in the direct transfer of vegetation and soil when the complex set of influences and factors that have created this rare ecosystem over millennia are no longer present. In other words, mitigating the impact on this pristine and natural landscape will be ineffectual. This is an outstanding, significant and iconic landscape that requires protection.	*(a) the objectives of any Act under which the land is administered;* *(c) any policy statement or management plan of the Crown in relation to the land;* *(b) any purpose for which the land is held by the Crown; and*	
		Species values Rare, endemic species are resident at Te Kuha and there are likely to be many more as yet unidentified species. The unusual and rare assemblages of invertebrates that thrive only in these rare ecosystems, on very three dimensional (bluffs, scarps, tors, sandstone pavement) topography, will also perish. Thus, there is little point in offering up the concept of maintaining genetic diversity in the surrounding area for the purpose of recolonisation of the proposed mine site. For the majority of highly specialised upland coal measure species, this mining operation would signal the end of the road. Again, it offers only the illusion of 'mitigation' or 'rehabilitation'. The *Powelliphanta augusta* experience should be taken into account, where mining of a similar skyline ridge (Mt Augustus, SENZ) and the resulting translocation efforts for this snail population found nowhere else have been fraught with challenges and ongoing costs several years after the mining.	*(a) the objectives of any Act under which the land is administered;* *(c) any policy statement or management plan of the Crown in relation to the land;* *(b) any purpose for which the land is held by the Crown; and*	
		Sustainability The Department's Vision has Sustainability as one of its three foundations. A review is currently being undertaken with a view to making sustainability an integral part of the DOC culture. That review (being undertaken by Tom Newitt, Sustainability Director) has found that the worst decision ever made by the Department with regard to being a sustainable organisation is likely to have been the approval of the application to mine at Denniston. That knowledge and understanding needs to be brought to bear with regard to any application to mine coal on PCL.		
		Water Conservation Reserve Although the bulk of the mining is proposed off PCL, it makes sense for the Department to consider the effects on conservation values across the whole application area and therefore	*(b) any purpose for which the land is held by the Crown;*	

		to consider and engage in discussions regarding the potential effects on the Water Conservation Reserve area. The Local Purpose Reserve - Water Conservation - Orowaiti River, was gazetted in 1951 under s23 of the Reserves Act 1977. The relevant Minister is the Minister of Conservation and relevant reserves are to be maintained so that "where scenic, historic, archaeological, biological, or natural features are present on the reserve, those features shall be managed and protected to the extent compatible with the principal or primary purpose of the reserve" and "to the extent compatible with the principal or primary purpose of the reserve, its value as a soil, water, and forest conservation area shall be maintained". Conservation is clearly at the heart of this designation. Therefore, although the Department's notification of this application states that submissions should only relate to PCL, I posit that the Minister should be taking a wider view.		
Anonymous Submitter	Yes	"…the claims of economic benefit in this application are actually negative. The profits are taken by the mining companies, and the residents and tax payers pick up a larger cost. What mining companies don't include in their costings are what they call 'externalities' – the costs borne by the community and the country. In all the research I have found that is not sponsored by coal companies, the costs to the community and the country far outweigh the benefits, and the costs continue long after the mining companies have packed up and left town."	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;*	
		Coal mined here [in Westport] will not be processed here so the health costs of that processing will be borne outside as well as in New Zealand. Should there be an activated carbon plant in Westport, the environmental contamination will occur here.		
		The effects on global warming from this coal will affect all New Zealanders, especially Westport people because large parts of the town are at or below sea level so any rise in that level will inevitably make the town uninhabitable. Flow on effects for the town and community, for eg non insurable houses and a drop in property values	*(e) such other matters as the appropriate Minister considers relevant.*	
		With reference to literature on Appalachian coal mining: • estimate that the life cycle effects of coal and the waste stream generated [i.e. the externalities] are costing the U.S. public a third to over one half of a trillion dollars annually • Accounting for the damage conservatively doubles to triples the price of electricity from coal per kHh generated, making wind, solar, and other forms of nonfossil fuel power generation, along with investments in efficiency and electricity conservation methods, economically competitive • Coal mining and combustion releases many more chemicals than those responsible for	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;* *(e) such other matters as the appropriate Minister considers relevant.*	

		climate forcing. Coal also contains mercury, lead, cadmium, arsenic, manganese, beryllium, chromium, and other toxic, carcinogenic substances. Coal crushing, processing, and washing releases tons of particulate matter and chemicals on an annual basis and contaminates water, harming community public health and ecological systems. Coal combustion also results in emissions of NOx, sulfur dioxide (SO2), the particulates PM10 and PM2.5, and mercury, all of which negatively affect air quality and public health • Externalities occur when the activity of one agent affects the well-being of another agent outside of any type of market mechanism – these are often not taken into account in decision making and when they are not accounted for, they can distort the decision-making process and reduce the welfare of society		
		What Stevensons are proposing is simple mountaintop mining – the most dangerous form of mining for people. Several negative impacts: • To expose coal seams, mining companies remove forests and fragment rock with explosives. The rubble or "spoil" then sits precariously along edges and is dumped in the valleys below. . . . Valley fill and other surface mining practices associated with MTR [mountaintop removal] bury headwater streams and contaminate surface and groundwater with carcinogens and heavy metals and are associated with reports of cancer clusters, a finding that requires further study • Stevensons are going to take off the mountain tops and mine above the town. In a southerly wind, our prevailing wind, the town will quietly be covered with dust from the mine • Dust and particulate matter arise from coal mining, from blasting (using explosives to blast through rocks covering coal seams), wind erosion of large areas of 'overburden', unpaved roads around mine sites, and the use of dragline excavators. • The use of explosives for blasting also produces toxic gases hazardous to health. • Coal dust and particulates are produced when coal is transported, loaded and unloaded, and when blown by wind from coal stockpiles and piles of overburden • The deforestation and landscape changes associated with MTR have impacts on carbon storage and water cycles. Life cycle GHG (greenhouse gas) emissions from coal increase by up to 17% when those from deforestation and land transformation are included • The physical vulnerabilities for communities near MTR sites include mudslides and dislodged boulders and trees, and flash floods, especially following heavy rain events. With climate change, heavy rainfall events (2, 4 and 6 inches/day) have increased in	*(a) the objectives of any Act under which the land is administered;* *(b) any purpose for which the land is held by the Crown;* *(c) any policy statement or management plan of the Crown in relation to the land;*	

		the continental United States since 1970, 14%, 20% and 27% respectively		
		After coal is mined, it is washed in a mixture of chemicals to reduce impurities that include clay, non-carbonaceous rock, and heavy metals to prepare for use in combustion. Coal slurry is the by-product of these coal refining plants. . . . Of the known chemicals used and generated in processing coal, 19 are linked to cancer-causing agents, 24 are linked to lung and heart damage, and several remain untested as to their health effects.' In this case the chemicals will end up in the Buller River.	*(a) the objectives of any Act under which the land is administered;* *(b) any purpose for which the land is held by the Crown;* *(c) any policy statement or management plan of the Crown in relation to the land;*	
		Westport water supply contamination • Over the life cycle of coal, chemicals are emitted directly and indirectly into water supplies from mining, processing and power plant operations. Chemicals in the waste stream include ammonia, sulfur, sulfate, nitrates, nitric acid, tars, oils, fluorides, chlorides, and other acids and metals, including sodium, iron, cyanide, plus additional unlisted chemicals.' • Elevated levels of arsenic in drinking water have been found in coal mining areas, along with ground water contamination consistent with coal mining activity in areas near coal mining facilities. In one study of drinking water in four counties in West Virginia, heavy metal concentrations (thallium, selenium, cadmium, beryllium, barium, antimony, lead and arsenic) exceeded drinking water standards in one-fourth of households' • Te Kuha has potential for aluminium, barium, boron, chromium, lithium, zinc, lead and a heap of other nasties which are already present in very low concentrations in the water supply at these levels, but not at the levels in which they will be present in the future. They *will* be much higher. But then there are the radioactive elements – vanadium, strontium, lanthanum, rubidium and it goes on. These will inevitably also be increased	*(a) the objectives of any Act under which the land is administered;* *(b) any purpose for which the land is held by the Crown;* *(c) any policy statement or management plan of the Crown in relation to the land;* *(d) the safeguards against any potential adverse effects of carrying out the proposed programme of work;*	
		AMD has destroyed many streams in the Buller and potential for AMD from Te Kuha Mine is a risk, alongside sedimentation. Sulfuric acid is formed when sulfur from newly exposed rock surfaces encounters water, and this report doesn't see a problem – because the rocks are not newly exposed. This problem will not be definable until mining starts so is not included in the report. However, this is what has killed so many rivers and streams in Buller. We will have it in the town's water supply and in the water supplies of all those rural residents for many kilometres around who get their water supplies from rain water The dust in the air will contaminate the water supply and that dust will contain not only heavy metals but radioactive elements. There is no way of controlling the composition of the sediment in runoff on a mining site.	*(a) the objectives of any Act under which the land is administered;* *(b) any purpose for which the land is held by the Crown;* *(c) any policy statement or management plan of the Crown in relation to the land;* *(d) the safeguards against any potential adverse effects of carrying out the proposed programme of work;*	

		Coal Mining contributes to health risks including decrease in life expectancy. • Particulate matter is a significant health issue in coal mining regions – WCRC has proven ineffectual in addressing particulate discharge in the past. The Hunter Valley study noted (p20): ‘ As a major component of outdoor air pollution, particulates can trigger heart attacks and strokes, and particulate matter has been deemed carcinogenic by the World Health Organisation’s International Agency for Research on Cancer • Diesel emissions and particulates and health impacts • High mortality and worse health in coal mining regions…. For the years 1997-2005, excess age-adjusted mortality rates in coal-mining areas of Appalachia compared to national rates outside Appalachia translates to 10,923 excess deaths every year, with 2,347 excess deaths every year after adjusting for other socio-economic factors, including smoking rates, obesity, poverty, and access to health care. These socio-economic factors were statistically significantly worse in coal-mining areas • The actual figures are not important here – it’s the relationship between them, especially bearing in mind that these were the boom years of coal. Even considering just the health and death cost of open-cast mining, excluding the environmental factors and everything else, coal mining does not stack up when other than the direct benefits of wages, profits and donations to the community and all the other benefits to the communities are considered. The externalities that mining companies and governments do not want to have considered are the human factors as well as the simple economics for the cost of the damage mining does • In considering the economic impact of this mine, you must also consider that this coal will be transported by train, in uncovered wagons, through Canterbury, through urban and central Christchurch and be stockpiled at Lyttelton. All that distance is contaminated with coal dust and diesel fumes. Residents at Lyttelton have been making complaints about the dust for years but, again, councils do nothing to stop the dust. The logic is that coal dust can’t possibly travel upwards!!! This mine will merely exacerbate the problem (cumulative effects), transferring the health problem to more populated areas • The estimate of the social costs of carbon associated with Hunter Valley coal are $16-66 billion per annum • Blasting at coal mines causes toxic dust and particulate release • What is a human life worth in New Zealand? The Ministry of Transport calculated 2009		

		figures at a VOSL of $3.42 million. Comparing it with other countries, it was deemed to be on the low side. Inflation now would make that much higher. The mining industry does not have to shorten many lives to make mining a complete drain on our economy. You must consider this as an economic cost		
		Life expectancy on the [West] Coast Buller already has one of the lowest life expectancies in NZ…uses example… "walk around Ngakawau with an older person and get them to tell you about the people who lived in the houses and you begin to realise how young these people are. They lived and died with coal dust in their homes and their bodies"		
		Coal's contribution to climate change Given the threat to the world from global warming, the high carbon intensity of coal projects should be a major consideration in issuing approval for projects like this one. Coastal Buller is already experiencing significant erosion from rising sea levels and extreme weather events although our councils never relate these to climate change. Buller Electricity is now having to shift its power poles around Granity to higher levels because of the erosion. This is just one of the costs that people in Buller will have to carry, and we already have the most expensive electricity in New Zealand. Large areas of Westport are below sea level. All the area around Victoria Square is affected. Flooding is a major problem. I have a house in Gladstone Street. I had trouble getting insurance for it 10 years ago because of flooding. Westport will effectively disappear in the foreseeable future. We live under the Denniston Plateau. We are now subject to destructive winds frequently. They whoop down off the plateau, destroying homes and infrastructure. Two years ago, we got to share the experience with Westport township. This is just one of the extreme weather events that will help to destroy the area. But people still want to mine coal here – and why should they worry about it because they don't live here. The profits from this mine will not come to the West Coast but to the North Island. All the research I have seen on ice melt shows that the poles are losing ice much faster than expected and the rate at which this is happening is much faster than anyone had predicted. The East Antarctic ice shelf is now looking very vulnerable and that alone could raise sea levels by 60m if it melts. Every contribution to climate change is crucial now.	*(e)* *such other matters as the appropriate Minister considers relevant.*	
		Induced landslides and earthquakes The application deals with landslides on the south side of the hills. Naturally, it doesn't mention those on the north side, nor the possibility of induced landslides. I have photographs of our	*(d)* *the safeguards against any potential adverse effects of carrying out the proposed programme of work;*	

		landslides just a very few kilometres away from where blasting for the mine and for the road will occur. One other interesting omission on the maps and diagrams of the application is the Kongahu Fault. This fault neatly delineates the hills from the flat land below. It marks the edges of the plateau, and it's active. I cannot imagine how its importance was omitted from this report, especially because the road and the mine will cause blasting and transference of weight directly above it. The inevitability of landslides on one side of the hill is dealt with in mitigation measures, but what about the other side of the hill? Kane Inwood examines the stability of the area just to the north of the proposed mine. Unfortunately he didn't go quite far enough. However, his thesis shows the potential danger of movement on the Kongahu fault. The area above us is described as the Mt Rochfort failure of the Kongahu Fault. '[It] is considered to still be active though inferred to be failing as extremely slow, deep creep. Localised recent failures are primarily related to antecedent pore water conditions and triggered by intense or prolonged rainfall and seismic events' (piv). Otago Regional Council was sufficiently worried about the stability of this dam that they had a brief look at the consequences of dam failure. They decided that if the dam fell down Fairdown No 2 creek, there would be 1-4 fatalities. They did not do an assessment on Powerhouse Road, probably because there has been so much building going on that numbers are impossible. However, we have 47 letterboxes. That's a lot of people.		
		What is this application really for? This project simply does not add up. I would therefore ask you to consider also the economic impacts of this consent being sold to a Chinese or Indonesian or Indian company which could bring its own workers here (because ours wouldn't do the job for the minimum wage) rip the whole place apart and be gone in three years. Under the TPPA I understand that there's nothing anyone could do to stop that and Stevensons would be laughing all the way to the bank. The whole project makes no sense otherwise. They have no market and no intelligent plans for manufacture. What are the economic benefits of this scenario? There is no point in manufacturing carbon fibre from coal (a highly toxic and filthy process anyway) because he sees them being in commercial production in a few years. They should have extensive Government support because they could potentially reduce the total amount of carbon in the atmosphere. *Now* Stevensons are talking about activated carbon. If carbon fibre can be manufactured from the air, why can't activated carbon? It would also remove carbon from the atmosphere instead of adding more. The end goal for this project is continually shifting and therefore any predictions of nett benefit to the community are specious.	*(da) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;*	

		Human rights
		
		Although the scope of this hearing does not include human rights, the New Zealand Bill of Rights Act 1990 should be considered. This is a body in the performance of a public function.
		
		Application
		• This Bill of Rights applies only to acts done—
		  • (a) by the legislative, executive, or judicial branches of the Government of New Zealand; or
		  • (b) by any person or body in the performance of any public function, power, or duty conferred or imposed on that person or body by or pursuant to law.
		
		I want to draw your attention to the following clause:
		
		Part 2
		Civil and political rights
		
		Life and security of the person
		
		8 Right not to be deprived of life
		• No one shall be deprived of life except on such grounds as are established by law and are consistent with the principles of fundamental justice.
		
		It is obvious from the mountain of research on the health impacts of open-cast mining and from the consequences of mining in this area, that our right not to be deprived of life is a matter of importance. You must therefore consider the Bill of Rights.
		
		New Zealand is a signatory to a range of United Nations agreements through the Human Rights Council which mean that our Government has a responsibility to ensure and enforce our access to clean water for domestic purposes:
		
		• resolutions of the Human Rights Council on human rights and access to safe drinking water and sanitation, inter alia, resolutions 7/22 of 28 March 2008, 12/8 of 1 October 2009 and 15/9 of 30 September 2010;
		• General Assembly resolution 64/292 of 28 July 2010, in which the Assembly recognises the right to safe and clean drinking water and sanitation as a human right that is essential for the full enjoyment of life and all human rights;
		• the Universal Declaration of Human Rights, the International Covenant on Economic, Social and Cultural Rights, the International Covenant on Civil and Political Rights, the International Convention on the Elimination of All Forms of Discrimination Against Women, the Convention on the Rights of the Child, and the Convention on the Rights of Persons with Disabilities.
		
		I could go on. Our Government is signatory to all of these. This must surely be considered by a Government department which effectively is now deciding whether or not more people will die or have their lives ruined for coal. We ordinary people have rights.		

		Local opposition is understated People who see the effects of this mine are (rightly) afraid. They will simply leave [Westport]. At least three people I know…have said they are tidying their homes so they can sell as soon as miners start buying properties. This isn't economic development – this is economic suicide for the town.		

Appendix 3A: Statement of Martina Armstrong

IN THE MATTER of the Crown Minerals Act 1991

AND

IN THE MATTER of an application to the **DEPARTMENT OF CONSERVATION** by **RANGITIRA DEVELOPMENTS LIMITED** for an access arrangement to allow construction and operation of an opencast coal mine and supporting infrastructure at Te Kuha.

STATEMENT OF EVIDENCE OF MARTINA ARMSTRONG

INTRODUCTION

1. My full name is Martina Armstrong, I am a Resource Management Planner at Landpro Limited, a firm of consulting planners, surveyors and engineers. I hold the qualifications of Bachelor of Science (2007), Postgraduate Diploma in Science (2008), and Master of Science (2010) from the University of Otago, as well as a Postgraduate Certificate in Antarctic Studies (2009) from the University of Canterbury. I have been a planning consultant for 6 months, prior to which I held resource consent and compliance roles with Silver Fern Farms, Solid Energy New Zealand, and the West Coast Regional Council.

2. I am familiar with the project and the application subject to this hearing and have visited the site. The Application and Assessment of Environmental Effects associated with the Access Agreement over Department of Conservation (DoC) Stewardship Land was prepared by Landpro Limited, although this was completed prior to my involvement with the project. I am however currently involved with the preparation of resource consent applications to both the West Coast Regional Council and the Buller District Council in association with the proposed Te Kuha Project.

3. This evidence has been prepared in relation to the application by Rangatira Developments Limited for an Access Agreement to construct and operate an opencast coal mine and associated infrastructure at Te Kuha on approximately 12 hectares of DoC land as shown on the plan in Attachment A.

SCOPE OF EVIDENCE

4. As the planning consultant for Rangitira Developments Limited, I will be presenting on the matters outlined below;
   - High level update on the Te Kuha Project.
   - Comment on the West Coast Conservation Management Strategy and its overall standing in respect to the proposed Te Kuha Project.

BACKGROUND

5. Te Kuha Limited Partnership is the owner of Rangitira Developments Limited, which holds Mining Permit 41-289. This mining permit covers approximately 884 hectares approximately 12 kilometres south-east of Westport at an elevation ranging from 600 to 800 metres above sea level. Te Kuha Limited Partnership is a limited partnership between Stevenson Group Limited and Wi Pere Holdings Limited Partnership.

6. Te Kuha Limited Partnership has appointed Stevenson Mining Limited as the project co-ordinator and mine operator. Stevenson is seeking to obtain all necessary approvals for the Te Kuha Mine, including both land access arrangements and resource consents. Resource consents will be required from the West Coast Regional Council and Buller District Council as the regional and local authorities.

HIGH LEVEL PROJECT UPDATE

7. The key aspects of the mining project are as follows:
   a. The proposed mine footprint is approximately 109 hectares. Attachment B presents the location of the main components within the mine footprint area, in accordance with the most up to date mine plan. Note that these components are subject to minor amendments as the mine plan continues to be refined; however this will not increase the total disturbance area.

b. The proposed mine footprint is located over two different land parcels/tenures: public conservation land administered by the Department of Conservation as Stewardship land (approximately 11% or 12 hectares of the total mine footprint) and land managed by the Buller District Council under the Reserves Act 1977 as Westport Water Conservation Reserve.

c. In addition to the mine footprint, approximately 9 kilometres of access road will also be constructed from the processing plant up to the mine located at about 600-650 metres above sea level.

d. The processing plant will be situated on private land at Te Kuha near the Buller River.

8. The coal resources in the Mining Permit area have been identified as Brunner Coal Measures, which are also mined on the Denniston and Stockton plateaus. A lower (deeper) coal measure is also present and has been identified as part of the Paparoa Coal Measures that are currently mined in the Paparoa Ranges near Greymouth. Both the Brunner and Paparoa Coal Measures are typical of coal deposition environments, consisting largely of sandstones and siltstones with some minor gravel conglomerate and mudstone components.

9. Two mine pits, the Brunner and the Paparoa pit, will be located within the 109 hectare footprint, as shown in Attachment B. Within the mine's disturbance footprint provision has also been made for ex-pit overburden dump areas, topsoil stockpiles, sumps and other water management infrastructure. Based on the most up to date mine plan, the schedule for mining the Brunner and Paparoa pits consists of mining a portion of both pits every year starting with the Paparoa pit, as the non-acid forming overburden from the Paparoa pit will be used to construct the base of the ex-pit overburden dumps. Attachment C outlines the strip design of the two mining pits.

10. Coal extraction will not commence until Year 2 as Year 1 will involve the construction of water management and other essential infrastructure. The current water management concept design includes both in-pit and ex-pit sumps with a water treatment system that is capable of treating mine-influenced water, which primarily involves the removal of suspended sediment. Any accumulated sludge, as the result of the water treatment process, will be dewatered and added to pit backfill material and/or placed within an overburden dump.

11. Coal will be mined along the strike of the coal seams, with the Brunner pit completed before the Paparoa pit advances beneath the mined out Brunner pit. Coal extraction is expected to

be completed at Year 16, with a further 10 year period anticipated for rehabilitation and aftercare of the site.

12. A final rehabilitation surface has been designed taking into account the aim to return as much of the disturbed area to natural topography, wherever possible, and to limit final slopes to a maximum slope of not greater than 2:1 (27 degrees). Final rehabilitation is discussed in more detail in the evidence provided by Peter Rough, Robyn Simcock and Gary Bramley.

13. Ongoing refinement of the mine plan, access road, water management and geotechnical aspects of the Te Kuha Project has continued to occur following public notification of the evidence prepared in relation to the application by Rangatira Developments Limited for an Access Agreement in December 2015. This refinement has been carried out in preparation for the consent application to the West Coast Regional Council and Buller District Council. It has not resulted in a change to the total proposed area of disturbance.

WEST COAST CONSERVATION MANAGEMENT STRATEGY

14. The Conservation Act (1987) requires the Department of Conservation to prepare a Conservation Management Strategy for each conservancy. The West Coast Conservation Management Strategy (CMS) applies to conservation land administered by the Department of Conservation within the West Coast Tai Poutini Conservancy. The CMS establishes objectives for the integrated management of natural and historic resources, including species managed under a number of different Acts, and for recreation, tourism and other conservation purposes within the conservancy over a 10 year period between 2010 and 2020.

15. As stated in Policy 2 of Section 3.7.5 the CMS, "*when assessing an application for an access arrangement for mining, consideration should be given to (but not be limited to):*

    a. *The significance of the conservation values present and the effect of the proposal will have on those values;*
    b. *The adequacy and achievability of the proposed site rehabilitation work; and*
    c. *The adequacy or appropriateness of any compensation offered for access to the area."*

    The evidence presented by Gary Bramley, Robyn Simcock and Peter Rough provides a detailed assessment the aspects outlined in a, b and c above.

16. The proposed total mine footprint for the Te Kuha Mine is 109 hectares, although only 12 hectares (or approximately 11%) of this will be on conservation land. The Te Kuha coal

resource is predominantly located within a local purpose reserve administered by the Buller District Council, therefore the CMS only applies to the area of mine footprint that falls within the Mount Rochfort Conservation Area.

17. However, due to the large amount of public conservation land in the vicinity, the CMS does set the tone for ecosystem management in the surrounding environs. In the event that the Westport Water Conservation Reserve status were revoked over part or all of the existing reserve, it is most likely that the land would pass to the Department of Conservation in accordance with the recommendation by Overmars et al. (1998)[1]. The site is surrounded by public conservation land and could be expected to be managed in a similar way to neighbouring land, even if it remains a water conservation reserve.

18. Te Kuha is located within the Kawatiri Place management unit identified by the Department of Conservation. Te Kuha is not located within the Buller Coal Plateau priority site for biodiversity management (Map 8 of the CMS, titled "Kawatiri Place Conservation Outcomes") and has an assumed lower management priority for that reason. The goal of the CMS for the Kawatiri Place is for natural heritage values to be maintained and, where practicable, protected and enhanced. Goals relating to coal measures vegetation in 2020 are:

- Rehabilitation is actively pursued on coal measure ecosystems and related freshwater ecosystems that were mined in the past.
- The infertile, acidic, often waterlogged soils support distinctive open moorlands of specialist tussock and shrubland communities. These communities are dominated by the endemic coal measure tussock Chionochloa juncea, red tussock, and low shrublands of prostrate manuka, yellow silver pine and pygmy pine.
- A representative sample of viable coal measure ecosystems and landscapes on the Buller Coal Plateau priority site is legally protected.
- The natural character of previously modified areas is improving as invasive weeds, including gorse, broom and Juncus squarrosus are controlled and four-wheel driving is confined to existing formed roads.
- The Buller Coal Plateau priority site (which includes part of the Denniston Plateau) supports viable populations of locally endemic giant land snails, including Powelliphanta

[1] Overmars, F.B., Kilvington, M.J., Gibson, R.S., Newell, C.L., Rhodes, T.J. 1998. Ngakawau Ecological District. Survey Report for the Protected Natural Areas Programme. Department of Conservation, Hokitika.

patrickensis and P. "Augustus (Walker; 2008)", the great spotted kiwi (roroa) and a high diversity of bryophytes.

19. In the absence of specific goals for the Te Kuha site in the CMS, a goal that could be considered applicable to coal measures vegetation at Te Kuha is that the gently rolling terrain at altitudes of 600-900 metres above sea level continue to be dominated by non-forest vegetation communities. The CMS articulates this goal for the Denniston and Stockton plateau.

20. The establishment of a coal mine at Te Kuha is consistent with the goals articulated within the CMS provided that rehabilitation is completed to a high standard and weeds are prevented from expanding across the site. The intention, post-mining, is to return the site to as close to the pre-mining state as practicable, to ensure biodiversity is consistent by localised sourcing and translocation of both flora and fauna and removal of all built elements including the haul road.

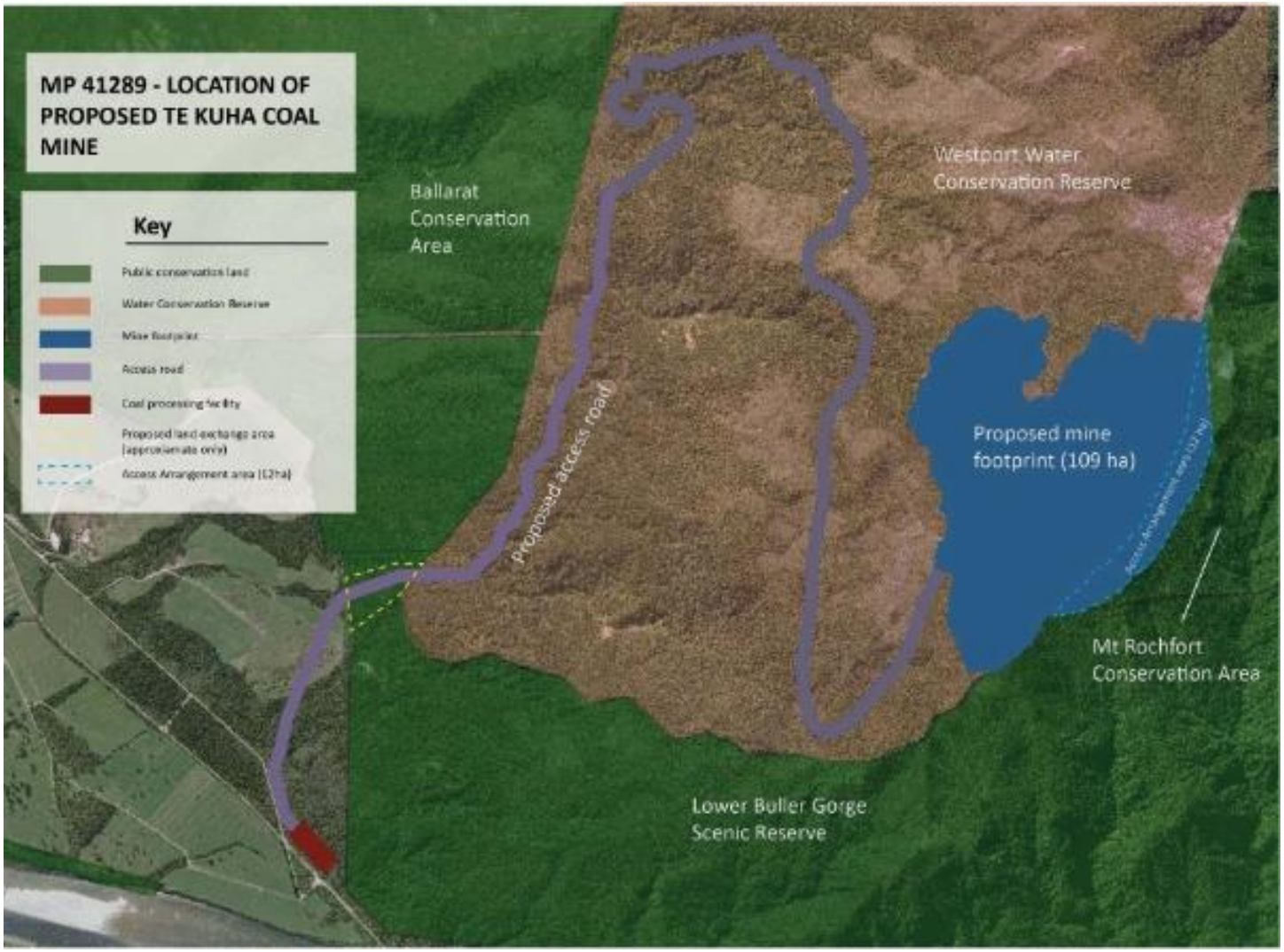
Martina Armstrong

Resource Management Planner – Landpro Limited

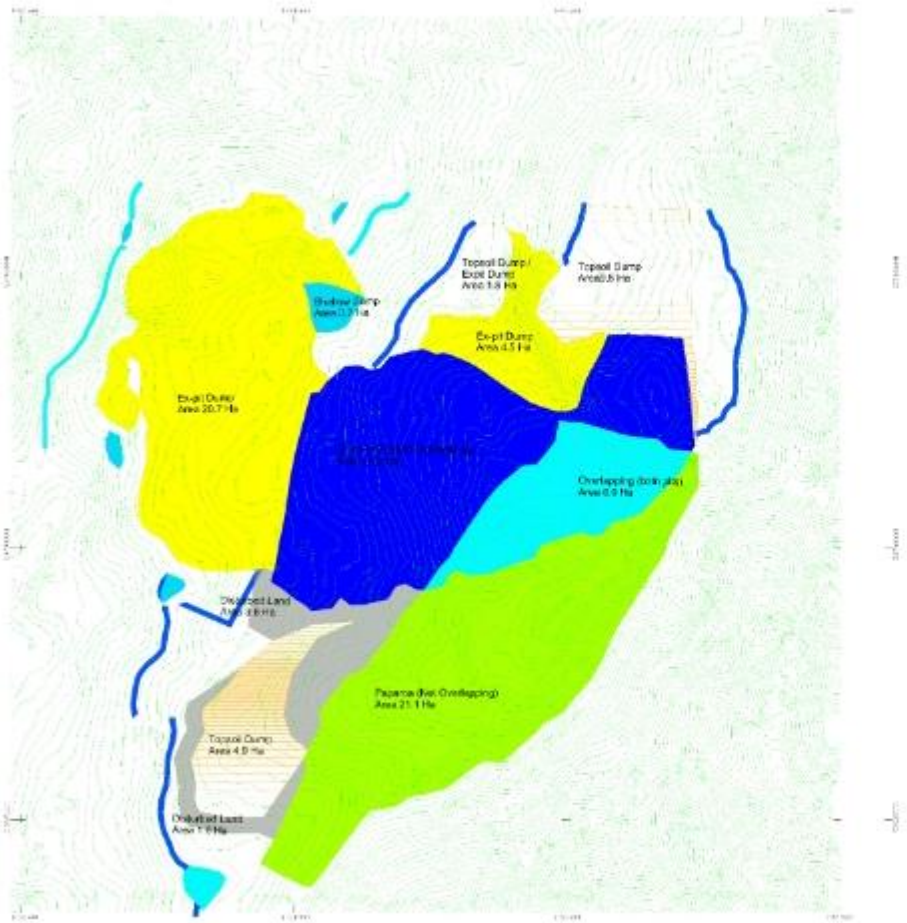
11 April 2016

ATTACHMENTS

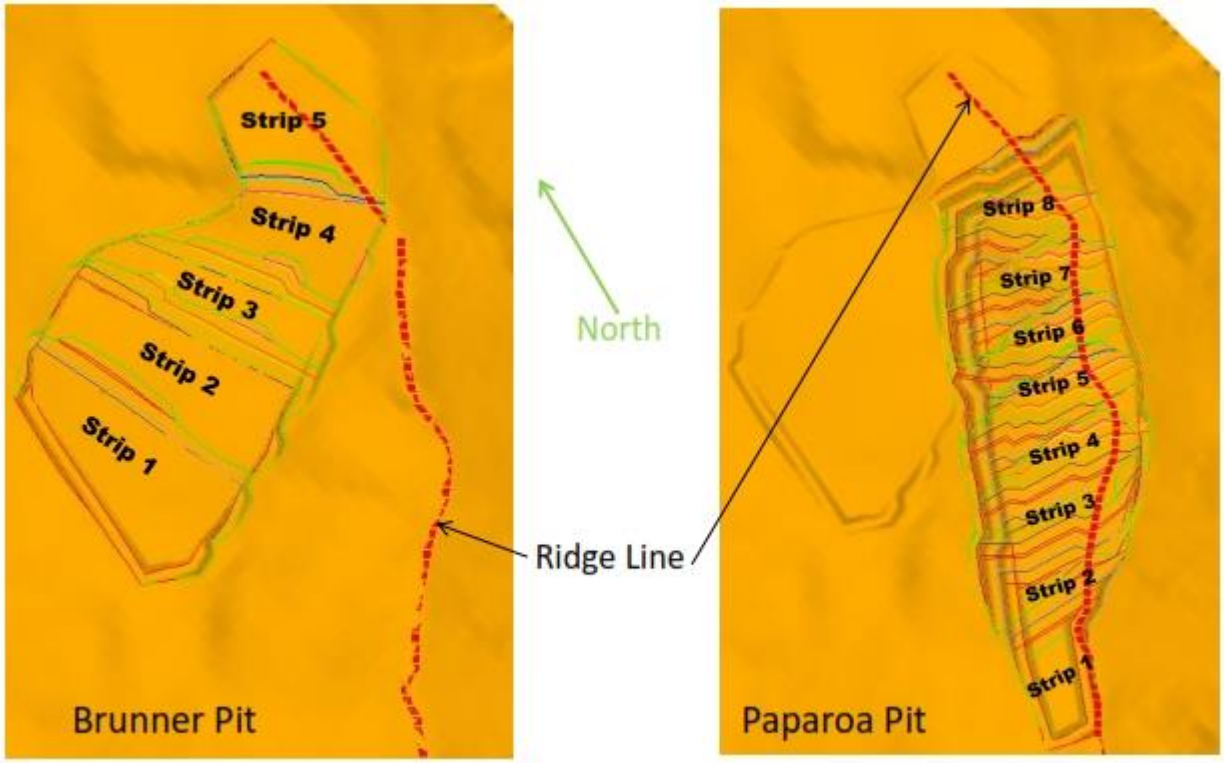
Attachment A – Site Location Plan (Source: Department of Conservation, Significance Assessment dated 16 December 2015).



Attachment B – Proposed Te Kuha Mine Layout (Source: Palaris, Te Kuha Project – Mine Design and Planning dated December 2015).



Attachment C – Strip Design of the Brunner and Paparoa Pits (Source: Palaris, Te Kuha Project – Mine Design and Planning dated December 2015).



- Brunner Pit design is based on 5 x 140m wide strips
- Paparoa Pit design is based on 8 x 100 m wide strips

Appendix 3B: Statement of Mark Christensen

IN THE MATTER of the Crown Minerals Act 1991

AND

IN THE MATTER of an application to the **DEPARTMENT OF CONSERVATION** by **RANGATIRA DEVELOPMENTS LIMITED** for an access arrangement at Te Kuha.

OUTLINE OF SUBMISISONS FOR THE APPLICANT

The relevant matters for consideration

1. These submissions outline the matters that the Minister (or her delegate) is required to have regard to when considering and deciding on this application, together with a description of the information which will be provided both to the Panel at this hearing and subsequently to the Minister's advisors.

2. Under section 61(2) of the Crown Minerals Act, the Minister of Conservation must have regard to:

    (a) the objectives of the Conservation Act;

    (b) the purpose of stewardship land;

    (c) the West Coast Conservation Management Strategy;

    (d) the safeguards against any potential adverse effects of carrying out the proposed programme of work;

    (e) the direct net economic and other benefits of the proposed activity in relation to which the access arrangement is sought;

    (f) the summary of effects prepared by the Department for the purposes of notification; and

    (g) such other matters as the Minister considers relevant.

3. While it is only the conservation values within the 12 ha access arrangement area and the effects on those values that can be considered by the Minister, in some cases it has been necessary to provide a wider description of the project to set the access arrangement area into context.

(a) Purpose of the Conservation Act

4. The purpose of the Conservation Act is "to promote the conservation of New Zealand's natural and historic resources".

5. "Conservation" means the preservation and protection of natural and historic resources for the purpose of maintaining their intrinsic values, providing for their appreciation and recreational enjoyment by the public, and safeguarding the options of future generations.

6. "Preservation", in relation to a resource, means the maintenance, so far as is practicable, of its intrinsic values.

7. "Protection", in relation to a resource, means its maintenance, so far as is practicable, in its current state; but includes –

   (a) its restoration to some former state; and

   (b) its augmentation, enhancement, or expansion".

8. The recent High Court decision in the Ruataniwha land swap case provides the basis for the following conclusions about the purpose of the Conservation Act.

   (a) The purpose of the Act is to promote conservation of <u>all</u> natural resources and the Minister must take a global view of the conservation implications of the access arrangement decision rather than focussing on simply the values of the specific natural resources affected, or just the values within the Mt Rochfort Conservation Area.

   (b) The reference to the promotion of conservation of "New Zealand's natural and historic resources" in the long title to the Conservation Act is to a broad and collective concept. The meaning of the definition of "conservation" and the meaning of "conservation

purposes" in the Act must be interpreted broadly, as must the purpose of the Act. There is nothing in the Conservation Act that requires a single resource to be preserved or protected if that diminishes conservation purposes in New Zealand more broadly.

(c) In making the access arrangement decision, the Minister must satisfy herself that there is a good and proper basis, founded in conservation purposes, for the access arrangement. A broad interpretation of conservation purposes is required. The Minister would be acting consistently with the purposes of the Conservation Act if she decided that what is offered by Stevenson 'well and truly' meets the purpose of the Conservation Act and is a good outcome for the Department and for conservation. The Department's Guidelines on Compensation will be useful in that regard.

9. Overall, it is the applicant's position that there will be a net benefit to conservation values and, consequently, granting this access arrangement will result in a good outcome for the Department.

(b) The purpose of stewardship land

10. The Conservation Act requires every stewardship area to be managed so that its natural and historic resources are 'protected'.

11. In some instances, the Department has interpreted this in the context of concession applications to mean that only a 'truly minor' effect can result in a natural resource being 'protected', and anything more than a minor effect would mean that the resource is not being protected. However, for the same reasons as the Court set out in the Ruataniwha case, the proper question is whether the resource affected (such as the extent of a particular vegetation type or the habitat for kiwi, <u>overall</u> is protected (including being restored, enhanced or augmented). This again allows for environmental compensation and overall net benefit to be considered.

12. To the extent that any particular conservation value (such as coal measures vegetation or bryophytes) cannot be 'protected' overall (ie there will be a net loss of that particular value), the access arrangement can still be granted if the Minister considers that 'out of kind' compensation results in 'net benefit' consistent with the overall purpose of the Conservation Act.

(c) West Coast Conservation Management Strategy

13. Section 3.7.5 of the CMS provides (relevantly) the following policies for considering access arrangements for crown minerals (on conservation land).

> 1. The Minister will consider each application for an access arrangement on a case-by-case basis, in accordance with the criteria set out in the relevant section (i.e. s61 or s61A and s61B) of the Crown Minerals Act 1991.
>
> 2. When assessing an application for an access arrangement for prospecting, exploration or mining, consideration should be given to (but not be limited to):
>
> > a) the significance of the conservation values present and the effect the proposal will have on those values;
> >
> > b) the adequacy and achievability of the proposed site rehabilitation work (see also Policy 3 below); and
> >
> > c) the adequacy or appropriateness of any compensation offered for access to the area (see also Policy 4 below).
>
> 3. Appropriate site rehabilitation methods should be employed.
>
> 4. Compensation should be required when damage to, or destruction of, conservation values cannot be avoided, remedied or mitigated and will be determined on a case-by-case basis.
>
> 5. Where ancillary activities such as roads and infrastructure can reasonably be located off public conservation land, this will be expected.
>
> …
>
> 6. The term of any access arrangement should be limited to the period reasonably required to carry out the defined work, including site rehabilitation after mining has been completed.
>
> 7. Low-impact access options will be preferred (e.g. the use of existing formed roads, or helicopters in areas without existing roads).
>
> …
>
> 10. If monitoring reveals that the effects of mining activities on conservation values and recreational opportunities, including the desired outcomes described in Part 4 of this CMS, are greater than expected, or new effects have been discovered, the Department should review the conditions of the access arrangement.
>
> 11. Approval of any work plan may be subject to the permit holder obtaining all other necessary authorisations, such as a concession permit for aircraft landings or a Wildlife Act permit.

14. The information provided by the applicant addresses all these matters.

15. The site is part of Kawatiri Place identified in the CMS. Section 4.2.2 sets out the outcomes desired for Kawatiri Place by 2020. Ms Armstrong considers those outcomes in her evidence.

(d) The safeguards against effects

16. The relevant effects are all addressed in the 'significance' report prepared by the Department. The applicant's information/evidence addresses each of the effects (but only within the 12 ha access arrangement area) and describes the mitigation proposed. 'Safeguard' is not defined in the Crown Minerals Act, but generally means 'to protect from harm or damage with an appropriate measure'. In this case, it is appropriate to provide for an overall compensation package as well as for specific mitigation.

17. To the extent that the Minister considers that there are residual effects on some values which cannot be 'safeguarded' or 'protected', offsite compensation is a matter the Minister can take into account as consistent with the purpose of the Conservation Act.

(e) Economic and other benefits

18. It is not possible to distinguish economic benefits arising from the 12 ha separately from the project as a whole. However, gaining access to the stewardship area is integral to the entire project – ie the project will not happen if the access arrangement for the stewardship area is not granted. For that reason, it is legitimate for the Minister to have regard to the entire benefits which arise from the project. Such an approach is not inconsistent with only looking at the other effects arising from the 12 ha rather from the project as a whole.

19. Any potential concern about work being started with consequential effects resulting, but then the mine being closed because of low coal prices, can be addressed by way of bonds.

20. Ms Brewster will describe why the applicant considers Te Kuha to be financially viable, when other coal mines, including Escarpment, currently appear not to be.

(f) The 'significance' assessment summary

21. The values and effects identified in the significance report dated 16 December 2015 are commented on in the evidence.

(g) Other matters – off-site compensation

22. Mr Bramley's evidence outlines the offsite compensation which the applicant proposes for those values which cannot be fully 'protected'. An overall net benefit to conservation values will result.

Conditions

23. Because the stewardship area for which this access arrangement is sought is only a minor part of the overall mine proposal, it makes little sense to provide a full suite of conditions on the access arrangement which overlap, duplicate or are inconsistent with resource consent conditions. In that regard we can all learn from the Bathurst Escarpment consents and access agreement to ensure that the various conditions on the approvals for the mine are integrated and can be efficiently managed, reported on, and enforced. At this stage, however, there is no draft suite of resource consent conditions which can be referred to. That will need to be the subject of ongoing discussion between the applicant and the Minister's advisors.

24. So as to provide for this integration, and because this process is running in advance of the resource consent process, the access arrangement should provide for a review once the resource consents are granted so that what is agreed between the applicant and the Minister can, if necessary, be better aligned with the mitigation/environmental compensation which is in the end required by the resource consents. In my view, such a review of the access arrangement once the resource consents are granted is also necessary to ensure that any operational or reporting requirements of the access arrangement be aligned with any similar requirements in the resource consents, so as to maximise efficiency and cost effectiveness.

Mark Christensen

Counsel for Rangatira Developments Limited

14 April 2016

Appendix 3C: Statement of Peter Rough

IN THE MATTER OF	the Crown Minerals Act 1991
AND	
IN THE MATTER	of an application to
	the DEPARTMENT OF CONSERVATION
	by
	RANGITIRA DEVELOPMENTS LIMITED
	for
	an access arrangement to allow construction and operation of an opencast coal mine and supporting infrastructure at Te Kuha

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STATEMENT OF EVIDENCE OF PETER ROUGH

1.0 INTRODUCTION

Qualifications and experience

1.1 My full name is Peter Rough and I am a landscape architect employed by Rough & Milne Landscape Architects Limited, which is a Christchurch-based company.

1.2 I hold a Diploma in Horticulture and a Diploma in Landscape Architecture from Lincoln University (then Lincoln College), obtained in 1969 and 1973 respectively. I am a registered member and Fellow of the New Zealand Institute of Landscape Architects Inc., and I am a member of the Resource Management Law Association of New Zealand Inc.

1.3 I have more than 40 years' experience as a landscape architect and for approximately the last 20 years I have specialised in landscape assessment work. This has included my undertaking landscape and visual effects assessments associated with a wide variety of development proposals throughout New Zealand and in Victoria, Australia.

1.4 I am familiar with the Buller District, especially as a result of my undertaking landscape assessment work for Meridian Energy Limited in 2010/2011 when that company was contemplating a hydro-electric power project on the Mokihinui River. During the course of that work I made an aerial reconnaissance of the whole District and had several additional flights and land-based excursions over the Stockton and Denniston plateaux. I also was shown over Solid Energy's Stockton Opencast Mine, including mine operations on the mine site's ridgetop and areas that had been subjected to rehabilitation.

Involvement in the project

1.5 I first visited the Te Kuha site and its surroundings over two days in March 2013. That visit involved a land-based inspection as well as an aerial reconnaissance of the site and its general surroundings (from Mt Rochfort in the north to Buckland Peaks in the south). The visit also involved determining the visibility of the project site from within the Buller Gorge and from Westport and surrounding areas on the coastal plain and establishing photo-simulation viewpoints.

1.6 I visited the site again in July 2013 when another aerial inspection was made and the potential landscape and visual effects of a proposed access road was made during a land-based inspection. At that time rehabilitation work on the Stockton and Sullivans mines' roads was inspected.

1.7 Subsequently, I have prepared a draft assessment of landscape and visual effects report on Te Kuha Coal Project, which includes a graphic supplement that contains maps, photographs and photo-simulations. This evidence is accompanied by a

graphic supplement, which also contains maps, photographs and photo-simulations pertinent to this hearing. The photo-simulations have been prepared by Virtual View Limited (*Virtual View*) and portray the project over the life of the mine to in the order of 35 years, after mining operations have ceased.

Purpose and scope of evidence

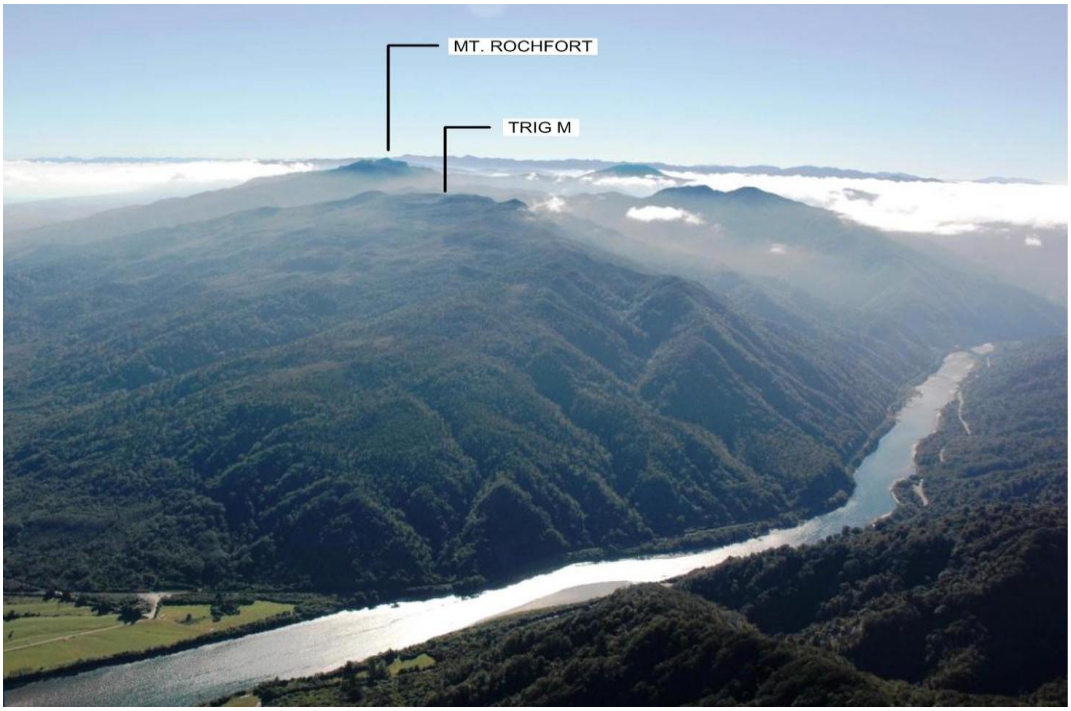
1.8 The purpose of my evidence is to provide an overview of the context and the landscape values of the approximately 12 ha of land for which an access arrangement is required from the Department of Conservation (*DOC*), and its surroundings, and outline the anticipated landscape and visual effects that will result on the DOC-administered land as a result of mining and rehabilitation. With regard to the approximately 12 ha of land my evidence considers the following matters:

- A brief description of the site and its surroundings (Section 2)
- A brief outline of Te Kuha Coal Project (Section 3)
- With the aid of photo-simulations, commentary on the actual landscape and visual effects of the project, including mining and rehabilitation, on the stewardship land (Section 4)
- My conclusions in relation to the proposal (Section 5)

2.0 THE SITE AND ITS SURROUNDINGS

2.1 A map on Sheet 1 of my graphic supplement delineates the mining permit area and a map on Sheet 2 outlines the total extent of mining activity within the permit area. A map on Sheet 3 shows that most of the mining permit area and area of mining activity lie within the Westport Water Conservation Reserve. Some of the mining permit area and the area of proposed mining activity extend onto stewardship land within the Mt Rochfort Conservation Area. The map on Sheet 3 shows the mining permit area and the area of mining activity avoids the Lower Buller Gorge Scenic Reserve but both these areas abut the reserve.

2.2 Photograph 1 below shows the range of hills on which the mining permit area is located. (The viewpoint location of Photograph 1 is, and other photographs in my evidence are, shown on Sheet 1). Trig M in the photograph is approximately 12 km east of Westport and the proposed area of mining activity is mostly on the Westport side of the ridgeline below the trig. The Lower Buller Gorge Scenic Reserve covers the lower slopes above the Buller River and above the reserve and to the east of Trig M is stewardship land.



Photograph 1. Aerial view, looking north over the Buller River to Te Kuha Deposit area, which is located in the foreground of Trig M

Proximity to coastal environment

2.3 Although the range of hills on which the mining permit area is located is referred to as 'Coastal Hillslopes' in the Ngakawau Ecological District Survey (refer left-hand map on Sheet 6) technical background documents[1] to the West Coast Regional Council (*WCRC*) Proposed Regional Coastal Plan 2016 identify the Inland Boundary of Coastal Environment on maps. Map 8/10 from the West Coast Region Landscape Study 2013 is presented on Sheet 6a of my graphic supplement and shows that while the northern apex of the mining permit area is approximately 4.5 km from the inland boundary of the coastal environment, the area to be mined will be some 8.5 km away.

Topography and features of the stewardship land

2.4 As previously mentioned, the mining permit area mostly occupies west-facing hillslopes (refer Photograph 2 below). The mining permit area culminates at a high point of 796 masl on a northeast-southwest asymmetric trending ridge. The ridge reaches its highest elevation at Mt Rochfort (1040 masl) approximately 5 km to the northeast of the 796 m high point.

[1] Brown NZ Ltd (November 2013). *West Coast Region Landscape Study 2013 – Coastal Outstanding natural features/landscapes, schedule +maps* and Brown NZ Ltd (November 2013 – *West Coast Region Natural Character Study 2013 – Coastal outstanding and high natural character areas, schedule + maps*.

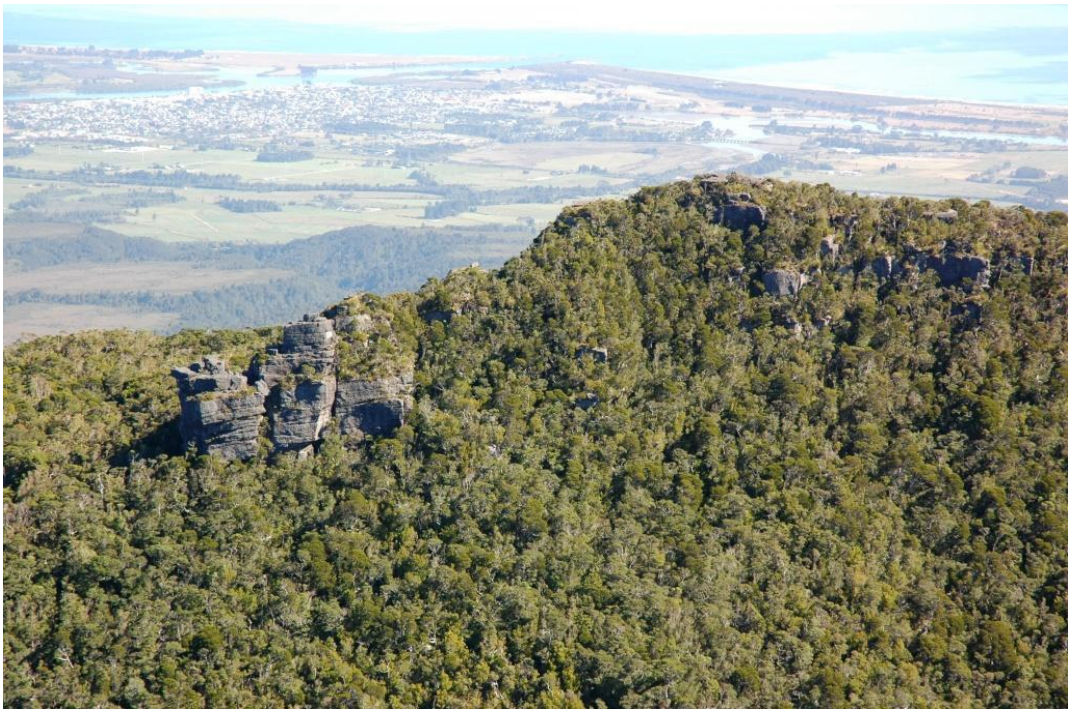
Photograph 2. Looking towards the Coastal Hillslopes and the mining permit area from SH6 at Norris Creek

2.5 The relatively small portion of the mining permit area on stewardship land, on the south-eastern side of the ridge, is steep having slopes between 30 and 40 degrees (refer Photograph 3 below). Below the permit area these steep slopes are incised by several creeks, some of which drain southwards and directly into the Buller River near the western end of the Buller Gorge while others drain eastwards into Little Cascade Creek, which flows into the Buller approximately 500 m downstream of an acute bend in the river (refer Photograph 4 below).

Photograph 3. Indigenous forested slopes below skyline ridge within mining permit area and above Buller River and Little Cascade Creek

Photograph 4. Looking west in the Lower Buller Gorge from SH 6 towards the skyline ridgeline at the southern end of the mining permit area, which lies within stewardship land

2.6 On the ridgeline, which is the western boundary of the stewardship land are outcrops of bare sandstone rock bluffs, scarps and tors (refer Photograph 5 below). Below the ridgeline exposed seams of coal are apparent at close quarters (refer Photograph 6 below) and, as Photographs 3-6 convey, the stewardship land proposed to be subjected to mining activity, and slopes below the mining area, are well-covered in native forest.



Photograph 5. Aerial view of Rock outcrops on the ridge crest within Te Kuha Coal Project area

Photograph 6. Exposed Paparoa Coal Measure seam, below eastern side of summit ridgeline within the mining permit area on stewardship land

Outstanding Natural Landscape

2.7 Landscape assessment work undertaken for Meridian Energy by Brown NZ Limited identified 19 landscape units within the Buller District that are Outstanding Natural Landscapes (*ONLs*) (refer Sheet 7). Mining Permit 41-289 has been added to the ONL map.

2.8 Brown NZ Limited was subsequently commissioned by the WCRC and the three district councils that come under the WCRC's jurisdiction to review the delineation of ONLs in the Buller District and identify ONLs in the Grey and Westland districts. Mr Brown has indicated[2] that, as a result of his further investigations into the Buller District, the western boundary of the Paparoa and McWilliam Inland Ranges ONL, which the mining permit area slightly intrudes into, remains unchanged. While Brown NZ Limited's study has not yet been ratified by the regional and district councils the information it contains is an indicator as to the ONL status of the stewardship land in question.

2.9 Aside from the stewardship land not yet being ratified as having ONL status, the land and its cover of native vegetation is very high in natural character. The stewardship land and its ONL surroundings is also very high in visual amenity value. From the vicinity of Horseshoe Bend in the Lower Buller Gorge (refer Photograph 4 above) the skyline ridge within and adjacent to the mining permit area is a focus of attention and its distinctive outline, interesting sandstone rock

[2] pers. comm., 22 May 2013.

outcrops (refer Photograph 5 above) and steep topography below the ridgeline with a dense cover of native forest vegetation, framed by bush-covered ridges in the foreground, is a combination of elements that gives rise a scene of high visual amenity.

Visibility of the stewardship land

2.10 The stewardship land that is proposed to be subjected to mining activity will be visible from principally three publicly accessible areas; namely the Lower Buller Gorge, Buckland Peaks and Mt Rochfort.

Lower Buller Gorge

2.11 When travelling westwards on SH 6 through the Lower Buller Gorge towards Westport, landform obscures views of the skyline ridge at the southern end of the mining permit area, except for a distance, when travelling westwards, in the order of 1.5-2 km from approximately 300 m southeast of the confluence of the Buller and Ohikanui rivers, in the vicinity of Horseshoe Bend. Photograph 4 above, is a view of the skyline ridge, below which is the mining permit area on the stewardship land in question. I have described the components of this view in paragraph 2.9 above and add here that, apart from the presence of the highway on the true left of the Buller River and the Stillwater Ngakawau Line on the true right, the river and its bed and the surrounding unmodified forest-clad spurs are part of the overall Lower Buller Gorge landscape that appears to be very high in natural character.

Mt Rochfort

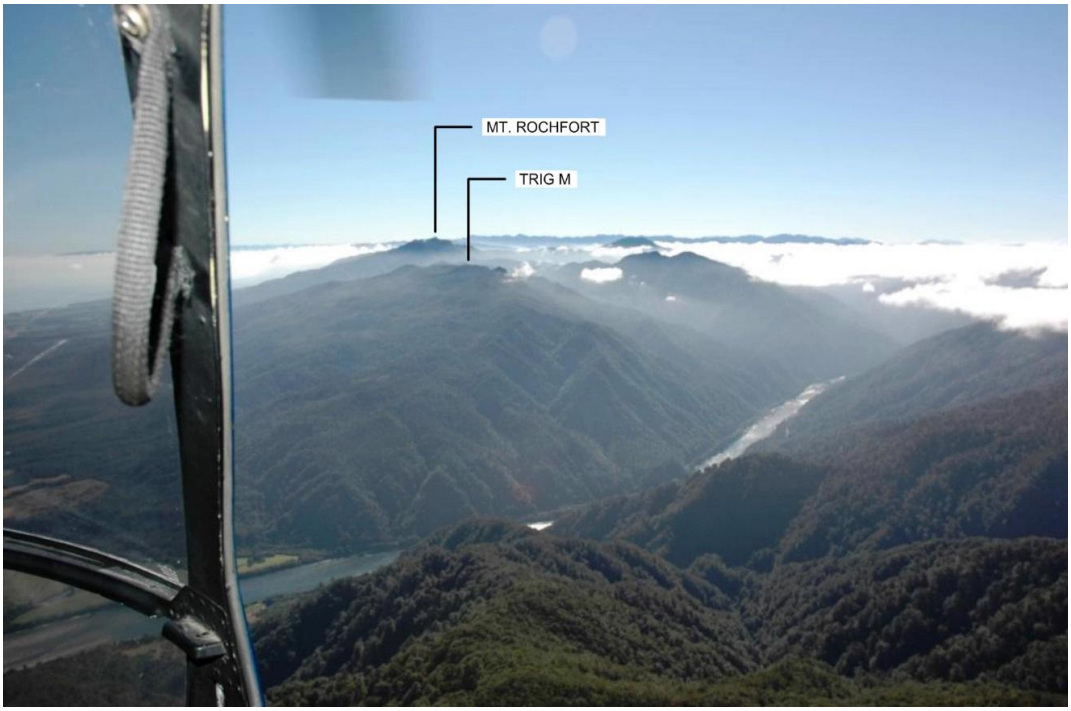
2.12 The summit of Mt Rochfort supports a substantial telecommunications tower that services Westport and western Buller and it is accessible by road from Denniston. The Denniston to the summit return trip of approximately 17 m, with a total ascent of 500 m, is popular with mountain bikers. From the summit of Mt Rochfort views are afforded southwest along the skyline ridge to beyond Trig M (776 m), which is just inside Mining Permit 41-289 (refer Photograph 7 below). Beyond the trig station approximately 1 km of ridgeline will be affected by the proposed mining.

Photograph 7. View southwest along the skyline ridge of the Coastal Hillslopes from Mt Rochfort to Trig M and approximately 1 km of ridgeline within Mining Permit 41-289 (Photograph by Chris Coll)

2.13 The backdrop to the view is the northern end of the Paparoa Range and while the untouched nature of the indigenous vegetation, which covers the Range and visible slopes and ridgeline southwest of Mt Rochfort, imbues the view with a very high degree of natural character, the overwhelming presence of the telecommunications tower and its access road at the viewpoint tends to somewhat detract from the experience of viewing the natural character of the landscape as it is experienced from Mt Rochfort.

Buckland Peaks

2.14 The area of Buckland Peaks (1325 masl), which is at the northern end of Paparoa Range and south of the Buller River, but not within Paparoa National Park, is accessible via a two hour walk from the DOC-administered Buckland Peaks Hut, which is a five hour walk from SH 6. The viewing distance from Buckland Peaks to the proposed mine site is approximately 9 km. Photograph 8 below, is an aerial view from northeast of Buckland Peaks Hut. The interesting and varied topography of the mountain ranges, which contrast with the low altitude coastal plain, along with the substantial Buller River, all contribute to views towards the proposed mine site, from Buckland Peaks and their vicinity, being high in aesthetic value.



Photograph 8. Aerial view from near Buckland Peaks, looking northeast towards the range on which the site of the proposed mine site is located

3.0 THE TE KUHA COAL PROJECT

Landscape and visual effects

3.1 Landscape effects are those that change the appearance of the landscape, including its natural character, irrespective of whether or not they are visible. Landscape effects have been defined as those that

> ...*derive from changes in the physical landscape, which may give rise to changes in its character and how it is experienced.*[3]

Visual effects relate to

> *...the changes that arise in the composition of available views as a result of changes to the landscape, to people's responses to the changes, and to the overall effects with respect to visual amenity.*[4]

3.2 A map on Sheet 4 shows the area to be subjected to mining activity (refer Maps 2 and 3 for the area's context). The approximately 12 ha of stewardship land for which an access agreement is sought from DOC is identified on the map. The map is accompanied by mining strip plans for the Brunner and Paparoa pits. Features of Te Kuha Coal Project that will give rise to landscape and visual effects on the stewardship land are:

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[3] The Landscape Institute and the Institute of Environmental Management and Assessment (2002), *Guidelines for Landscape and Visual Impact Assessment*, second edition, Spon Press, New York.
[4] *Ibid*

- Coal excavation
- Lighting
- Rehabilitation

Landscape objective

3.3 The proposed landscape objective for the project site, including the stewardship area, is:

> *To avoid significant adverse effects on the site's high natural character, on the area of the site that has been identified as an outstanding natural landscape (albeit provisionary) and on the site's high visual amenity value, and where adverse effects are unavoidable to rehabilitate the site so that, as far as is practicable, it has the characteristics of a landscape that is high in natural character, maintains the integrity of the outstanding natural landscape and restores the site's high visual amenity value.*

Coal excavation

3.4 Open cast mining methods are proposed. The sequence of mining is designed to minimise the amount of rehandling of overburden and allow progressive infilling and rehabilitation to occur. Overburden will initially be stockpiled in a Main Lower Dump (on the western side of the skyline ridge) and then later utilised to backfill the mined areas. It is anticipated that, because the seams of coal that are proposed to be mined are relatively thin (in the order of 3 m thick) and because of the overburden's bulking factor, the general lie of the existing land will, for the most part, be able to be recreated.

Lighting

3.5 The main lighting effects that have potential for varying degrees of visual effect are light spill, glare, sky glow and headlight sweep. The mine is proposed to operate between the hours of 6 am and 7 pm. Lighting within the mine site will be discrete and limited; illuminating only those areas immediately around the buildings which will, however, all be located on the western side of the skyline ridge. The only lighting effects on the stewardship land will arise from the headlights of excavation machines and from vehicles transporting coal, and this is likely to only be an issue during early morning and early evening over late autumn, winter and early spring.

Rehabilitation

3.6 The focus of rehabilitation will be to mitigate effects of vegetation clearance and mining on landscape and ecological values. Of primary importance is to create ex-pit and backfilled landforms that abut and are sympathetic with natural ground levels. The final rehabilitation surface will return much of the stripped areas to near-natural slopes with angles up to (but no greater than) 27° in order to achieve

geotechnically stable erosion-resistant surfaces that enable the establishment of vegetation. The vegetation mosaic on the stewardship land will, to a large extent, be controlled by drainage (in turn defined by slope and soil type) so rehabilitated areas will range from poorly-drained slopes less than 5° to well-drained slopes up to a maximum of 27°. Native plants will be planted at a density of 12,000-15,000 plants/ha to minimise erosion and achieve a weed-smothering cover and vegetation closure within a period of 10 years.

4.0 ACTUAL LANDSCAPE AND VISUAL EFFECTS OF TE KUHA COAL PROJECT ON THE STEWARDSHIP LAND

Photo-simulations

4.1 As a result of undertaking comprehensive fieldwork, 13 publicly accessible viewpoints were chosen as being salient or representative locations from which the proposed mine will be visible. At the direction of Rough and Milne Landscape Architects, Virtual View Limited prepared photo-simulations from nine of the 13 viewpoints. The locations of the viewpoints are shown on a map on Sheet 14 and of relevance to the stewardship land in question are the three previously-mentioned locations from which the stewardship land will be visible from, namely:

- Buller Gorge (Viewpoint 11)
- Mt Rochfort (Viewpoint 12)
- Buckland Peaks (Viewpoint 13)

4.2 For each set of photo-simulations from a particular viewpoint, the first A3 sheet in the graphic supplement presents an existing view towards Te Kuha Project site from the viewpoint. The existing and proposed images show the full primary human field of view (124° horizontal and 55° vertical) and are generally centred on the site of the proposed coal mine. The proposed image conveys how it is envisaged the mine site will look after the mining operation has ceased and rehabilitation work has taken effect.

4.3 Following the initial existing and proposed panoramic images on the first A3 sheet of each set of photo-simulations, subsequent sheets in each set convey the central portion of the primary human field of view panorama from the particular viewpoint. These A3 sheet images are at the correct scale to represent reality when viewed at 50 cm from one's eyes. Based on the mine design and planning documents, A3 photo-simulation images of the mine from each of the above viewpoints portray the progressive visual effects of mining over the mine life and, finally, at 35+ years, after mining is completed. An insert on each sheet describes the various mine features that appear in each photo-simulation as colour-coded shapes. The

sequence of photo-simulations demonstrates that the strip mining will be undertaken progressively and rehabilitation work, involving backfilling, regrading and revegetation, will occur concurrently throughout the life of the mine.

Degrees of effects on visual amenity

4.4 With regard to the effects of Te Kuha Coal Project on visual amenity values the following hierarchy of descriptive terms to convey a definition of magnitude and degrees of effects on visual amenity is used:[5]

None	No part of the development, or work or activity associated with it, is discernible.
Negligible	Only a very small part of the proposal is discernible and/or it is at such a distance that it is scarcely appreciated. Consequently it has very little effect on the scene.
Slight	The proposal constitutes only a minor component of the wider view, which might be missed by the casual observer. Awareness of the proposal would not have a marked effect on the overall quality of the scene.
Moderate	The proposal may form a visible and recognisable new element within the overall scene and may be readily noticed by the observer.
Substantial	The proposal forms a significant and immediately apparent part of the scene that affects and changes its overall character.
Severe	The proposal becomes the dominant feature of the scene to which other elements become subordinate and they significantly affect and change its character.

Viewpoint 11, Buller Gorge (Sheets 55-67)

4.5 Sheet 55 shows existing and proposed primary human field of view images from the viewpoint. Sheet 56 shows the central portion of the existing human field of view image as it can be experienced from Viewpoint 11 and clearly conveys the high natural qualities and the high visual amenity value of the landscape. The photo-simulation on Sheet 57 shows the area within the mining permit area that will be disturbed during Year 01 and that will be obviously visible from Viewpoint 11 as a mined face; coloured brown (refer colour codes on sheet legend). The area to be mined lies on and below the

[5] *Guidelines for Landscape and Visual Impact Assessment*, 2nd Edition, 2002. The Landscape Institute and the Institute of Environmental Management and Assessment, Spon Press.

skyline to the left of an obvious high point and a rocky knoll that is a reasonably distinctive topographic feature (refer close-up Photograph 5 above). The photo-simulation on Sheet 58 shows a greater portion of the skyline as a cut face in Year 03 and by Year 05 (refer Sheet 59) half of the above-mentioned rocky bluff will have been mined and a large, stepped, cut face will become prominent.

4.6 By Year 07 (refer Sheet 60) the lower portion of the mined ridge will have been rehabilitated and by Year 09 (refer Sheet 61) the rocky knoll will have principally been removed. Between Years 09–15 (refer Sheets 61–64) the mine will have reached its full extent along the ridgeline. The higher east-facing slopes will be cleared of vegetation and be undergoing progressive strip mining.

4.7 Years 11–15 (refer Sheets 62-64) show a clear progression of rehabilitation moving north along the ridgeline and by Year 17 (refer Sheet 65) the full extent of the mined ridgeline will have been backfilled, recontoured and revegetated. At Year 17 the initial areas of rehabilitation along the lower ridgeline will have achieved canopy closure. The use of Direct Transfer revegetation techniques (DT) and placement of boulders on the ridgeline will assist in the re-establishment of vegetation and convey a natural appearance to the ridgeline.

4.8 As the Year 17 and 19 photo-simulations show (refer Sheets 65 and 66), while there is still a high point on the skyline it will be somewhat lower than the existing rocky knoll high point and will lack the topographic relief and visual interest that is evident in, and afforded by, the existing feature. A comparison of the images on Sheets 56 and 65/66 reveals that in general the outline of the new skyline will appear less complex than that existing but it will, however, appear to be more or less natural and not out of keeping with its general surroundings.

4.9 Notwithstanding the fact that remediation work, including backfilling, recontouring and revegetation, will take place concurrently with mining, during the principal mining and backfilling phase of Te Kuha Coal Project, the project will have substantial visual amenity effects from Viewpoint 11. This will be due, in part, to the fact that a prominent skyline section of the landscape, which is very high in natural character and aesthetic value, will be disturbed and modified. It is the benched ridgeline resulting from strip mining that will be most prominent and afford significant effects on natural character and amenity. Such effects will also be due, in part, to the focal point nature of the skyline ridge within the permit area, which is viewed from Viewpoint 11 and its vicinity.

4.10 As I have previously outlined, from SH 6 and the Buller River near the Ohikanui River, the indigenous forest-clad mountain range, which the ridge crowns, is a focus of attention in views. Forest-clad spurs in the middle-distance, which descend to the Buller River, frame views of the range and its ridgeline at the southern end of the mining permit area and tend to intensify its focal point character.

4.11 On Sheet 66 is a photo-simulation showing the backfilled and recontoured skyline area, after revegetation has taken place by Year 19. Although, as mentioned above, the new skyline will appear to be reasonably natural, the revegetated area will appear different, in terms of its colour and texture, to the mature indigenous forest on the slopes below the mining permit area. Because revegetation actually occurs over the previous 12 years, the contrast between the existing vegetation and the revegetated area will vary somewhat, although this is not particularly apparent in the Year 19 photo-simulation. Over time, as the revegetated area attains maturity the contrast between the two areas will reduce but for a considerable period of time after the final rehabilitation there will be an obvious difference.

4.12 Taking into account the extent of the modified skyline and the change in the vegetation within the mining permit area that will be apparent for some considerable time, Te Kuha Coal Project will have a substantial effect on the amenity value of the landscape as it is viewed from Viewpoint 11 in the Buller Gorge. The new skyline will appear natural and once revegetation of the backfilled area has taken effect the mined and rehabilitated area of the stewardship land will not have a particularly obvious effect on the overall quality of the outstanding natural landscape. Its effect on visual amenity will be slight – an effect that will reduce to negligible over time as the area of revegetation matures.

4.13 A photo-simulation on Sheet 67 shows the central portion of the primary human field of view from Viewpoint 11 as it is anticipated in about Year 35+ when revegetation on all the visible mined/disturbed areas has taken effect and matured somewhat. It may take in the order of 100 years for discerning viewers to not be able to detect a visual difference between the revegetated area on the skyline and the undisturbed forest on slopes below land disturbed by Te Kuha Coal Project.

Viewpoint 12, Mt Rochfort (Sheets 68-74)

4.14 The existing primary human field of view image at the top of Sheet 68 shows only a portion of what is a very extensive panorama, which encompasses Buckland Peaks, the rural coastal plains, Westport and the coastline. The immediate foreground is dominated by the forested slopes and rock outcrops

along the ridgeline, which descends in a southwest direction towards the Buller Gorge. Trig M, through which the perimeter boundary of the mining permit area passes (refer Sheet 2), is identified in Photograph 7 and in the Sheet 68 image. From Mt Rochfort, what is visible of the mining permit area and in the Sheet 68 image is seen against the backdrop of the northern end of the Paparoa Range (rather than the skyline) at a distance of over 5 km.

4.15 The project site lies predominantly on the south-eastern side of the skyline ridge and, in general, the existing topography will obscure the access/haul road and most of the mining activity. The image on Sheet 69 is the central portion of the existing primary human field of view panorama conveyed in the upper image on Sheet 68. Photo-simulation work has revealed that prior to Year 05 very little will be seen of the mine activity but between Years 07-11 the ridgeline including the rocky outcrop on the skyline (refer Viewpoint 11 in the Buller Gorge), will have been removed as strip mining progresses in the Paparoa Pit in a north-easterly direction (compare Sheets 70 and 71).

4.16 The photo-simulation on Sheet 71 conveys that during Year 11 new dump infilling at the Paparoa Pit will appear on the ridgeline and the cut faces of the high point (805 masl) at the northernmost end of the Brunner Pit will be exposed, leaving an obvious cone-shaped landform close to the ridge as a result of natural surrounding topography being removed. By Year 13, rehabilitation will have commenced on the last mined strip of the Brunner Pit and over the lower slopes of the Paparoa Pit.

4.17 In Year 15 (refer Sheet 72) mining along the ridgeline will have progressed to the final void in the Paparoa Pit and rehabilitation will occur along most of the ridgeline appearing as backfilled and recontoured slopes, on the ridgeline both above and below the Paparoa Pit final void. Over Year 16 backfilling of the final void will occur and by Year 19 the ridgeline slopes will be completely reinstated, albeit to a lower level, and revegetated.

4.18 In the view from Mt Rochfort the landscape and visual effects during mining activity (especially from Year 07 on) will be noticeable and remove a distinctive rocky feature on the ridgeline. The photo-simulation of Year 19 (refer sheet 73) conveys that after mining, backfilling and recontouring has taken place the existing ridgeline within the mining permit area, to left (southwest) of Trig M, will have a somewhat lowered and simplified profile. However, this will not provide a recognisable change in character to the overall landscape.

4.19 In the context of the extensive panorama that is afforded from Mt Rochfort, landscape and visual effects resulting from mining on stewardship land will be somewhat mitigated by the viewing distance. Furthermore, the

foreground view is complex and interesting, consisting of a number of rock outcrops close to the viewpoint, and small peaks along a ridgeline, which has a uninterrupted cover of indigenous vegetation. In effect, the foreground details are sufficiently visually prominent and interesting to somewhat detract attention from the mining activity that will occur beyond Trig M at over 4.86 km away from the summit of Mt Rochfort. Because of this the degree of visual effects on the landscape are assessed as slight to moderate during mining activity.

4.20 The photo-simulation on Sheet 74 shows how the entire Te Kuha Coal Project area that is visible from the summit of Mt Rochfort will look at approximately Year 35+, after all mined/disturbed areas have been rehabilitated and revegetation has taken effect and attained a considerable degree of maturity. Once the modified topography within the mining permit area has been revegetated, in the view from Mt Rochfort the proposed mine will appear to have had a modest effect on the site's natural character, because its topography and land cover will look natural. The modified and remediated area will constitute a minor component of the wider view of large scale landforms and will scarcely be appreciated. Given this the long term effects of Te Kuha Coal Project on visual amenity, from the summit of Mt Rochfort, will be negligible.

Viewpoint 13, Buckland Peaks (Sheets 75-83)

4.21 The existing primary human field of view image at the top of Sheet 75 conveys the topography of the range on which the mining permit area occupies from the summit of the 1325 masl Buckland Peaks. The distance from the summit of Buckland Peaks to Trig M is 7.7 km. Trig M marks the north-eastern extent of the proposed mine on the skyline ridge within the mining permit area. From Buckland Peaks most of the proposed area of mining activity over the whole Te Kuha Coal Project will be visible. The photo-simulations on Sheets 75 and 77-83 show, however, mining activity only on the stewardship land in question. On the images, the stewardship land within which the approximately 12 ha area on which mining activity is proposed, is partly delineated.

4.22 The image of the existing landscape on Sheet 76 represents the central portion of the human field view panorama when looking northeast from the summit of the Buckland Peaks and it also represents the actual scale of the landscape as it would be experienced from Viewpoint 13. A set of photo-simulations (refer Sheets 77–83) demonstrates the sequence of strip mining and rehabilitation that will occur in years 01, 06, 11, 16, 18, 19 and 35+, as seen from the viewpoint.

4.23 In the Year 01 photo-simulation (refer Sheet 77) the Paparoa Pit is shown encroaching over the ridgeline onto the stewardship land. At Year 06, as demonstrated by the photo-simulation (on Sheet 78), the Brunner and Paparoa pits have merged and areas within the site appear differentiated by areas of temporary and permanent rehabilitation, which contrast with active mine areas, including overburden dumps and topsoil stockpiles that appear as exposed earth and rock. The active pits within the project area and ridgeline will appear as benched slopes in strong contrast to the generally undulating nature of the surrounding natural landform.

4.24 The extent of ridgeline removed during the mining process will be clearly evident from Buckland Peaks and by Year 11 mining will have clearly progressed uphill and along the ridgeline in a north-easterly direction (refer Sheet 79). A significant portion of the ridgeline is also shown as rehabilitated by Year 11.

4.25 By Year 16, from Buckland Peaks, a large portion of the project area will appear as rehabilitated slopes; especially the lower section of the ridgeline over the completed Brunner Pit (refer Sheet 80). The Year 18 photo-simulation (Sheet 81) shows that the entire ridgeline will have been mostly backfilled, recontoured and revegetated. Site rehabilitation will be completed during Year 19 (Sheet 82) although the different stages of rehabilitation will be obvious.

4.26 As the photo-simulations on Sheets 77–82 show, in being a focus of attention in the middle distance of views to the northeast from Buckland Peaks, Te Kuha Coal Project will, on stewardship land, while mining is taking place, have a slight - moderate effect on the visual amenity value of the range that the mining permit occupies and on the upper slopes above the Lower Buller Gorge. Although it is somewhat difficult to discern from Viewpoint 13, the skyline ridge affected by mining will, after rehabilitation, appear somewhat simplified and have a less distinctive character than it has at present. However, in looking down on the ridgeline from the Buckland Peaks, the change in the profile of the ridgeline within the stewardship area will be difficult to appreciate from Viewpoint 13.

4.27 For a considerable period of time the revegetated stewardship area of Te Kuha Coal Project, as viewed from Buckland Peaks, will appear somewhat different, in terms of its colour and texture, to adjacent undisturbed areas of native vegetation. The areas of revegetation will resemble a patchy vegetation mosaic that relates to the different times rehabilitation occurred. Significant contrast will occur on the stewardship land where regenerating shrubland will abut the mature forest, evident in Photographs 3-7 above,

and along the ridgeline where shallow soils and exposed conditions will slow the establishment of vegetation.

4.28 The visual contrast between disturbed and undisturbed areas will lessen in the long term, eventually appearing to have negligible effects on natural character and visual amenity, as experienced from Buckland Peaks. This will be assisted, to a large degree, by the sequential progression of rehabilitation that occurs from Year 02 throughout the life of the mine. In the short and medium term after revegetation has taken place the effects of the project on visual amenity are anticipated to be in the slight – moderate range.

4.29 The photo-simulation on Sheet 83 shows the central portion of the primary human field of view from Buckland Peaks as it is anticipated after 35+ years when the revegetation on the stewardship land has taken effect and matured somewhat. In the long term effects of Te Kuha Coal project mining will be negligible.

5.0 CONCLUSIONS

5.1 Te Kuha Coal Project will be a relatively small open cast mine occupying a portion of a mining permit area at the southern end of the very extensive Buller Coalfield. All open cast mines give rise to unavoidable landscape and visual effects and, in this regard, Te Kuha Coal Project will be no exception.

5.2 A relatively small area of the mine site lies within stewardship land on the south-eastern side of the skyline ridge. This area is part of an extensive landscape that is very high in natural character and visual amenity value, and which has been identified as an Outstanding Natural Landscape, referred to as the Paparoa and McWilliam Inland Ranges ONL.

5.3 My assessment, with the aid of photo-simulations, indicates that it is from the closest viewpoints, such as the SH 6 viewpoints in the Lower Buller Gorge near Ohikanui River and the two elevated viewpoints (namely Mt Rochfort, which is principally accessible to only four wheel drive vehicles and mountain bikers, and Buckland Peaks, which is principally only experienced by trampers) that the effects arising from Te Kuha Coal Project on natural character and visual amenity will be substantial, although from Buckland Peaks, taking only the subject stewardship land into account, the effects on natural character and visual amenity will appear only slight to moderate.

5.4 Most significant effects will be in relation to the skyline ridge within the mining permit area. The ridgeline will result in a simplified landform however following rehabilitation it will appear to be natural in character and only those observers who

are very familiar with views of the skyline will appreciate that its topography has changed.

5.5 For a considerable period of time there will be an obvious difference between colour and texture of the revegetated areas and adjacent areas of undisturbed indigenous vegetation. It is from Viewpoint 13 in the Lower Buller Gorge that this contrast will be most apparent and that the change to the skyline ridge, within the mining permit area, will appear to be most significant. Notwithstanding this point, from the Buller Gorge, Mt Rochfort and Buckland Peaks viewpoints, and following revegetation taking effect, while many casual observers may detect variety in the pattern of vegetation on the site of the mine, they may be completely unaware that the site was indeed once an open cast mine.

5.6 Over a period of about 35 years, as revegetation on stewardship land matures, the contrast between the revegetated and undisturbed areas will lessen and, accordingly, the localised effects of the project on landscape and visual amenity values will also lessen to negligible. In the long term the regional and district-wide values, of which the site is part, will appear intact and, in essence, will remain as a mountainous backdrop with a contiguous cover of indigenous vegetation.

Peter Rough

11 April 2016

Appendix 3D: Statement of Robyn Simcock

IN THE MATTER of the Conservation Act 1986

AND

IN THE MATTER of an application to the **DEPARTMENT OF CONSERVATION** by **RANGITIRA DEVELOPMENTS LIMITED** for an access arrangement to allow construction and operation of an opencast coal mine and supporting infrastructure at Te Kuha.

STATEMENT OF EVIDENCE OF ROBYN SIMCOCK

1. INTRODUCTION

Qualifications and experience

1.1 I hold the degrees of Bachelor of Horticultural Science (First class honours, 1986) and Doctorate of Philosophy in Soil Science/Land Rehabilitation (1993), both from Massey University. I have worked for Manaaki Whenua Landcare Research NZ since 1995, following a year at Northland Regional Council.

1.2 The majority of my work has been researching rehabilitation and amelioration strategies for sites where ecosystems (including soils) are removed, whether as part of plantation forest harvesting, road construction, urban development or mining. I have focused on rehabilitation and creation of native ecosystems from scratch, from salvaging or creating new growing media to whole sites. From 2007 I extended my research to creation of native ecosystems as part of engineered stormwater treatment systems. In 2013/14 I joined a collaborative research programme, now called the Centre for Mine Environmental Research (CMER).

1.3 In the last five years I have contributed to public, local and national guidance on land rehabilitation and revegetation after roading (NZ Transport Agency Landscape Guidelines), during urban development (Auckland Council Stormwater and Ecology Guidance) and on mine sites (West Coast Mine rehabilitation through CMER and Envirolink). I've published about 11 scientific

papers and referred conference papers relating to rehabilitation, over 15 unpublished contract reports on rehabilitation, and contribute lectures to undergraduate student courses at the University of Auckland.

1.4 I am very familiar with the Stockton plateau and its mine sites, all of which lie within the Ngakawau Ecological District. I first visited Stockton in 1997 to review rehabilitation trials and practices for the Cypress Mine project. With Dr Craig Ross and Solid Energy staff, I designed and helped monitor the first replicated trials of direct transfer at that site in spring 1998. Over the following 15 years I have been involved in establishing, monitoring or reviewing a wide range of rehabilitation techniques in the area. These include direct transfer of tussock and alpine herbfields, hydro-seeding of native vascular species and mosses, establishing native plants into (killed) *Juncus squarrosus*, evaluating different growing media and topographies for nursery planting, and evaluating growth rates of woody plants. It has been enormously valuable to be able to track the development of areas with known rehabilitation practices. Most recently I have helped develop rehabilitation techniques for sandstone rock-scapes and tarns. The information gathered has been used to develop rehabilitation and mitigation strategies for a range of ecosystems on the Stockton plateau, and some threatened plant and animal species, notably those affected by Mt Augustus Ridgeline Mining.

1.5 I have worked with Solid Energy on the Millerton, Mt William, Cypress and Mt Augustus Ridgeline projects at Stockton. I have also worked on the Strongman and Rotowaro coal mines, helping develop closure criteria and assess rehabilitation progress towards closure over more than 10 years.

Involvement in the Project

1.6 I first visited the Te Kuha site over two days in November 1999 to gain information on which to assess the rehabilitation potential of a mine proposal by Rangitira Developments Ltd. I developed a rehabilitation plan (finalised in 2001) for a proposed 10-year mine schedule that left a final void and terraced backfills / overburden dumps totalling about 50 ha.

1.7 I visited the site again in July 2013 and 2015 to review the potential impacts and rehabilitation options for an access road and mine site, for Stevenson Mining Te Kuha Limited (**"**Stevensons**"**). This information has informed a

proposal by Rangitira Developments Limited. In November 2015 Gary Bramley and I assessed aspects of revegetation at Strongman Mine, Pike River and Stockton Mine to inform specific aspects of the rehabilitation section of the Assessment of Environmental Effects.

1.8 I have contributed to discussions in relation to the location of road and mine footprint (to minimise adverse effects), construction sequencing and rehabilitated topography.

Purpose and Scope of Evidence

1.9 The purpose of my evidence is to provide an overview of rehabilitation at the site. However, I also provide more detail on proposed rehabilitation scheduling for the *c*. 12 ha of land for which an access arrangement is required from the Department of Conservation. I have not discussed the access road because it is not within that public conservation land. My evidence considers the following matters:

- A brief description of the overall proposal (Section 2)
- Three priority outcomes for rehabilitation for the entire site; the values, opportunities and constraints that guide the rehabilitation approach (Section 3)
- Key rehabilitation methods (Section 4)
- The assumptions underpinning anticipated rehabilitation outcomes generally (Section 5)
- Specific comments on these matters as they relate to that part of the proposal within the 12ha area of public conservation land (Section 6).

2. DESCRIPTION OF THE OVERALL PROPOSAL

2.1 The Te Kuha site lies at the southern end of a coastal escarpment which extends from the Buller River north to the Ngakawau River within the Ngakawau Ecological District. The proposed open cast mine involves removal of up to 109 ha of native ecosystems (excluding the access road and lowland infrastructure). This includes c.12 ha of land for which an access arrangement

is being sought. Ecosystems in the larger affected area will be removed over a 15 to 16 year period and in the smaller 12 ha, between years 1 and 10.

2.2 The focus of rehabilitation is to minimise impacts of mining on ecological and landscape values. Rehabilitation outcomes are largely based on maximising salvage and reuse of high-quality plant and soil resources for use in revegetation. Revegetation of the mine starts in the second year and is proposed to extend through to a 10-year aftercare period following the last planting in year 20 (i.e. a total of 30 years, Table 1).

3. PRIORITY REHABILITATON OUTCOMES

3.1 The site-specific rehabilitation approach is based on an analysis of ecosystem values, the opportunities and constraints the site offers, and the mine plan with ten year post-planting period.

3.2 The rehabilitation I have recommended for the overall site has three priority outcomes. The first is to achieve a high certainty of low visual impact (i.e., high landscape naturalness). The main rehabilitation principles and methods to achieve this are as follows.

(a) Create ex-pit and backfilled landforms that abut natural ground levels, return most areas to approximately-natural overall landforms within the constraint of maximum 27 degrees slope, and generally avoid linear features.

(b) Complement land surface colours through plant species selection (i.e. olive green mānuka dominant not yellow toetoe) and strategic placement of rock mulches and weathered sandstone boulders (greys)

(c) Complement the natural mosaic of colour and height by using a variety of landform slope and growing conditions that result in uneven vegetation heights (drainage, exposure, rooting depth, fertility etc.)

3.3 The second priority outcome is to rapidly create stable, erosion–resistant surfaces that have a favourable soil cover. This is needed to protect surface waterways and prevent loss of soils that underpin plant growth.

3.4 The third priority outcome is to deliver the following ecological objectives:

(a) footprint minimisation, e.g. by placing mine infrastructure on backfill and maximising buffering of adjacent communities,

(b) establishing self-sustaining native vegetation that can develop into a mosaic of vegetation associations resistant to pest plants, pest animals, drought and fire.

(c) conserving genetic resources, particularly those of threatened or at-risk species, within the footprint (largely through direct transfer) and outside the footprint (through effective buffering).

3.5 The first priority contrasts with Stockton Plateau mining, where mitigating the visual impact of mining is not a priority. Hence Stockton features strongly terraced landforms, mass use of large tussocky plant species (toetoe and *Chionochloa flavescens*), and use of linear features with sharp boundaries such as rock-lined drains and thin strips of direct transfer vegetation.

Opportunities for rehabilitation across the entire proposed mining operation

3.6 The rehabilitation outcomes planned at Te Kuha take advantage of seven key opportunities, listed below.

(a) The high proportion of slopes <18 degrees and relatively small area of rockland allow a high proportion of vegetation and soils to be salvaged as high quality materials (c.75%). It also means there is space to create backfill landforms that have a significant proportion of gently-sloping areas on which impeded drainage can be effectively re-established. Further, the mountain-beech podocarp, manuka shrubland and yellow-silver pine – manuka shrubland are naturally mainly on slopes between 5 and 18 degrees (Figure 1).

(b) The mine plan allows for adequate space to store all topsoil and much of the woody material stripped from the site. These two resources underpin successful revegetation and plant growth. About 14 ha of stockpiles are available to store materials from the initial 84 ha cleared; a further 3.4 ha is available in year 4 and 5 if needed within the temporary rehabilitated area.

(c) The mine plan allows for 15 to 20% of the area to be salvaged as ‘intact’ plant and soil sods, then immediately placed in areas to be

rehabilitated (Table 1)[1]. This method is called 'direct transfer'. Experience over 15 years on similar ecosystems has shown it is an effective method for rehabilitating many of the vegetation types present at Te Kuha. Direct transfer is particularly effective for the mānuka shrubland and yellow silver-pine shrubland. The mine plan allows for 1.4 ha of the former, and 14.3 ha of the latter to be salvaged as direct transfer (Table 2). The mine plan also allows for about another 10% of the site to be revegetated using unstockpiled mixed soils and vegetation (to a maximum of 34 ha, including direct transfer).

(d) There are very few non-native plants and potential weeds at the site. This means rehabilitation native plant density (numbers) will naturally rapidly increase over 6 to 12 years in areas with favourable, soil-like surface (as at Strongman and parts of Stockton). Native seeding techniques, such as brush-layering, can also be used with success as seedlings are unlikely to be out-competed.

(e) The mine plan provides for 16 ha of rehabilitation in years 2 and 3. This substantive early rehabilitation will be an early indicator of success. Recovery of these areas over 12 to 15 years will inform fine-tuning of methods for the bulk of revegetation in years 16 through 19, when about 70 ha is scheduled to be completed. The mine plan also shows about 3.5 ha of temporary rehabilitation in years 4 and 5, and retained until year 16. The 10- to 11-year period is optimum to generate a large onsite source of plants and seeding material.

(f) The mine plan rebuilds the landform so it meets natural land at the site boundaries. This helps buffer and re-establish connections with adjacent ecosystems by avoiding sudden cuts and a final pit void.

(g) There is potential to create a mosaic of tarns and mānuka shrubland across parts of the site, if this is agreed as a priority destination for direct transfer. Direct transfer has been successfully used to relocate *Dracophyllum densum, Actinotus novae-zelandiae* and *Celmisia dubia*. The latter responds particularly well, rapidly establishing new plants in suitable sites. Success has also been achieved for *Euphrasia wettsteiniana* at one site for about 3 years. Methods for creating a

[1] The current mine plan allows for 17% of the area to be salvaged at direct transfer

mosaic of water tables, drainage, soils and slopes have been demonstrated at Mount Frederick over hectares.

General Constraints on Rehabilitation for the overall operation

3.7 Rehabilitation plans and expected outcomes at Te Kuha take into account four main constraints.

(a) About three quarters of the total area, some 84 ha, is stripped in the first 2 years. This area cannot be used for direct transfer. About 70 ha is rehabilitated once coal extraction has stopped; this area can only be rehabilitated using stockpiled soils. This means most of the site must be revegetated using planting and seeding methods over mixed soils. Such area take decades to develop the leaf mulch, organic horizons, high humidity and complex vegetation structure that underpins diverse invertebrate communities. It also means most rehabilitation surfaces will have much less yellow-silver and pink pine[2], and herb fields.

(b) There is nil to limited experience on efficacy of methods of rehabilitation of most invertebrate species and bryophytes. There is little known about most invertebrate life cycles or habitat preferences. Plant and animal species that are naturally cryptic or at very low densities are difficult to study as it is hard to reliably find enough individuals to help inform the efficacy of interventions.

(c) Some vegetation associations and ecosystems are very difficult or impracticable to rehabilitate. This includes the large boulders under beech trees that have a distinctive bryophyte flora (because the boulders are hard to handle and the trees may be hundreds of years old), bluffs (because they are geotechnically unstable if constructed), and creating large areas with significant cover of pink and yellow-silver pines (because there is not enough direct transfer available and no experience with growing or establishing large numbers of nursery-plants). Although rocky bluffs and scarps (slopes over about 28 degrees) cannot be safely reinstated, boulders up to about 2.5 m across can be salvaged.

[2] See Table Two. The mine plan allows for 1.4 ha yellow-silver pine-manuka scrub and 14.3 ha of beech/yellow-silver and pink pine to be direct transferred; 10 ha of the former and 41.5 ha of the latter are stripped in the first year so are unable to be direct transferred

(d) Vegetation types and associations on the backfill are likely to have a higher cover and proportion of species that favour slightly deeper root zones and less impeded drainage.

4. REHABILITATION METHODS

4.1 Effective buffering protects plants and animals in areas adjacent to the stripped mine site, and then encourages reconnection once rehabilitation is in place. The following methods are proposed to maximise buffering: ensuring surface topography of backfilled areas meets natural ground level and placing denser planting along edges (and direct transfer where available). In forested areas taller, unstable trees along the edges may be felled early to promote development of a dense ground cover, or groundcovers planted into the forest edge.

4.2 A resilient, self-sustaining mosaic of native plant covers is achieved using four main practices:

(a) Creating a variety of topography, drainage and climate by altering backfill slopes, backfill surface compaction to reduce permeability, aspects, exposure and soil depths. This is most straightforward on relatively gentle slopes (<5 degrees) but can be achieved at slopes up to about 12 degrees. The depth and duration of water ponding can be manipulated by using small bunds and varying sub catchment areas. Differences are then reinforced by varying depths and coverage of surface rock and (in lower altitudes) coarse wood.

Intact soils placed as direct transfer are highly effective at preventing surface water drainage, as they typically have very low lateral permeability, particularly through subsoils. Sods of direct transfer peaty and silt soils may also hold unusually high volumes of water, reinforcing variation in surface hydrology over short distances.

(b) Ensuring variation of the plant species established and methods by which they are established. Some plants that may have important roles for specific invertebrates or groups of invertebrates can be introduced as more mature individually-salvaged plants which are much larger than nursery seedlings, e.g., Gahnia (potentially for forest

ringlet butterflies but also other moth species), flax and some dracophyllums.

(c) Weed and pest monitoring and control, and using a high proportion of plant species resilience to deer browse in plantings established in higher altitudes and after year 10.

(d) Providing favourable root zones. In the context of Te Kuha's natural environment, favourable root zones are naturally acidic (pH 4-5), low in nutrients (Olsen P<5) and shallow (root depth <200 mm). However lower areas with taller forest will benefit from localised deeper, more fertile soils. Further, there is potential to use strategic application of organic amendments and fertilisers in small areas to enhance growth rates of responsive plants (e.g., flaxes, broadleaf, silver beech), to speed development of the more complex vegetation structures favoured by some animals.

5. ASSUMPTIONS UNDERPINNING OVERALL REHABILITATION OUTCOMES

5.1 Five key assumptions underpin my assessment of rehabilitation outcomes as follows.

(a) All mine plans will deliver a minimum 10% of area as direct transfer, and allow recovery of an additional minimum 10% of area as non-stockpiled, mixed soil and plants.

(b) All rehabilitation surfaces will have adequate topsoil coverage from which a diversity of slopes, root zone depths, topography, and drainage will be created.

(c) Pest animals and plants will be detected and effectively controlled to prevent impacting seed and seedling establishment.

(d) Rehabilitation techniques for large, 'general' areas, species and ecosystems of particular conservation interest will be refined using at least 10 ha rehabilitated in years 2 through 5. This area is deliberately

constructed to enable comparison of rehabilitation interventions and different habitats.

(e) Any influence of acid rock drainage in the root zone does not exceed natural background levels.

6. SPECIFIC COMMENTS ON 12 HA OF CONSERVATON LAND

6.1 The rehabilitation approach does not and should not distinguish between the 12 ha of conservation land and the rest of the site because rehabilitation needs to be integrated. The 12 ha is therefore best approached as part of the wider site, with the same rehabilitation objectives and approaches.

6.2 About a quarter of the area (2.7 ha) is both suitable for direct transfer and stripped in year 3 to 10, when areas are available for rehabilitation (Table 3). The area has a higher proportion of rockland which is not easily salvaged as intact sods due to shallow soils and shallow-rooted plants. Trials at Stockton have shown that weathered boulders with bryophytes and plants, up to about 2.5 m diameter can be successfully salvaged for direct transfer using expert operators and suitable equipment. It is also relatively straightforward to use small rocks (30 to 200 mm diameter) to create open landscapes with low plant cover, and these help create a mosaic of environments, both ecologically and visually. However, the additional cost of replacing boulders to form a relatively level rockscape may not be required to achieve visual or ecological mitigation.

6.3 All the herbfield is removed in the first year. Herbfield is not feasible to establish from nursery-raised plants and requires specific exposure, hydrology and root zone depths. Many of the species of herbfield plants relocated by hand and machine at Stockton have grown successfully for 10+ years. However, such areas are vulnerable to invasion, particularly by taller rush and grass species. If herbfield is rehabilitated within the mine footprint, it will likely need ongoing weed management.

7. CONCLUSION

7.1 I have confidence that the planned landscape outcomes can be achieved based on rehabilitated landforms and vegetation covers delivered for similar ecosystems over the last 10 to 20 years at similar sites on the West Coast.

The survival rates and expected outcomes of most plant species as nursery seedlings and direct transfer can be relatively confidently predicted at Te Kuha, given the mine schedule and plan allows for suitable soil quality and volume to be salvaged and reused.

7.2 Most rehabilitated areas at Te Kuha should deliver a high native plant cover 1 to 2 m high within 10 years of initial revegetation, noting that in some areas plant cover is proposed to be deliberately reduced by use of boulders and rock mulch, or deliberately supressed below 1 m (e.g., herbfield and rockland).

7.3 With 10 to 15% of the site can be direct transfer, the genetic conservation of yellow-silver pine, *Celmisia, Dracophyllum densum* and other priority vascular plants should be significant. Possible exceptions are *Metrodsideros parkinsonii* (because there is no experience with this species) or *Euphrasia* (because there is very little herbfield available to be salvaged). The rehabilitation potential of rare bryophytes has received very little attention; but Stockton sites are available that may indicate success of species in rockland and yellow-silver pine – manuka shrubland.

7.4 Ecosystem complexity and intactness will inevitably be reduced, i.e. the fine mosaic of ecosystems replaced by a coarser mosaic that is inevitably more regular – due to a) greater area of slopes with replaced soils having better drainage characteristics (lack of impervious fine textured subsoil) b) large area rehabilitated using stockpiles soils (diluting leaf litter and peaty layers).

7.5 The development of deep leaf litter layers and complex vegetation structure will take many decades in most planted areas. Tall, structurally complex native forest will be the slowest to recover. Invertebrate and vertebrate species that require such conditions are therefore likely to be impacted to a greater degree than those of open areas.

7.6 Even with best weed control and biosecurity, the number of and cover of non-native species is likely to increase, at least in the medium term.

Dr Robyn Simcock

6 April 2016

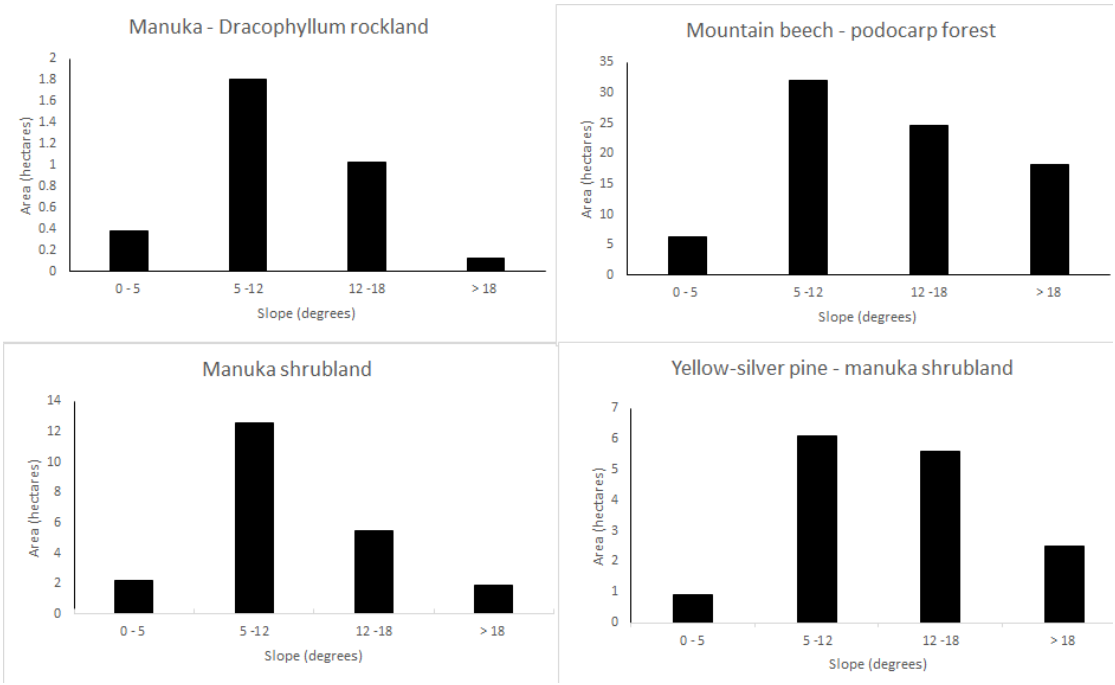

Figure 1. Slopes that each of the four key ecosystems covers in the maximum mine area (109 ha) and road footprint (assuming 50 m wide zone),

Table 1: Area of final rehabilitation surface, and area potentially rehabilitated using direct transfer, jumble dump salvaged from temporary rehab area, and planting in each year of mine life and cumulatively, excluding road and lower infrastructure (ha, rounded to 1 decimal place).

Year	Area Stripped	Annual Final Surface Available	Annual Temporary Rehab	Direct T (1:1 ratio)	Planted	Jumble ex Temp Rehab[Note1]	**Annual Rehab**	Cumulative (Maximum) Rehab
0	road	part road	0	part road	0	0	**part of road**	0
1	79.8	0	0	0	0	0	**0**	0
2	2.8	11.8	0	2.5	2	0	**4.5**	6.5 (11.8)
3	8.7	4.3	0	6.6	2	0	**8.6**	13.1 (16.1)
4	3.1	1.9	2	3.1	1.5	0	**4.6**	17.7 (17.9)
5	3.0	4.3	1.4	1.6	2.9	0	**4.6**	22.2 (22.2)
6	0	1.6	0.2	0	0.9	0	**0.9**	23.1 (23.8)
7	4.4	2.6	2.0	2.7	0	0	**2.7**	25.8 (26.3)
8	1.1	0.9	5.1	0.8	0	0	**0.8**	26.6 (27.2)
9	1.7	0	2.2	0.5	0	0	**0.5**	27.1 (27.2)
10	0.8	3.6	0.8	0.4	2	0	**2.4**	29.5 (30.8)
11	Finish	0	0.8	0	1.2	0	**1.2**	30.7 (30.8)
12	0	4.2	0	0	3	0	**3**	33.7 (35.0)
13	0	0.8	0	0	2	0	**2**	35.7 (35.8)
14	0	3.3	1.3	0	2	0	**2**	37.7 (39.1)
15	0	0	0	0	1.4	0	**1.4**	39.1 (39.1)
16	0	8.1	-8.6	0	1	4	**5**	44.1 (47.2)
17	0	4.2	-3.6	0	4	3	**7**	51.1 (51.5)
18	0	29.7	-4.7	0	22	4	**26**	77.1 (81.2)
19	0	28.1	0	0	20	0	**20**	97.1 (109.2)

20	0	part road	0	0	12.1	0	**12.1 + part road**	109.2
TOTAL	109	109		18.2	80	11	**109 + part road**	

Note1 Salvage of live plants grown over >10 years in parts of temporary rehabilitation

Table 2: Indicative area stripped in each year that is suitable for salvage and re-use as Direct Transfer, excluding access road. Rounded to 1 decimal place. () indicate mine schedule does not allow direct transfer as suitable rehabilitation areas are not available

Year Mine stage	Area stripped (ha) TOTAL	Physically Suitable for DT	Possible DT y-s pine-manuka scrub	Possible DT beech/ys & pink pine
1	79.8	65.6	(10.0)	(41.5)
2	2.8	2.5	1.1	0.8
3	8.7	6.6	0	6.5
4	3.1	3.1	0.2	2.8
5	3.0	1.6	0.4	1.1
6	0	0	0	0
7	4.4	2.7	0.6	1.8
8	1.1	0.8	0	0.8
9	1.7	0.5	0.05	0.4
10	0.8	0.4**	0.01	0.4
11	Stripping complete			
TOTAL	105*	18.2	1.4	14.3**

- * Total area stripped may be up to 109 ha
- ** total takes account of rounding

Table 3. Indicative area stripped in each year that is suitable for salvage and re-use as Direct Transfer for the 12 ha DOC Conservation Area (rounded to 1 decimal place). () indicate mine schedule does not allow direct transfer as suitable rehabilitation areas are not available. Total DT anticipated is 2.7 ha of the 11.9, just under a quarter (23%).

Year Mine stage	Area stripped (ha) TOTAL	Physically Suitable for DT
1	5.7	(5.4)
2	0	0
3	0.9	0.6
4	0	0
5	0.9	0
6	0	0
7	1.8	0.8
8	0.9	0.7
9	0.9	0.3
10	0.8	0.4
11	Stripping complete	
TOTAL	11.9	2.7

Table 4. Overall mine schedule**Mining stage**	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	o	p	o	p	Total
Year	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	
Vegetation & soil stripping (if different to overburden stripping)																					
Total Pit Area (ha)		16.2	17.4	26.1	23.8	29.7	26.4	25.3	22.1	21.0	28.1	22.3	18.6	15.4	12.3	11.4					
Total Dump Area (ha)		36.3	30.1	27.8	31.4	25.2	29.1	32.2	31.0	31.4	29.3	30.0	29.0	31.9	30.3	31.1					
Total Mining Pit & Dump)		52.5	47.5	53.9	55.1	54.9	55.5	57.4	53.0	52.4	57.4	52.3	47.7	47.3	42.6	42.5					
Drains etc.		16.6	15.9	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1					
Stockpile area (ha)		14.4	14.4	14.4	14.4	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	4.9	0.0	
REVEGETATION																					
Rehab identifier	**a**	**b**	**c**	**d**	**e**	**f**	**g**	**h**	**i**	**j**	**k**	**l**	**m**	**n**	**o**	**p**					
Backfill /stockpile			11.8	4.3	1.9	4.3	1.6	2.6	0.9		3.6		4.2	0.8	3.3		8.1	4.2	29.7	28.0	109.2
Temporary Rehab					2.0	1.4	1.2	2.0	5.1	2.2	0.8	0.8			1.3		-8.6	-3.6	-4.7		0.0
Cumulative revegetation (ha)			11.8	16.1	17.9	22.2	23.8	26.3	27.2	27.2	30.8	30.8	35.0	35.8	39.1	39.1	47.2	51.5	81.2	109.2	
Total Disturbed		83.5	2.8	8.7	3.1	3.0		4.4	1.1	1.7	0.8										109.2
Cumulative Disturbed		83.5	86.4	95.0	98.1	101.1	101.1	105.5	106.6	108.3	109.2	109.2	109.2	109.2	109.2	109.2	109.2	109.2	109.2	109.2	

Disturbed - Rehab		83.5	74.6	79.0	80.2	78.9	77.3	79.2	79.4	81.1	78.4	78.4	74.2	73.4	70.1	70.1	62.0	57.7	28.0	0.0	0.0

Gives 30.8 ha possible direct transfer and jumble dump with no storage (green); 78.4 ha rehab from soil stockpiles (purple) and 16.8 ha rehabbed from temporary rehabilitation (salmon) which will be intermediate and maybe similar outcomes to jumble dumping; File Sept2015 Mine stages

Appendix 3E: Statement of Gary Bramley

IN THE MATTER of the Crown Minerals Act (1991)

AND

IN THE MATTER of an application to the **DEPARTMENT OF CONSERVATION** by **RANGITIRA DEVELOPMENTS LIMITED** for an access arrangement to allow construction and operation of an opencast coal mine and supporting infrastructure at Te Kuha.

STATEMENT OF EVIDENCE OF GARY BRAMLEY

1. INTRODUCTION

Qualifications and experience

1.1 I hold the degrees of Bachelor of Science (1992) and Master of Science (First Class Honours in Ecology, 1995), both from Massey University, and a Doctorate of Philosophy in Biology from the University of Waikato (1999). Between September 2008 and December 2015 I was employed with Mitchell Partnerships Ltd, a specialist environmental consulting firm with offices in Auckland, Tauranga and Dunedin. In January 2016 I founded my own independent consultancy, The Ecology Company Limited, and have continued to sub-contract my services to Mitchell Partnerships Limited in relation the proposal I discuss here, as well as other projects.

1.2 My previous work experience includes working as an independent consulting ecologist, working as a tutor in Biology at Waikato Polytechnic, and as a lecturer in Biology at the University of Waikato.

1.3 Since 2000 the majority of my relevant work experience has been to undertake or contribute to a large number of ecological investigations, significance assessments and assessments of the ecological effects of developments on coastal, forest, wetland, gumland, farmland and subalpine areas throughout New Zealand. I have been involved in a variety of development projects in New

Zealand, including some large scale infrastructure projects and mining projects which have included the development of biodiversity offsets. I have carried out assessments of the effects of such schemes on terrestrial ecology and have developed and managed the implementation of mitigation works including riparian and terrestrial restoration projects and pest management projects. I am very familiar with both the Stockton and Denniston plateaux, having first visited Stockton in 2009. I have visited both places many times since.

1.4 I have published or contributed to nine peer reviewed papers and more than 150 unpublished reports prepared for a variety of clients. I have been responsible for the preparation of Assessment of Environmental Effects ("**AEE**") documentation, management plans and Department of Conservation Concession applications among other matters. In 2004 I was awarded an "Old Blue" Conservation Award by the Royal Forest and Bird Protection Society followed in 2006 by a Northland Biodiversity Enhancement Group award for contribution to the conservation of Northland's natural heritage.

Involvement in the Project

1.5 In March 2013 I was retained (in my position as a Senior Ecologist at Mitchell Partnerships Limited) by Stevenson Mining Te Kuha Limited (**"Stevensons"**) to review the existing ecological information relating to the area contained within Mining Permit 41-289 at Te Kuha, near the township of Westport. This information was required to inform a proposal by Rangitira Developments Limited, with whom Stevensons had formed a joint venture partnership to progress an application for resource consents to construct and operate an open cast coal mine at the site.

1.6 My role has been to manage a team of specialist ecologists and contribute to ecological surveys in order to provide baseline information in relation to the pre-mining vegetation and fauna present at the Te Kuha site and post-mining rehabilitation at the site and assess the effects of the proposal on the terrestrial ecological values of the site. In addition I have contributed to discussions in relation to mitigation and compensation for adverse effects due to the proposal and I have also developed first drafts of management plans for some of the species affected. My first visit to the site was 11 – 15 March 2013 and I have been to the area once since then, as well as coordinating visits by other experts during 2015.

1.7 The team of specialist ecologists who have contributed to the surveys which have informed the proposal included Dr David Glenny and Ms Kelly Frogmore (Landcare Research Lincoln and Department of Conservation respectively) who surveyed the bryophytes at the site, Mr Richard Toft, Mr Ian Millar and Mr Will Wragge (Entecol Consulting Entomologists, Nelson) who surveyed the invertebrate fauna at the site, Mr Rhys Buckingham, Mr Richard Nichol and Mr Matt Charteris who surveyed the birds and bats (Mr Nichol also contributed to the invertebrate surveys), Dr Marieke Lettinke, who surveyed the lizards and Dr Robyn Simcock who considered the rehabilitation potential of the site given the constraints of the current proposal. I surveyed the vegetation of the site and compiled the final reports based on information provided by the other experts and have contributed to the ongoing discussions in relation to the project.

Purpose and Scope of Evidence

1.8 The purpose of my evidence is to describe the key ecological matters related to the project as a whole, as well as providing specific comment on the likely values of the *c*. 12 ha of land for which an access arrangement is required from the Department of Conservation. As such my evidence considers the following matters:

- A brief description of the ecological values of the entire mine area (Section 2)
- A description of the ecological values within the public conservation land and a summary of the effects of the proposal on those values, (Section 3).
- An explanation and brief description of the scale, nature and location of avoidance, minimisation, mitigation and compensation measures proposed for the overall project (Section 4).
- My conclusions in relation to the proposal (Section 5).

Matters relating to rehabilitation are explored in the evidence of Dr Simcock.

2. ECOLOGICAL VALUES OF THE OVERALL MINE SITE

2.1 The Te Kuha ridgeline forms the southern portion of a coastal escarpment which extends from the Buller River north to the Ngakawau River. The Te Kuha survey area was located at the southern end of the Ngakawau Ecological District, within the North Westland Ecological Region. Parts of the access road and proposed coal handling facility are located within the adjacent Foulwind district. The Ngakawau Ecological District is the only ecological district in New Zealand defined by the presence of extensive elevated coal measures[1] geology with its associated landforms, vegetation and flora. Habitats within the Ngakawau Ecological District are generally well protected, except those areas which overlie coal. The wider Te Kuha area, including the area affected by the proposal under discussion here, was included within an area recommended for protection in the Protected Natural Area Programme survey (known as RAP 7) in the event that the Buller District Council relinquished it.

2.2 Despite meeting the definition, the coal measures environment has not been identified as a "historically rare" ecosystem[2], although some of the component ecosystems are regarded as historically rare.

Vegetation

2.3 I originally identified 10 indigenous vegetation types within the vicinity of the overall proposed mine. These included:

- Herbfield
- Manuka - *Dracophyllum* rockland. Others have considered that this habitat is sandstone erosion pavement.
- Manuka shrubland
- Mountain beech/yellow silver pine - pink forest

[1] The term "coal measures'" refers to geological sediments laid down in a depositional environment in which coal can form and may or may not contain coal.
[2] Rare ecosystems are defined as those having a total extent less than 0.5% (i.e. < 134,000 ha) of New Zealand's total area (268,680 km^2) prior to human colonisation and includes ecosystems that are small in size and geographically widespread as well as those that are larger but geographically restricted in distribution.

- Rimu - red beech - silver beech forest
- Tarns. Tarns were originally included, but on review I have considered that the two areas of tarn originally mapped are not true tarns and hence are better described as wetlands.
- Yellow silver pine - manuka shrubland
- Pakihi
- Regenerating shrubland
- Rimu/hard beech forest.

There were also small areas of bare ground (affected by slips or other natural disturbance).

2.4 Confirmed plant species of conservation interest within the overall mine site include *Euphrasia wettsteiniana* ("Nationally Vulnerable") and *Dracophyllum densum* ("Declining"). Three other vascular plant species with localised distributions, and hence of local interest, which are known to occur at Te Kuha (*Actinotus novae-zelandiae*, *Celmisia dubia* and *Metrosideros parkinsonii*).

2.5 From a conservation perspective the highest value habitats within the mine site overall are a) herbfields (because of the presence of *Euphrasia wettsteiniana*), b) manuka – *Dracophyllum* rockland (because of the presence of *Dracophyllum densum*, and *Austropeltum glareosum* (a threatened lichen found in New Zealand and Tasmania) and as habitat for lizards), c) low mountain beech forest with common rata, yellow-silver and pink pine (because of the presence of *Metrosideros parkinsonii*, abundant *Gahnia* host plants for forest ringlet butterflies, the presence of rare bryophytes and as habitat for forest birds and lizards), d) the low forest growing on large blocks of sandstone (because of its value as bryophyte habitat) and e) manuka shrubland (because of its potential for direct transfer, as habitat for birds and bryophytes and for conservation of local genetic resources).

Bryophytes

2.6 Te Kuha has unmodified vegetation types that provide excellent habitat for a number of liverwort and lichen species, including some species with a very

restricted distribution. Te Kuha ridge has a very high number of both "Threatened" and "At Risk" bryophytes when compared with the coal measure plateaux to the north (Denniston and Stockton). 12 species were recorded at Te Kuha compared with 9 at Escarpment Mine and 7 at Mt Augustus. Important features of the habitat for bryophytes probably include high rainfall, poor or very poor soil fertility, high light levels and humid, protected microsites.

2.7 The main vegetation types sampled for bryophytes within the proposed mine site in 2015 were low-canopy forests with common pink-pine and yellow-silver pine as canopy dominants, and manuka shrublands, sometimes with rockland.

2.8 Three bryophyte and one lichen species that are classified as "Threatened" were collected during surveys in 2015. *Pseudolophocolea denticulata* is a "Nationally Critical" liverwort and the site where it occurs is the only known South Island site. *Acromastigum verticale* and *Saccogynidium decurvum* are "Nationally Vulnerable" liverworts. *Austropeltum glareosum* is a "Nationally Endangered" lichen. In addition, there are nine liverwort species that are classified as "At Risk – Naturally Uncommon" including *Herzogianthus sanguineus*, *Lepidozia bragginsiana*, *Lepidolaena novae-zelandiae*, *Riccardia nitida*, *Schistochila pseudociliata*, *Trichotemnoma corrugatum*, *Zoopsis bicruris*, *Z. matawaia*, and *Z. nitida*.

2.9 The three bryophytes with a "Threatened" conservation status (*Pseudolophocolea denticulata*, *Saccogynidium decurvum*, and *Acromastigum verticale*) were found in forest. *Saccogynidium decurvum* was also found in manuka shrubland and manuka – *Dracophyllum* rockland in association with wire-rush and tangle fern. The "Threatened" lichen was on weathered sandstone. The "Naturally Uncommon" bryophytes were widespread in the sample plots, but occurred most often in manuka shrubland and mountain beech-rata forest.

Avifauna

2.10 Forty species of bird were recorded within the survey area, including 33 species within the wider mining permit and 26 species within the overall proposed mine footprint. Overall, based on five-minute bird counts, nocturnal counts and recorded dawn/dusk chorus, bird numbers were low.

2.11 Of the 33 species found within the mining permit, 23 were indigenous (14 endemic) and 10 introduced.

2.12 Two species detected within the mining permit are considered "Threatened – Nationally Vulnerable" (great spotted kiwi and New Zealand falcon) and three species are considered to be "At Risk" including long-tailed cuckoo ("Naturally Uncommon"), New Zealand pipit and South Island fernbird (both "Declining").

2.13 Great spotted kiwi were recorded throughout the mining permit, from relatively low altitudes (<400m asl) on the western slopes, to the summit ridge. All functioning acoustic recorders recorded kiwi, confirming that their distribution is widespread within the mining permit.

2.14 The overall call rate from listening surveys within the mining permit was relatively low at 1.0 call/hour. Listening counts and acoustic recordings indicated that at least one pair of kiwi reside around the main summit ridge and would be affected by the current proposal. Single male and female kiwi calls (possibly from a pair) were heard at different times northwest from point height 730 (in the direction of the portable hut) on 12 March 2013. A single female was heard on the spur between Coal Creek and Jones Creek on 13 March 2013 at an altitude of about 300 m asl.

2.15 Results from the acoustic recorders showed that the mean number of calls per hour increased with altitude, and was highest on the summit ridge within or close to the proposed mine area.

2.16 There was only one sighting of falcon, a bird was seen flying over the northwest slopes of the ridge between Jones Creek and the upper Orowaiti River on 13 March 2013. It is expected that low numbers of falcon are present in the wider area and it is possible that they might nest within the mining permit. South Island kaka (which are also regarded as threatened) may also use the area, but were not recorded during our surveys.

Herpetofauna

2.17 Our 2013 survey of the proposed mine footprint and surrounds confirmed the presence of two lizard species at Te Kuha: forest gecko and speckled skink. Both species have a conservation status of "Declining". A third lizard species, the West Coast green gecko, was not detected during the survey. West Coast

green geckos are notoriously difficult to detect due to their very cryptic behaviour and colouring and weather-sensitive emergence. I consider it likely that West Coast green gecko, which have a conservation status of "Threatened – Nationally Vulnerable" are present at the overall site.

Bats

2.18 Ten digital bat detectors were active for between nine and 17 nights per site throughout the wider area from Waterworks Road to the Buller River in 2013. Temperature and weather conditions were suitable for bat activity during the survey, but no long- or short-tailed bats were detected in 116 nights of recording.

Invertebrates

2.19 The great majority of invertebrate species collected and identified in 2013 were native species, reflecting the predominantly natural and intact native vegetation at the site. In general, the dipteran (fly) fauna surveyed indicates a fairly high level of natural integrity and was considered largely typical of the wider region.

2.20 Three species of weta were collected, the West Coast tree weta (*Hemideina broughi*), Wellington tree weta (*Hemideina crassidens*) and a recently described species (*Hemiandrus electra*). The West Coast tree weta is endemic to the north-west South Island, from about Greymouth and Reefton northward through Kahurangi National Park. It appears not to occur as far east as Abel Tasman National Park. The newly described ground weta *Hemiandrus electra* is also a Northwest Nelson endemic, having a similar distribution but including Abel Tasman National Park. By contrast, the Wellington tree weta is distributed from the lower North Island, through the Marlborough Sounds, Nelson/Golden Bay and down the West Coast as far as Haast.

2.21 Six species of beetles (Coleoptera) were collected, but no specimens of some of the ground beetle (carabid) species known to occur on the Denniston Plateau were recorded. Individuals of the carabid genus *Neoferonia* were collected. This genus is endemic to the South Island, with most species found in the north-west South Island from Hokitika to D'Urville Island. Most *Neoferonia* species remain undescribed.

2.22 In general there was higher species richness at sites with more diverse vegetation. This is due both to the greater variety of plants which are potential food sources present and to the more complex habitat architecture provided by taller vegetation.

2.23 No snails were collected during the 2013 surveys, but a *Rhytida*-type land snail was observed and photographed.

2.24 A leaf-veined slug (family Athoracophoridae) was also collected from the wider mine site in 2013.

2.25 Catches in pitfall traps in 2015 were generally similar to catches found in pitfalls in forest remnants on the Denniston Plateau. This includes the presence of the West Coast carabid *Mecodema metallicum*, large numbers of carabids from the genus *Neoferonia* (which may represent more than one species) and the small brown scarab beetle *Saphobius* sp. (presumed to be *S*. *setosus*) and the presence of the primitive true spider *Gradungula sorenseni*, which is widespread along the West Coast. However, the comparative occurrences of different species varies from that observed on Denniston, with both *M*. *metallicum* and *G*. *sorenseni* appearing to be less common at Te Kuha. Also, the carabid *Plocamostethus planiusculus* appeared to be more common at the Te Kuha sites than it is at Denniston.

2.26 Overall, I consider that the habitats at the wider Te Kuha mine site are predominantly natural and have a high degree of intactness and ecological integrity, with a surprising near absence of exotic plant species and a relatively low number of exotic fauna species. Overall, assessments indicate that the vegetation and fauna at the Te Kuha site, although occurring at lower elevation, has a number of features in common with the vegetation and fauna at the major coal plateaux of Stockton and Denniston, including similar or higher rainfall and the presence of coal measures forests and shrublands. The Te Kuha site has experienced almost no human disturbance and has a specific bryophyte, lichen and invertebrate fauna with features in common with the plateaux, but differences in relative abundance. There is also a near- absence of non-native plants, a distinct paucity of tussocks (red, coal measures, *Chionochloa flavescens*) and lack of extensive sandstone pavement compared to the larger plateaux. In addition some plant species which are uncommon at Stockton and Denniston are more abundant at Te Kuha (e.g. Parkinson's rata).

3. ECOLOGICAL VALUES OF THE 12 HA PUBLIC CONSERVATION LAND AREA

3.1 In relation to the affected public conservation land for which an access agreement is sought, vegetation removal (totalling *c*. 12 ha) would include mountain beech/yellow-silver pine - pink pine forest (*c*. 9.3 ha), manuka - *Dracophyllum* rockland (*c*. 0.8 ha), manuka shrubland (*c*. 0.8 ha), yellow-silver pine - manuka shrubland (*c*. 0.9ha), herbfield (490 m^2) and a small area of bare ground or slips (786 m^2).

3.2 The specific ecological values within the 12 ha area of public conservation land have not been documented, but based on the vegetation mapping, they are likely to include:

- A small portion of home range for one pair of roroa.
- 12 ha of habitat for other forest birds and lizards. This represents habitat for a small number of individuals of several species (such as lizards or small forest birds) or part of the home range of individuals or pairs for other species (such as weka).
- Less than 1 ha of Manuka - *Dracophyllum* rockland habitat for lichens, bryophytes and vascular plants.
- Around 11 ha of forest and shrubland habitat for bryophytes and vascular plants.
- 490m^2 of Herbfield habitat for *Euphrasia wettsteiniana*.
- A small number of individuals of *D*. *densum* and *M*. *parkinsonii*.
- Up to 12 ha of habitat which includes *Gahnia* host plants for forest ringlet butterfly to varying degrees.
- Up to 12 ha of habitats for other invertebrates including the *Rhytida* snail and leaf-veined slug (which has only been detected to date in tall forest, suggesting the amount of habitat removed may be smaller).

3.3 To the extent that the vegetation types are common throughout the mine site, this vegetation is likely to provide habitat for threatened and at risk bryophytes, lichens, vascular plants, invertebrates, birds and lizards including those I have identified in Section 2 above.

4. MITIGATION AND COMPENSATION PROPOSED

Minimisation and mitigation of effects

4.1 I have considered mitigation and compensation of the project as a whole rather than attempt to differentiate between the overall effects and the effects on public conservation land alone. I am of the opinion that such an approach is more robust and justifiable from an ecological perspective. On that basis, in this section of my evidence I will discuss mitigation and compensation of the project as a whole, but it is important to note that mitigation and compensation for the 12 ha of public conservation land has been factored into my considerations. Since the ecological values are likely to be similar throughout the site I am of the opinion they cannot be considered separately.

4.2 For some affected species, such as great spotted kiwi, and habitats, such as herbfields, mitigation would be a straight forward proposition. For those species and habitats I have recommended particular mitigation actions as follows:

- Minimising the project footprint to the extent practicable.
- Direct Transfer ("VDT") of 10 - 20% of the existing vegetation, including "high value" habitats such as herbfields where practicable. This matter is discussed further in the evidence of Dr Simcock.
- Achieving a high standard of site rehabilitation post mining, including the creation of tarns and well buffered riparian areas.
- Buffering VDT vegetation with dense plantings.

- Use of local species[3] and prioritisation of locally significant species, including sourcing propagules for nursery plantings from the site itself, as well as limiting the use of non-native species in plantings.

- Attention to newly cut edges and using strategies to protect microclimates for bryophytes and slugs and reducing or preventing drying out of their habitats.

- Attention to site biosecurity and weed control.

- Ecosystem management within the Orikaka Ecological Area located north east of Te Kuha.

I have considered that 2,500 ha of ecosystem management is sufficient to mitigate those effects that are able to be mitigated. The purpose of this management is to improve productivity and survival of individuals outside the mine site sufficient to replace the individuals affected by the mining activities. I arrived at this figure from considering the number of individuals of particular fauna species that would be affected during the life of the mine. This varied from a few individuals (for roroa) to perhaps a few hundred (for fernbirds). Using previously published estimates of home range size and productivity (both with and without predator control) I estimated the number of pairs, and from that the approximate area which would require management to generate sufficient replacement individuals. In addition areas of management require sufficient scale to be effective, which can include a "buffer" area around a core area of management. The buffer is subject to reinvasion at a higher rate than the "core" area because management in the buffer area removes pests and weeds before they reach the core area. In other words the management area needs to be bigger than the area required to generate sufficient replacements in order to ensure that the target is met. Depending on the size and shape of the management area, a buffer width in the order of hundreds of metres is usually appropriate.

Environmental compensation

4.3 There are some values which would be affected by the overall proposal which cannot be fully mitigated by the measures I have outlined in paragraph 4.2. This means that there would be, even after appropriate mitigation and

[3] Species found naturally within the ecological district, and ideally from the vicinity of Te Kuha, or at least from within the same altitudinal range.

minimisation measures are taken, an overall loss in the ecological values of ecological intactness, connectivity and coal measures vegetation.

4.4 As compensation for these residual effects of the project overall, I have recommended to Stevenson Mining that they propose a further 2,500 ha of ecosystem management in addition to the area I have recommended be managed for mitigation. This equates to a total of 5,000 ha of ecosystem management proposed as an overall ecological compensation and mitigation 'package' for the proposal as a whole.

4.5 After discussions with Department of Conservation staff about the location of such management, I propose that these ecosystem management activities could be located in the vicinity of the Orikaka River, north of the access road which services the Burnetts Face to New Creek electricity transmission line. The exact location is still under discussion with Department staff, but would be governed by practical considerations such as ease of access, topography and the range and abundance of resident flora and fauna.

4.6 The proposed ecosystem management and mitigation activities would be guided by the preparation and implementation of specific management plans for roroa, lizards, bryophytes, forest ringlet butterfly, rehabilitation, predators/pests and weeds (including site biosecurity). These would likely be prescribed by the conditions of consent and developed in consultation with the Department of Conservation. The plans would include specific and measurable outcomes against which the success of the management can be gauged.

4.7 The management plans would also include a range of approaches intended to protect ecological values including monitoring, translocation or propagation of native species from the mine site, provision of habitats suitable for native species as part of rehabilitation and control of exotic species at the mine site if required. Most of these activities are intended to mitigate any adverse effects, but there is also a degree of compensation in what is proposed, recognising that the scale of actual effects, whilst locally significant, is comparatively small at the population level for most of the affected species.

5. CONCLUSION

5.1 I am of the opinion that the management plan approach is the best way to address any adverse effects with respect to the species for which a management plan is proposed (bryophytes, great spotted kiwi, lizards, forest ringlet butterfly) and that the more generic management plans (rehabilitation, weeds and pests, biosecurity) are the best approach to addressing habitat related effects. Furthermore I consider that in conjunction with the activities prescribed by those plans, 2,500 ha of ecosystem management proposed as mitigation is more than sufficient to mitigate any adverse effects on forest birds (including roroa) and lizards.

5.2 The matter of compensation is not strictly an ecological consideration, but having considered the ecological aspects of the proposal, I am also of the opinion that the proposed additional 2,500 ha of ecosystem management (bringing the total to 5,000 ha) would be sufficiently meaningful to recognise and address the ecological values which cannot be fully mitigated after appropriate minimisation and mitigation measures are taken.

Dr Gary Bramley

April 2016